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THE BEHAVIOUR OF LITHIUM IN SILICIC MAGMATIC SYSTEMS

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“Many of the truths that we cling to depend on our point of view.”

Obi-Wan Kenobi (1983)
Star Wars: Episode VI - Return of the Jedi

Summary

The interest in lithium (Li) and its two stable isotopes (^{6}Li and ^{7}Li) has increased over the last two decades due to the economic importance of lithium-ion batteries in different electronic devices, e.g., hybride vehicles. Because of major analytical advances over the past 30 years, it has now become easier to analyse lithium isotopes not only by multi-collector-inductively-coupled-plasma mass spectrometry (MC−ICP−MS) but also *in situ* by secondary ion mass spectrometry (SIMS) or femtosecond laser coupled to a multi-collector ICP-MS (fs−LA−MC−ICP−MS). Previous studies have focused on geological processes related to the subduction cycle or basaltic systems, but studies focusing on more evolved systems are scarce even though the economical demand of lithium has increased and lithium is mined from lithium-rich deposits, e.g., pegmatites, brines, and to a lesser degree from weathered rhyolitic rocks.

In this thesis, I provide the first systematic insight into lithium distribution and concentration and lithium isotopic composition of minerals in dry, rhyolitic systems and how they are affected by processes such as degassing. Additionally, I consider and discuss the potential of lithium isotopes fractionation at high temperatures.

I here present the lithium concentrations and isotopic compositions (δ^{7}Li) of all major minerals (quartz, sanidine, plagioclase, clinopyroxene, fayalite, and orthopyroxene) and groundmass glass from non-welded samples of Mesa Falls Tuff (the smallest eruption of the Yellowstone caldera system; 1.3 Ma). These samples were selected to avoid alteration by post-eruptive processes. The groundmass glass of the sample has no microlite growth, verifying that the glass was rapidly quenched and was not modified post-eruption. The δ^{7}Li of all minerals was determined using a MC−ICP−MS and trace element compositions were analysed by LA−ICP−MS. The lithium concentrations in the analysed minerals was low compared to the groundmass glass , where lithium concentrations range from 36 to 52 ppm. Quartz has the highest lithium concentration of all mineral phases (13 to 25 ppm), followed in descending order by plagioclase (5 to 29 ppm), fayalite (14 to 19 ppm), clinopyroxene (10 to 14 ppm), orthopyroxene (8 to 9 ppm), and sanidine (1 to 12 ppm). Lithium concentrations found in quartz-hosted crystallised melt inclusions ranged between 70 and 397 ppm. The δ^{7}Li composition of the different phases varies by ~10‰ with the groundmass glass being the heaviest (+6.5 to +7.5‰), and decreasing from quartz (+6.7 to +7.2‰), fayalite (+3.1‰), clinopyroxene (−0.1 to −0.1‰), sanidine (−0.1 to −0.6‰), plagioclase (−1.4 to −2.4‰) to orthopyroxene (−2 to −2.1‰). Furthermore, I calculated apparent partition coefficients between the groundmass glass and the co-existing mineral phases for Mesa Falls Tuff and for 15 other ignimbrites from the Yellowstone-Snake River Plain province. The apparent partition coefficients showed that lithium is more compatible in quartz and the least compatible in sanidine. Additionally, I identified lithium concentration profiles in plagioclase and sanidine, where I observed lithium decreasing towards their rims, suggesting the potential of kinetic isotopic fractionation being preserved.

To verify this potentially preserved kinetic isotopic fractionation I analysed plagioclase crystals *in situ* by fs−LA−MC−ICP−MS to determine their δ^{7}Li composition from rim to core, and by LA−ICP−MS to determine trace element compositions associated with the δ^{7}Li profiles. This revealed large systematic isotopic differences across grain profiles, with rims ranging from –3.8 to +5.9‰ and cores

ranging from –11 to +2‰. With these findings I show that there is a negative correlation between the concentration and isotopic composition of these crystals and that this correlation is independent of any other major or trace element. I interpreted the formation of these isotopically heavy rims as kinetic isotopic fractionation due to the disequilibrium between the plagioclase crystals and their surrounding melt. The concentration and δ^7Li gradients formed as ^{6}Li fractionated into the vapour phase during vesiculation, depleting the melt in ^{6}Li. This led to a flux of ^{6}Li from the rims of feldspars into the melt enriching the rims in ^{7}Li. Diffusion modelling was applied to the lithium concentration and δ^7Li profiles to quantify the time scales in which they formed. The results show that the gradients formed within tens of minutes before eruption, making lithium and its isotopes a powerful tool to quantify late-stage processes in a magmatic system.

This finding indicates that there should be significant δ^7Li fractionation between the melt and the erupted, degassed groundmass glass. This is supported by the difference in lithium concentration in the crystallised melt inclusions compared to the groundmass glass. Therefore, the δ^7Li composition of different quartz-hosted melt inclusions and groundmass glass was analysed *in situ* by SIMS and trace elements were determined by LA−ICP−MS. Their H_2O and CO_2 concentrations were determined by Fourier transform infrared (FTIR) spectrometer measurements and only glassy inclusions with ~3 to 4 wt.% H_2O were used for further analyses. Lithium concentrations between the two populations of host-quartz vary by more than a factor of 2. The quartz population with crystallised inclusions has increasing lithium concentration towards their rims, indicating a diffusional exchange between melt and quartz. Diffusion modelling shows that these gradients formed in less than three hours. The δ^7Li composition of the groundmass glass and glassy melt inclusions verified a large isotopic fractionation of up to 25‰. Glassy melt inclusions have a lower lithium concentration compared to the groundmass glass, which hints at a diffusional exchange between melt inclusions and host-quartz.

In this thesis, I show that lithium in mineral phases in evolved magmatic systems can vary significantly and that their isotopic composition is strongly influenced by high-temperature fractionation. This can have implications for studies focusing on the subduction cycle or basaltic systems as the measured lithium isotopes compositions might reflect late-stage processes and not represent mantle values. It highlights that Li and its isotopes combined with *in situ* measurements are a robust proxy to understand late-stage magmatic processes, such as time scales of degassing.

Zusammenfassung

Das Interesse an Lithium (Li) und seinen zwei stabilen Isotopen (^{6}Li und ^{7}Li) hat in den letzten zwei Jahrzehnten aufgrund der wirtschaftlichen Bedeutung von Lithium-Ionen-Batterien in verschiedenen elektronischen Geräten, z. B. Hybridfahrzeugen, zugenommen. Aufgrund der großen analytischen Fortschritte in den letzten 30 Jahren ist es jetzt einfacher geworden, Lithiumisotope nicht nur mit Hilfe von Multikollektor-induktiv gekoppelter Plasma-Massenspektrometrie (MC-ICP-MS) zu analysieren, sondern auch *in situ* mit Hilfe von Sekundärionen-Massenspektrometrie (SIMS) oder eines Femtosekundenlasers, welcher an eine Multikollektor-ICP-MS (fs-LA-MC-ICP-MS) gekoppelt ist. Frühere Studien haben sich auf geologische Prozesse im Zusammenhang mit dem Subduktionszyklus oder basaltischen Zusammensetzungen konzentriert. Studien, die sich mit felsische Zusammensetzungen befassen, sind selten, obwohl der wirtschaftliche Bedarf an Lithium gestiegen ist und Lithium aus lithiumreichen Lagerstätten abgebaut wird, z. B. Pegmatiten, Solen, und in geringerem Maße aus verwitterten rhyolitischen Gesteinen.

In dieser Arbeit gebe ich den ersten systematischen Einblick in die Lithiumverteilung und -konzentration sowie die Lithiumisotopenzusammensetzung von Mineralen in trockenen, rhyolitischen Gesteinen und wie sie durch Prozesse wie Magmenausgasung beeinflusst werden. Zusätzlich betrachte und diskutiere ich das Potenzial der Lithiumisotopenfraktionierung bei hohen Temperaturen.

Ich präsentiere die Lithiumkonzentrationen und Isotopenzusammensetzungen (δ^{7}Li) aller wichtigen Minerale (Quarz, Sanidin, Plagioklas, Klinopyroxen, Fayalit und Orthopyroxen) und der glasigen Grundmasse aus nicht gefritteten Proben vom Mesa Falls Tuff (der kleinsten Eruption des Yellowstone-Caldera-Systems; 1,3 Ma). Diese Proben wurden ausgewählt, um eine Veränderung durch posteruptive Prozesse ausschließen zu können. Die glasige Grundmasse der Probe weist kein Mikrolitwachstum auf, was bestätigt, dass das Glas schnell abgeschreckt und nach dem Ausbruch nicht modifiziert wurde. Das δ^{7}Li aller Minerale wurde mit einem MC-ICP-MS bestimmt und die Spurenelementzusammensetzungen mit dem LA-ICP-MS analysiert. Die Lithiumkonzentrationen in den gemessenen Mineralen waren im Vergleich zur glasigen Grundmasse, wo die Lithiumkonzentrationen zwischen 36 und 52 ppm liegen, niedrig. Quarz hat die höchste Lithiumkonzentration aller Mineralphasen (13 bis 25 ppm), gefolgt von Plagioklas (5 bis 29 ppm), Fayalit (14 bis 19 ppm), Klinopyroxen (10 bis 14 ppm) und Orthopyroxen (8 bis 25 ppm) 9 ppm) bis Sanidin (1 bis 12 ppm).

Die Lithiumkonzentrationen von kristallisierten Schmelzeinschlüssen, die sich in Quarz befinden, lagen zwischen 70 und 397 ppm. Die δ^{7}Li-Zusammensetzung der verschiedenen Phasen variiert um ~ 10‰, wobei die glasige Grundmasse am schwersten ist (+6,5 bis + 7,5‰) und von Quarz (+6,7 bis +7,2 ‰) über Fayalit (+ 3,1‰), Klinopyroxen (–0,1 bis +1‰), Sanidin (–0,1 bis –0,6‰), Plagioklas (–1,4 bis –2,4‰) bis Orthopyroxen (–2 bis –2,1‰) abnimmt. Außerdem habe ich scheinbare Verteilungskoeffizienten zwischen der glasigen Grundmasse und den Mineralphasen des Mesa Falls Tuff und für 15 weitere Ignimbrite aus der Provinz Yellowstone-Snake River Plain, berechnet. Die scheinbaren Verteilungskoeffizienten zeigten, dass Lithium in Quarz am kompatibelsten ist und in Sanidin am wenigsten kompatibel ist. Zusätzlich habe ich Lithiumkonzentrationsprofile in Plagioklas und Sanidin identifizierte. Dort habe ich beobachtet, dass Lithium zu ihren Rändern hin abnahm, was darauf hindeutet, dass einer kinetischen Isotopenfraktionierung möglicherweise erhalten geblieben ist.

Um diese potenziell erhaltene kinetische Isotopenfraktionierung zu verifizieren, habe ich Plagioklaskristalle *in situ* mit Hilfe eines fs-LA-MC-ICP-MS analysiert, um ihre δ^7Li-Zusammensetzung vom Rand bis zum Kern zu bestimmen. Zusätzlich habe ich die Spurenelementzusammensetzungen mit Hilfe des LA-ICP-MS entlang der δ^7Li Profile gemessen. Dies ergab große systematische Isotopenunterschiede innerhalb der Profile mit Rändern von –3,8 bis +5,9‰ und Kernen von –11 bis +2‰. Mit diesen Ergebnissen zeige ich, dass es eine negative Korrelation zwischen der Konzentration und der Isotopenzusammensetzung dieser Kristalle gibt und dass diese Korrelation unabhängig ist von anderen Haupt- oder Spurenelementen. Die Bildung dieser isotopisch schweren Ränder wird als kinetische Isotopenfraktionierung interpretiert, welche sich aufgrund eines Ungleichgewichts zwischen den Plagioklaskristallen und ihrer umgebenden Schmelze bildete. Die Konzentrations- und δ^7Li-Gradienten, bildeten sich dadurch, dass ^{6}Li während der Vesikulation in die Gasphase fraktionierte, wodurch die Schmelze in ^{6}Li abgereichert wurde. Dies führte zu einer Diffusion von ^{6}Li aus den Feldspaträndern in die Schmelze, wodurch die Ränder in ^{7}Li angereichert wurden. Diffusionsmodellierung wurde auf die Lithiumkonzentrations- und δ^7Li-Profile angewendet, um die Zeitskalen zu quantifizieren, in denen sie sich bildeten. Die Ergebnisse zeigen, dass sich die Gradienten innerhalb von zehner Minuten vor dem Ausbruch gebildet haben. Dies macht Lithium und seine Isotope zu einem guten Hilfsmittel um Prozessen, die im späten Stadium des magmatischen Systems stattfinden, zu quantifizieren.

Dieses Ergebnis weist darauf hin, dass zwischen der Schmelze und der abgelagerten, entgasten glasigen Grundmasse eine signifikante δ^7Li-Fraktionierung bestehen sollte. Dies wird durch den Unterschied in der Lithiumkonzentration in den kristallisierten Schmelzeinschlüssen im Vergleich zur glasigen Grundmasse unterstützt. Daher wurde die δ^7Li-Zusammensetzung verschiedener Schmelzeinschlüsse, welche sich in Quarz befinden, und der glasigen Grundmasse *in situ* mit Hilfe der SIMS gemesen und die Spurenelemente wurden per LA-ICP-MS bestimmt. Ihre H_2O- und CO_2-Konzentrationen wurden durch Fourier-Transformations-Infrarot (FTIR)-Spektrometer-Messungen ermittelt und nur glasige Einschlüsse mit rund 3 bis 4 Gew.% H_2O wurden für weitere Analysen verwendet. Die Lithiumkonzentrationen zwischen den beiden Quarzpopulationen variieren um mehr als den Faktor 2. Die Quarzpopulation mit kristallisierten Einschlüssen weist eine zunehmende Lithiumkonzentration in Richtung ihrer Ränder auf, was auf einen Diffusionsaustausch zwischen Schmelze und Quarz hinweist. Die Diffusionsmodellierung zeigte, dass sich diese Gradienten in weniger als drei Stunden bildeten. Die δ^7Li-Zusammensetzung der glasigen Grundmasse und der glasigen Schmelzeinschlüsse bestätigte eine große Isotopenfraktionierung von bis zu 25‰. Glasige Schmelzeinschlüsse weisen im Vergleich zur glasigen Grundmasse eine geringere Lithiumkonzentration auf, was auf einen Diffusionsaustausch zwischen Schmelzeinschlüssen und Quarz hindeutet.

In dieser Arbeit zeige ich, dass Lithium in Mineralen aus felsischen Schmelzen stark variieren kann und dass deren Isotopenzusammensetzung stark durch Fraktionierung bei hohen Temperaturen beeinflusst wird. Dies kann Auswirkungen auf Studien haben, die sich auf den Subduktionszyklus oder basaltische Zusammensetzungen konzentrieren, da die gemessenen Lithiumisotopenzusammensetzungen möglicherweise Prozesse im Spätstadium widerspiegeln und keine Mantelwerte darstellen. Ich hebe hervor, dass Li und seine Isotope in Kombination mit *in situ* Messungen eine robuste Methode sind, um magmatischer Prozesse zu verstehen, die im späten Stadium des magmatischen Systems stattfinden, z. B. Zeitskalen der Ausgasung von Magma.

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Contents

Chapter 1

Introduction

1.1 Motivation and outline of thesis

Non-traditional isotopes have gained increasing attention over the past three decades as they are a useful tool to study geological processes such as the subduction cycle. Lithium and its isotopes have become a more frequently used isotope system to look at mantle, subduction or surface processes. Hundreds of papers focus on the behaviour of lithium in different geological reservoirs by studying natural samples and performing experiments to identify processes leading to changes in lithium concentration and isotopic composition in the melt and mineral phases present, e.g. olivine. These studies (summarised in Tomascak et al., 2016 and Penniston-Dorland et al., 2017) determined that lithium diffusivity can result in large lithium isotopic differences between melt and mineral phases and fluids present. Pioneering work by Richter et al. (2003), who experimentally studied the lithium diffusion between basalt and rhyolite, determined that the fast diffusion of lithium can result in an isotopic fractionation of ~40‰. This study also showed that diffusional fractionation increases with increasing temperatures, whereas previous studies assumed lithium fractionation would be greater at temperatures below 350 °C (e.g., Chan et al., 1994).

However, all these previous studies only focus on the behaviour of lithium in more primitive melts, with the exception of a single study by Ellis et al. (2018) that addresses the lithium systematics in more evolved systems. This study showed that the lithium concentration and isotopic composition of mineral phases in rhyolitic ignimbrites can be changed due to post-eruptive mobility of lithium. Due to the increasing demand of lithium as an economic resource (e.g. Kesler et al., 2012; Benson et al., 2017) and the association of lithium deposits with evolved rocks, further studies of the lithium behaviour in evolved magmatic systems are needed. To address this need and current knowledge gap, the primary aim of my thesis is to quantify the lithium budget in rhyolites. The work herein is also guided by the aim to identify and evaluate the processes that lead to changes in lithium concentration and isotopic composition of rhyolites and their associated mineral phases in magmatic systems and to determine potential high-temperature isotopic fractionation.

Furthermore, a lot of studies focus on caldera forming eruptions which are associated with voluminous rhyolitic magma bodies (e.g., Bachmann et al., 2002; Hildreth & Wilson, 2007; Stelten et al., 2015). Most of these studies investigate the time scales of magma storage and assembly and the processes leading to it, but only few studies look at the tipping point of the system that leads to these explosive eruptions. Using lithium concentration and lithium isotopes gives the opportunity to study the last moments of the system prior or during eruption. The Yellowstone caldera system (USA), which is one of the largest volcanic systems on Earth, had three caldera forming eruptions with Huckleberry Ridge Tuff (2.08 Ma; Rivera et al., 2014; Singer et al., 2014), Mesa Falls Tuff (1.30 Ma; Rivera et al., 2016) and Lava Creek Tuff (0.63 Ma; Matthews et al., 2015). Mesa Falls Tuffs eruption history is the simplest out of the three eruptions with being smallest and having erupted in one single pulse (Christiansen, 2001). It has been well characterised in terms of geochemistry, petrography, volcanology (Christiansen, 2001) and as a result, deemed fairly representative of a typical hot, dry rhyolite. As Mesa Falls Tuff has little to no post-eruptive modification these characteristics make it an appropriate choice to solve the different scientific questions using lithium concentrations and isotopes that will be addressed in this thesis.

The thesis is structured into a total of five chapters. Following the introduction, chapters two to four present three independent papers that used Mesa Falls Tuff (Yellowstone, USA) as a case study, while Chapter five provides a general conclusion and an outlook for future research in this field. Chapter two only uses bulk separate measurements to have a general understanding of the lithium isotopic distribution between different mineral phases within a rhyolite. Chapter three and four address scientific questions that where left unanswered and/or were identified in chapter two. In chapters three and four only *in situ* measurements are used as they provide a better spacial resolution which helps to identify disequilibrium processes and quantify the timescales in which they have formed. The specific content of each chapter is briefly summarised below.

Chapter two is a paper published in Chemical Geology (2019) and focuses on the partitioning and isotopic fractionation of lithium in minerals in rhyolite. The paper investigates the distribution of lithium concentration (measured *in situ* by LA-ICP-MS) and isotopic composition (measured as bulk separates by MC-ICP-MS) of the different mineral phases present in Mesa Falls Tuff. Additionally, it provides apparent partition coefficients for lithium between the groundmass glass and the co-existing minerals. In this paper lithium variations between rims and cores in sanidine and plagioclase were identified, suggesting a possible kinetic isotopic fractionation between melt and feldspar crystals.

Chapter three is a paper published in Geology (2020) and represents the first detailed study of δ^7Li in plagioclase crystals measured *in situ* using a femtosecond laser that is coupled to a MC-ICP-MS. With the isotope data it was possible to show that due to the large mass difference between the two isotopes the analysed plagioclase grains record kinetic effects that were a result of volatile degassing prior to eruption. Diffusion modelling of lithium concentration and isotope profiles in plagioclase was applied to determine the time scales of volatile degassing of Mesa Falls Tuff.

Chapter four is a paper draft and examines the lithium isotopic fractionation between melt and deposited groundmass glass. Lithium concentration (measured *in situ* by LA-ICP-MS), isotopic composition (measured *in situ* by SIMS), major elements (measured by EPMA), H_2O as well as CO_2 concentrations (measured *in situ* by FTIR) in melt inclusions hosted in quartz crystals from Mesa Falls Tuff were examined. The melt inclusion data is discussed in context with the groundmass glass from Mesa Falls Tuff to identify processes taking place between entrapment of the melt inclusions and the deposition of the groundmass glass. Furthermore, this chapter deals with potential processes leading to the enrichment of lithium in crystallised melt inclusions compared to their glassy counterparts.

Chapter five is the final chapter, providing a general summary of the dissertation, how the goals were accomplished and gives a future perspective of which questions are still to be answered and how they can guide future studies in this field.

1.2 A general introduction to non-traditional stable isotopes

Numerous stable isotope systems (e.g., H, C, N, O, S; Valley et al., 1986; Valley and Cole, 2001) have been used as tracers to identify geochemical reservoirs, reconstruct temperatures, classify meteorites, among a multitude of applications. The recent improvements in mass spectrometry make it possible to measure even small isotopic effects. Over the past decade non-traditional stable isotope systems (e.g., magnesium, iron, chlorine, lithium) have been developed or expanded to explain geological processes. Non-traditional stable isotope systems have some advantages compared to the traditional stable isotope

systems. For example, the elements span a wide range from highly volatile (e.g., Zn and K) to refractory (e.g., Ca and Ti). Further, most of them are redox-sensitive, and have high atomic numbers with more than two stable isotopes (Teng et al., 2017), which makes analysing them easier. When the isotopes are in disequilibrium with each other their isotopic composition can be used to understand processes leading to disequilibrium and to determine time scales of geological processes (Watkins et al., 2017). The mass difference between the different isotopes of an element, the possible changes of oxidation state of the different isotopes, and volatility of the isotopes influence the amount of isotope fractionation (Teng et al., 2017).

To better understand geological processes and for a correct interpretation of stable isotope data it is important to know the equilibrium isotope fractionation factors between phases as they help to identify isotopic equilibrium or unmask disequilibrium between phases. These factors are usually determined first by theoretical predictions that are then linked to experimental results (Young et al., 2015). Pioneering work on stable isotopic fractionation was done by Lindemann and Aston (1919), Lindemann (1919), Urey and Greiff (1935), and Urey (1947) who calculated theoretical equilibrium isotope fractionations. Urey (1947) developed an equation that calculates the isotopic partition function ratios for molecules that was further modified from Kieffer (1982) for crystals and amorphous solids.

Some general rules for equilibrium stable isotope fractionation, based on the theoretical findings of Bigeleisen and Mayer (1947), have been developed and are summarised in O'Neil (1986) and Schauble (2004). The first general rule is that *equilibrium isotopic fractionation decreases with increasing temperature*, meaning that the largest isotopic fractionation occurs at the lowest temperatures (Schauble, 2004). Exceptions can arise when fractionation is minor and/or when the element is bonded to hydrogen. The second rule is that i*sotopic fractionation is greater for light elements and isotopic systems where the isotopes have large mass differences (e.g., lithium)*. The third rule is when looking at an equilibrium state, *heavy isotopes prefer substances where the element forms the strongest bonds,* where the coordination number is low and valence is high. The last rule is that *substances (e.g. crystals) where an element is in a bond with hydrogen or associated with a low-mass molecule will be less enriched in the heavier isotope* (Schauble, 2004).

For kinetic fractionation, however, it is difficult to determine general rules. Kinetic fractionation is defined as a one-directional process under disequilibrium conditions where the exchange of the isotopes was not complete, and the lighter isotopes are enriched in the reaction products (Schauble, 2004). In contrast to equilibrium fractionation, diffusive kinetic fractionation does not decrease with increasing temperature (Schauble, 2004). The isotope fractionation factor is described by the term α (equation 1) with the isotopes $^{light}X$ (light isotope) and $^{heavy}X$ (heavy isotope) fractionating between two phases or two compounds within a phase (XA and XB):

$$\alpha_{XA\text{-}XB} = (^{heavy}X/^{light}X)_{XA} / (^{heavy}X/^{light}X)_{XB} \qquad (1)$$

The fraction is usually small and, therefore, 1000*ln(α) or 1000* (α − 1) are used to highlight the difference between α and 1 with α =1.001(1000·[α−1] =1) representing the fractionation of one per mil (‰) (Schauble, 2004).

When an isotopic gradient is created within a phase, a net flux forms, which can lead to large isotopic fractionation. According to Fick´s first law the flux of a chemical species (i) is proportional to

the concentration gradient and the proportionality constant is the diffusion coefficient (D; m^2s^{-1}). This can be expressed as:

$$J_i = -D_i \nabla C_i \quad (2)$$

with J_i being the flux (moles $m^{-2}s^{-1}$) and C_i the concentration (moles m^{-3}). Equation (2) can, for example, be applied to diffusion of a trace species in silicate melt. The diffusion coefficient depends on various parameters such as temperature, pressure, oxygen fugacity, and water concentration (e.g., Chakraborty 2008). The difference between the diffusion coefficients of the isotopes of one element is mass dependent. This ratio is defined as:

$$D_2/D_1 = (m_1/m_2)^{\beta} \quad (3)$$

with (D_2/D_1) being the ratio of the diffusion coefficients of the isotopes of the element and (m_2/m_1) being the ratio of masses of the isotopes (Richter et al., 1999). β is a dimensionless empirical parameter that is derived experimentally and is used to compare different elements. β values higher than one mean that the diffusivity is more sensitive to isotope mass. Richter et al. (1999) were the first to study the mass dependence of diffusion in silicate melts. Using calcium isotopes, they experimentally showed that isotopes can experience high-temperature fractionation as the light isotope diffuses faster than the heavier isotopes. Richter et al. (2009) systematically compiled the β factor for different cations in metals (e.g. magnesium) and metalloids (e.g., silicon) with all being less than 0.5, and showed that when plotted against temperature it reflects the sensitivity of mass discrimination. Additionally, Richter et al. (2003, 2008) and Watkins et al. (2009) showed that trace elements (e.g., lithium) have a stronger mass discrimination compared to major elements (e.g., magnesium, iron).

1.3 Current state of research in the field – Introduction to lithium isotopes

Lithium (Li) is the lightest alkali metal and one of the fastest diffusing elements in minerals and silicate melt (e.g., Jambon and Semet, 1978; Giletti and Shanahan, 1997; Richter et al., 2003). Lithium is considered moderately incompatible in clinopyroxene (e.g., Caciagli et al., 2011), olivine (e.g., Brenan et al., 1998a), plagioclase (e.g., Blundy et al., 1998) and mobile when aqueous fluids are involved (e.g., Edmond et al., 1979; Brenan et al., 1998b; Chan and Kastner, 2000). It has two stable isotopes, ^{6}Li (7.4% atomic abundance) and ^{7}Li (92.6% atomic abundance), exhibiting one of the largest mass differences (~17%) compared to other stable isotope systems (e.g., ^{10}B-^{11}B with ~10%, ^{16}O-^{18}O with ~12.5%). Lithium isotope ratios are reported in the δ-notation (equation 4) relative to the Li Carbonate L-SVEC reference solution (Flesch et al., 1973):

$$\delta^7Li\ (‰) = [(^7Li/^6Li)_{sample}/(^7Li/^6Li)_{L-SVEC} - 1] \times 1000 \quad (4)$$

Therefore, positive values reflect an enrichment in ^{7}Li and are referred to as isotopically heavy, whereas negative values represent a higher amount of ^{6}Li and are considered to be isotopically light.

The large mass difference between the two isotopes can lead to considerable differences in the isotopic composition in different reservoirs due to equilibrium/disequilibrium and kinetic fractionation in the Earth system. Recent studies demonstrated the existence of large lithium isotopic differences in geological reservoirs, with up to 50‰ variation (Fig. 1.1; summarised in Tomascak et al., 2016 and

Penniston-Dorland et al., 2017). Studies using lithium are driven by different scientific problems, e.g., crust–mantle recycling (e.g., Moriguti and Nakamura, 1998), silicate weathering and alteration (e.g., Seyfried et al., 1984; Liu and Rudnick, 2011; Misra and Froelich, 2012), and fluid–rock interaction and processes involved in the subduction cycle (e.g., Brenan et al., 1998b; Marschall et al., 2006; Qiu et al., 2009, 2011b). Lithium is typically used as a tracer of metamorphic, hydrothermal, and magmatic

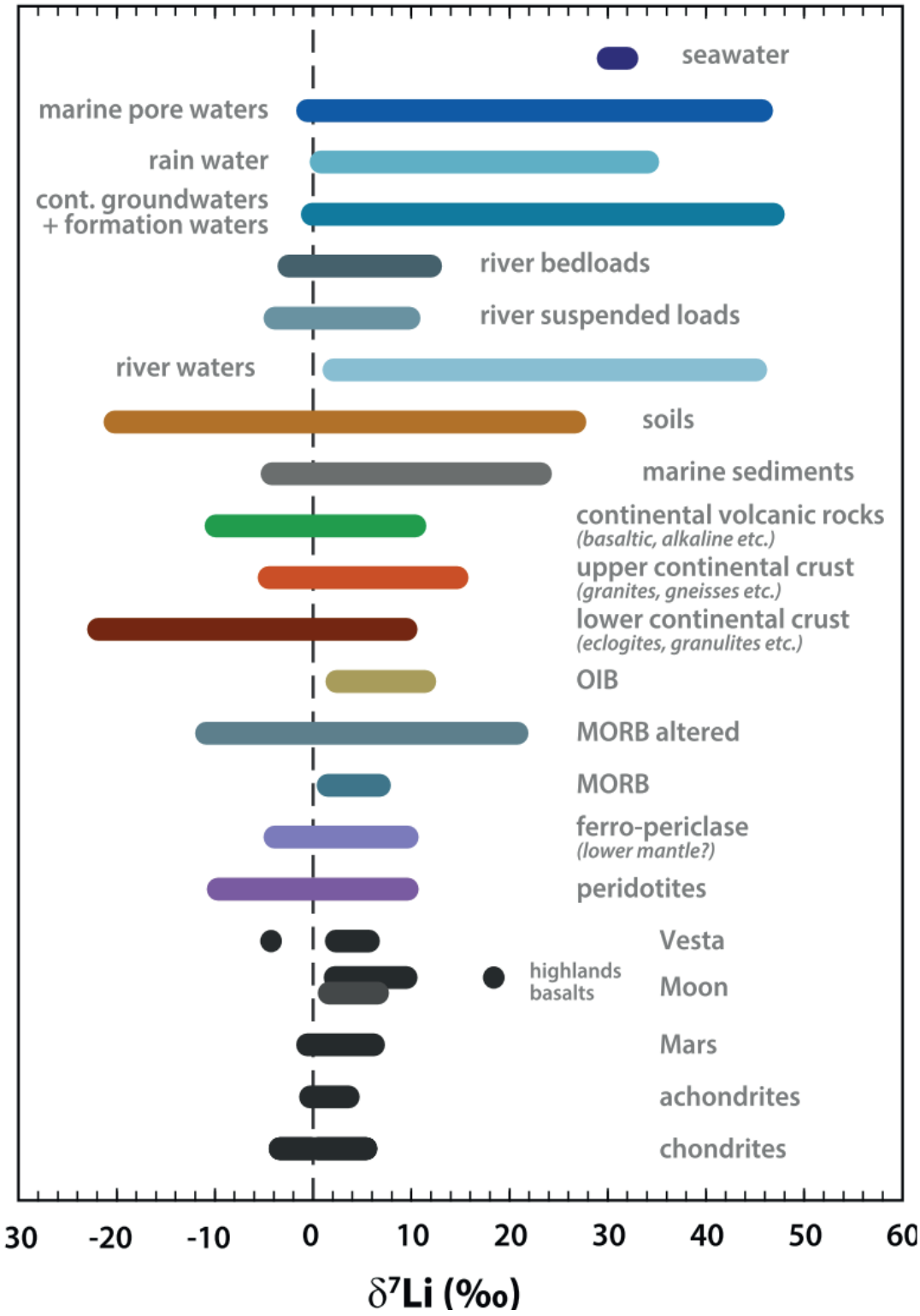

Fig. 1.1: Range in lithium isotopic composition in terrestrial and extra-terrestrial reservoirs (from Tomascak et al., 2016).

processes (e.g., Matsui et al., 1977; Tomascak et al., 1999; Schuessler et al., 2009), especially as lithium is not incorporated by biological systems. Lithium is considered moderately incompatible during crystal fractionation and its concentration increases during magmatic differentiation from basalt to rhyolite (e.g., Schuessler et al., 2009). Most studies published to date focus on very primitive compositions (e.g., Chan et al., 1992; Tomascak et al., 1999; Elliott et al., 2006), whereas, more evolved compositions are less well studied (e.g., Schiavi et al., 2012). Additionally, lithium concentrations and isotopic composition are used to study meteorites as well as lunar and Martian materials, to provide information about the isotopic composition of the solar system (e.g., Tomascak et al., 2016).

Previous studies suggest that lithium isotopic fractionation up to 50‰ only exists during low-temperature reactions that are related to water at the Earth's surface. At temperatures above 350°C the isotopic fractionation is very small and fractional crystallisation and partial melting can only fractionate lithium isotopes by ~1‰ (e.g., Chan et al., 1994; Tomascak et al., 1999). In contrast, experimental studies have demonstrated the existence of isotopic fractionation at temperatures above 350°C (e.g., Richter et al., 1999, 2009, 2014). It has been shown that different reservoirs on Earth have different bulk lithium concentrations and isotopic compositions (e.g., Tomascak et al. 2016; Penniston-Dorland et al., 2017). Different studies determined that secondary clay minerals are enriched in ^{6}Li during continental weathering, whereas, ^{7}Li is enriched in the fluid, e.g., rivers (~0.2 ppb to 20 ppb, δ^{7}Li = +1 to +44‰), groundwater (+6 to +29‰;), meteoric water (<3 ppb and δ^{7}Li = +0.8 to +33.3‰), lakes (0.11 ppb to 22 ppm, δ^{7}Li = +17 to +35‰), seawater (~ 0.18 ppm and δ^{7}Li = +31‰), submarine hydrothermal fluids (0.1 to 10 ppm and δ^{7}Li = +5 to +11‰), or geothermal waters (0.2–150 ppm and δ^{7}Li = −3 to +26‰) (e.g., Chan and Edmond, 1988; Chan et al., 1993, 1994; Moriguti and Nakamura, 1998; Huh et al., 1998; Pistiner and Henderson, 2003; Tomascak et al., 2003; Millot et al., 2004, 2010, 2012; Pogge von Strandmann et al., 2006, 2014; Millot and Negrel 2007; Witherow et al., 2010; Godfrey et al., 2013; Liu et al., 2015; Verney-Carron et al., 2015).

Samples from fresh mid-ocean ridge basalts (MORB) as well as ocean island basalts (OIB) range in lithium isotopic composition from +1.5 to +5.6‰ (e.g., Chan et al., 1992; Tomascak et al., 1999; Elliott et al., 2006) and from 2.9 to 34 ppm in lithium concentration, though on average the latter is below 8 ppm (e.g., Ryan and Langmuir, 1987; Niu et al., 1999; Tomascak et al., 2008). These studies showed that there is no significant variation between different ridges. The minor differences found are attributed to different MORB sources. E-MORB (high K_2O to TiO_2 ratio) has a δ^{7}Li average of +4.0‰ whereas N-MORB (low K_2O to TiO_2 ratio) has an average of +3.4‰, but both sources overlap within their uncertainties (Tomascak et al., 2008). In contrast, OIB samples show heterogeneity even for samples from a single location, yet still fall in the range of MORB values. This heterogeneity in samples is attributed to mixing of altered oceanic crust in the OIB source (e.g., Chan and Frey, 2003; Kobayashi et al., 2004; Chan et al., 2009).

Arc lavas (ranging from basaltic to rhyolitic composition) have a spread in δ^{7}Li from −0.3 to +11‰ and in lithium concentration from 5.6 to 11.1 ppm (e.g., Chan et al., 2002; Magna et al., 2006a; Tang et al., 2014), but most data fall within the range exhibited by MORB (e.g., Moriguti and Nakamura, 1998; Tomascak et al., 2000; Moriguti et al., 2004). Arc lavas falling in the range of MORB values are interpreted as being unaffected by subduction processes or arc magma genesis (e.g., Leeman et al., 2004; Moriguti et al., 2004). Moriguti and Nakamura (1998), Moriguti et al. (2004) and Magna

et al. (2006a) found that δ^7Li values decrease from forearc to backarc and interpreted this as lithium being released from the hydrating slab. Variation between different arcs were associated with different sources, e.g., different amounts of sedimentary rock input, different amount of alteration of the oceanic crust (e.g., Tang et al., 2004), different slab fluid signatures or a slab melting signature (e.g., Tomascak et al., 2000).

Upper and lower mantle are comparable to MORB, with a δ^7Li of ~+4‰ (e.g., Seitz et al., 2004; Magna et al., 2006b; Jeffcoate et al., 2007). In contrast, the δ^7Li for the upper (35 ± 11 ppm and δ^7Li = 0 ± 4‰), lower and middle continental crust (~8 ppm and δ^7Li = −17.9 to +15.7‰) show a wider range (e.g., Teng et al., 2004, 2008, 2009; Qiu et al., 2011a, b; Sauzeat et al., 2015). Most studies only focus on bulk mineral separate or bulk rock measurements, but it has been determined that crystals are often in disequilibrium with their host magma, with the crystals being isotopically lighter compared to their matrix, leading to a large zonation of δ^7Li within crystals (e.g., Jeffcoate et al., 2007; Parkinson et al., 2007; Weyer and Seitz, 2012). This indicates that using bulk mineral, or bulk rock, measurements may conceal additional information about the mantle and the crust that could be identified using *in situ* measurement techniques.

The lithium signature of samples from the upper crust, namely volcanic rocks, can be changed by post-eruptive processes. Ellis et al. (2018) studied eight rhyolitic ignimbrites from the Yellowstone–Snake River Plain system (USA) and determined that the lithium composition of crystals differed depending on the portion of the ignimbrite with high lithium concentrations found in the microcrystalline interior (e.g., plagioclase ranging from 35.3 to 36.8 ppm for the Tuff of Knob) and low lithium abundance in the vitrophyre (e.g., plagioclase ranging from 6.5 to 6.7 ppm for the Tuff of Knob). The authors interpreted this as lithium still being mobile in the slowly cooled part of the eruptive products and leading to the diffusion of lithium into the crystals while progressive crystallisation of the groundmass enriches the last melt pockets in lithium. They pointed out that degassing at the surface can alter the lithium abundance found in crystals and groundmass glass. Therefore, lithium concentration and isotopic composition of volcanic groundmass glass might not represent the lithium composition found in the magma chamber, which can be studied by analysing lithium composition of melt inclusions.

Only few studies published to date investigated the lithium concentration and isotopic composition of melt inclusions hosted in different minerals, and often neglected to measure the corresponding groundmass glass (e.g., Hostra et al., 2013; Lui et al., 2006; Benson et al., 2017). Data from dacitic to rhyolitic arc lavas from the island of Dominica, with glassy melt inclusions hosted in orthopyroxene and plagioclase, returned high δ^7Li values (+4.2 to +11.6‰ and +7.4 to +14.7‰, respectively) with lithium concentration between 20 to 60 ppm and groundmass glass with 19 ppm (Gurenko et al., 2005). In contrast, olivine-hosted melt inclusions from St. Vincent Island had lower lithium concentrations (2.6 to 9.2 ppm) with δ^7Li as low as −10‰ (Bouvier et al. 2008) and olivine-hosted melt inclusions from Grenada (Lesser Antilles) range from 1.1–12 ppm and δ^7Li values of −24 to +8.2‰ (Bouvier et al., 2010). Schiavi et al. (2012) had similar findings in olivine-hosted melt inclusions from Stromboli volcano. Rowe et al. (2008) investigated glassy melt inclusions (+0.9 to +2.2‰; corresponding amphibole-host has values ranging from −13.8 to −20.5‰) in amphibole (all measured amphiboles range from −20.4 to +9‰) from dacitic lava samples from Mount St. Helenes and found that the melt inclusions were isotopically heavier compared to the surrounding host-amphibole, which had heavier

rims compared to their interior. The authors explained the zonation within the amphiboles by lithium diffusion from the melt into the amphibole.

Similarly, to the lack of studies focusing on melt inclusions, studies addressing the fractionation of lithium from the fluid/melt into the vapour phase are also rare (e.g., Dubois et al., 1994; Blundy et al., 2010; Schiavi et al., 2010; Schiavi et al., 2012). Audetat et al. (1998) suggests that phase separation-induced fractionation can lead lithium to partition into vapour or brine. Experiments of Liebscher et al. (2007) focus on lithium isotopic composition of vapour and liquid at 400°C and found minor vapour–liquid fractionation. Kent et al. (2007) suggested that lithium concentration gradients in plagioclase recorded lithium transfer of exsolved brines to the upper part of the magma chamber. The study of Vlastelic et al. (2011) is the only one that measured δ^7Li of gas condensates (−2.8 to −1.3‰). Watson (2017) determined theoretically that ^{6}Li should partition into the vapour phase preferentially to ^{7}Li, making the vapour phase isotopically lighter compared to the melt.

1.3.1 Lithium coordination, diffusion and partition coefficients

To better understand the behaviour of lithium concentration and lithium isotopes in different minerals and melt, it is necessary to understand the site occupancy and its behaviour in the different mineral phases, fluids and melt. Lithium has a valance state of +1 and its ionic radius is 0.92Å in eight-fold coordination, 0.76Å in six-fold coordination and 0.59Å in four-fold coordination (Shannon ,1976). ^{7}Li preferentially partitions into the site with the highest bond energy (Schauble 2004). In most minerals lithium partitions into or out of the minerals by a coupled substitution, e.g., $Si^{4+} \leftrightarrow Al^{3+} + Li^{+}$ (Denen, 1966; Perny et al., 1992). The bond energy for lithium depends on the coordination number (low coordination number equals high bond energy). In most minerals lithium has a six-fold coordination (e.g., in olivine, pyroxenes and biotite), with ^{7}Li substituting for magnesium that has a valance state of +2 (0.89Å in octahedral coordination, 0.57 Å in tetrahedral coordination) or iron (+2; ~0.7 Å) in the octahedral coordinated sites (e.g., Li and Peacor, 1968; Robert et al., 1983; Wenger and Armbruster, 1991; Bertoldi et al., 2004). In pyroxenes and olivine, lithium can substitute for sodium (1.18 Å in octahedral coordination; Shannon 1976) and for trivalent cations, e.g. Cr^{3+}, Sc^{3+}, $REE3^{+}$ (Grant and Wood, 2010). In plagioclase, lithium is more compatible with the albite crystal structure than with the anorthite structure, even though sodium (+1) is larger than calcium (+2). However, due to the difference in radii lithium substitution for sodium is limited (e.g., Shannon, 1976; Tomascak et al., 2016). There is only one published experimental study (Giletti and Shanahan, 1997) that focused on ^{6}Li diffusion in feldspar. Therefore, it is unknown if ^{6}Li and ^{7}Li diffuse differently in plagioclase and if ^{6}Li moves 3 to 3.5% faster than ^{7}Li as shown for “dry” and “wet” melt (Richter et al., 2003; Richter et al., 2006; Holycross et al., 2017). It is possible that lithium in plagioclase behaves in the same way as proven for olivine. Dohmen et al. (2010) demonstrated that the lithium diffusivity depends on the olivine-melt boundary conditions, the crystallographic axis, and the partition behaviour between the octahedral and an interstitial site. For example, olivine has a fast (interstitial site) and a slow (octahedral site) diffusion mechanism, with both operating at the same time and ^{6}Li moving 5% faster than ^{7}Li on the interstitial site. Experiments for clinopyroxene (e.g., Richter et al., 2014) found similar lithium behaviour as described for olivine (e.g., Dohmen et al., 2010).

In quartz, lithium is in either two- or four-fold coordination and preferably incorporates ^{7}Li (Larsen et al., 2004; Sartbaeva et al., 2004). There are two mechanisms by which lithium can diffuse and be incorporated into the crystal lattice: 1) fast diffusion of lithium in interstitials along crystallographic channels perpendicular to the *c*-axis, and 2) a slower diffusion process along *a*- and *b*-axis (Sartbaeva et al., 2005). Charlier et al., (2012) stated lithium diffuses up to four times faster in quartz compared to feldspar.

The coordination of lithium in minerals has an influence on the equilibrium partition coefficients (Kd) between mineral and melt (e.g., Hart and Dunn, 1993; Evensen and London, 2003; Ottolini et al., 2009), between mineral and aqueous fluid (e.g., Brenan et al., 1998b; Caciagli et al., 2011), as well as mineral and mineral (e.g., Coogan et al., 2005; Ottolini et al., 2009; Yakob et al., 2012). In general, lithium is moderately incompatible in basaltic systems (e.g., Marks et al., 2007) and partitions into aqueous fluids rather than minerals, but values for more evolved systems are scarce (e.g., Icenhower and London, 1995; Iveson et al., 2018). Available partition coefficients were determined by experiments (summarised in Tomascak et al., 2016 and Penniston-Dorland et al., 2017). In the following, only mineral-melt partition coefficients are covered as they are most relevant for this thesis.

Partition coefficients for plagioclase-melt vary from 0.09 to 0.6 as the partition coefficient of lithium in plagioclase is a function of the anorthite composition (e.g., Blundy, 1997; Bindeman et al., 1998; Coogan, 2011; Dohmen and Blundy, 2014). Olivine-melt and clinopyroxene-melt partition coefficients range from 0.01 to 1.0 and 0.02 to 1.05, respectively (e.g., Taura et al., 1998; Klemme et al. 2002; Bennett et al., 2004; Zanetti et al., 2004; Kuzyura et al., 2010; Spandler and O'Neill, 2010). In a magnesium-rich olivine the lithium concentration correlates with the Sc^{3+} and Ga^{3+} concentrations in the melt. In iron-rich olivine the lithium concentration can depend on the Fe^{3+} concentration in the olivine (Grand and Wood, 2010). In clinopyroxene the lithium concentration depends on the major element composition, e.g. the concentration of Al (e.g., Lundstrom et al., 1998; Blundy and Dalton, 2000; Hill et al., 2000). Orthopyroxenes vary from 0.13 to 0.48 (e.g., Adam and Green, 2006; Brenan et al., 1998a, b; Frei et al., 2009) and the different experiments identified that even with changing composition, temperature and pressure the variability in lithium concentration was minor compared to clinopyroxene or olivine.

1.3.2 . Geospeedometry

Lithium geospeedometry has been established as a useful tool to study processes that occur over short-time scales (e.g., Coogan et al., 2005; Beck et al., 2006; Jeffcoate et al., 2007; Parkinson et al., 2007; Charlier et al., 2012; Richter et al., 2016). The increase of this application is due to the improvement of *in situ* measurement techniques and the increasing amount of available reference standards.

Geospeedometry uses equilibrium partitioning of lithium and its isotopes between minerals, within minerals or mineral and their associated melt to estimate time scales of geological processes, e.g. cooling rates of the oceanic crust (e.g., Coogan et al., 2005). The lithium concentration and isotope profiles used for geospeedometry can form under different conditions, e.g., lithium isotopes can be fractionated through kinetic fractionation (e.g., Lundstrom et al., 2005). Studies have shown that minerals reflect isotopic disequilibrium between coexisting phases, indicating kinetic fractionation (e.g., Teng et al., 2006; Liu et al., 2010; Ireland and Penniston-Dorland, 2015). This disequilibrium can form due to

lithium diffusing into or out of the minerals at their grain boundary (e.g., Jeffcoate et al., 2007; Rudnick and Ionov, 2007) or by diffusion exchange between minerals due to a change in partition coefficients during cooling (e.g., Ionov and Seitz, 2008; Kaliwoda et al., 2008; Gao et al., 2011).

Coogan et al. (2005) experimentally calibrated a Li-geospeedometer by determining the partition behaviour of Li between plagioclase and clinopyroxene. The geospeedometer depends on temperature and it establishes that Li favours clinopyroxene with decreasing temperature. Coogan et al. (2005) then concluded that this can be used as a geospeedometer as the diffusivity depends on the cooling rate of the solid. Solid phases that cool rapidly are favoured over solids that cool over long periods of time, as their original diffusion profile can be overprinted. Geospeedometry is applied to lithium concentration zoning in different minerals to determine, for example, the time scales of degassing (e.g., Charlier et al., 2012). Parkinson et al. (2007) studied lithium concentration and lithium isotopic composition of zoned olivine and pyroxene from arc lavas (New Georgia Group in the Solomon Islands) and showed that the δ^7Li composition overprinted the major element zonation with low δ^7Li in the rims and high δ^7Li in the cores. The time scales estimated by Mg-Fe diffusion and lithium geospeedometry showed that lithium diffuses at the same rate as Mg-Fe in olivine and lithium diffuses faster in clinopyroxene compared to olivine. The authors point out that crystals of porphyritic lavas are not suitable to study mantle processes and any primary δ^7Li signal within clinopyroxenes and olivine will be overprinted during melt migration and might not capture the primary signal. Gallagher and Elliott (2009) tested with a quantitative model if the δ^7Li diffusion profiles of a clinopyroxene phenocryst presented by Jeffcoate et al. (2007) could be reproduced by just assuming a natural cooling history of the lavas. Their calculations proved that the δ^7Li diffusion profiles are a consequence of the cooling history of the lavas and this kind of profile can be used for geospeedometry. Additionally, they concluded that δ^7Li diffusion profiles deviating from the one shown in Jeffcoate et al. (2007) and can have different and more complex cooling histories.

1.3.3 Lithium as a resource

Lithium is considered a rare element as its concentration in the upper crust is low (e.g., Teng et al., 2004; Teng et al., 2009; Sauzeat et al., 2015). Until the early 1990s, lithium was mined mostly from

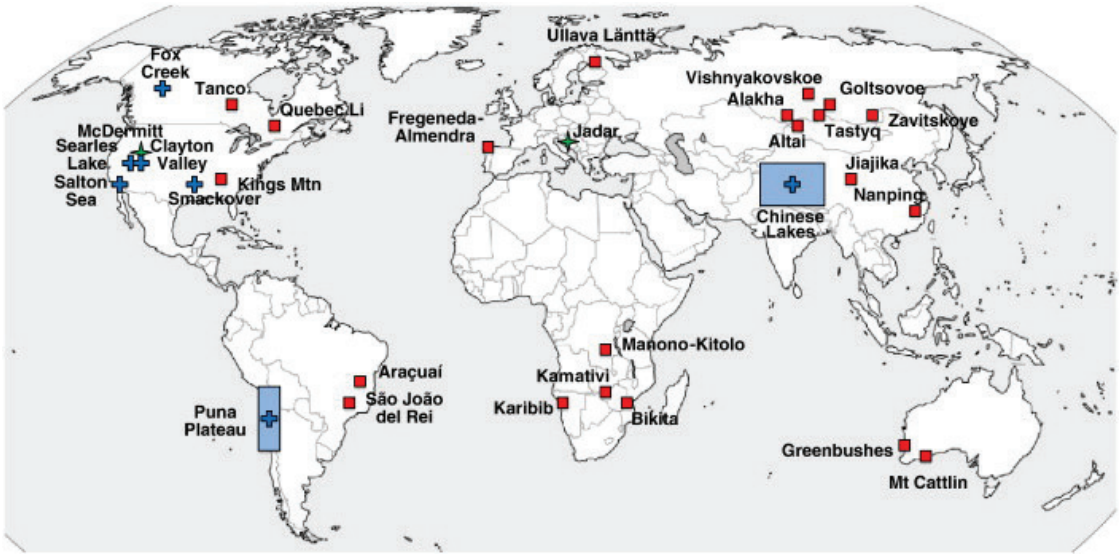

Fig. 1.2: Map showing economically important lithium deposits with pegmatites in squares, brines as crosses and rectangles highlighting the distribution of salars (from Kesler et al., 2012).

minerals like spodumene, but, since the late 1990s, processing of brines has increased (e.g., USGS, 2009; Hostra et al., 2013). Different countries consider lithium as an energy-critical and technologically important element (e.g., Chakhmouradian et al., 2015). The classification is based on the increase of the use of lithium as a resource, e.g., for Li-ion rechargeable batteries (e.g., Jaskula, 2012) in portable electronic devices, electrical power grid, hybrid and electric cars, wind and solar energy plants (e.g., Grosjean et al., 2012) and in ceramics, glass, lubricants, light-weight alloys, and pharmaceutical products (e.g., Kesler et al., 2012; Jaskula, 2012; Vikström et al., 2013). The current demand for lithium is small, with 32.5 kilotons (kt) per year but is predicted to go up to 3 to 35 megatons (Mt) in 2050 (Jaskula, 2016). Most of the lithium is currently produced by Australia, China and Chile (e.g., Jaskula, 2016).

Extractable lithium can be found in 1) pegmatites 2) continental brines and 3) "unusual deposits" (Kesler et al., 2012; Fig. 1.2). To meet the new lithium demands of the market, understanding the formation and origin of these deposits is economically important. Forty percent of the global lithium extraction comes from pegmatite deposits and about 60 percent come from brine deposits (e.g., Jaskula, 2016). Lithium is used by industry in mineral form (e.g., spodumene [$LiAlSi_2O_6$], petalite [$LiAlSi_4O_{10}$] and lepidolite), but extracted as its chemical compounds (Li_2CO_3, LiCl, LiBr and LiOH) from the minerals found in pegmatites or precipitated from brines (e.g., Ebensperger et al., 2005; Kesler et al., 2012).

Pegmatites are relatively common, but rare metal pegmatites (0.1% of the total) and lithium-rich pegmatites are limited (Laznicka, 2006). Lithium-rich pegmatites are often enriched in other rare elements, e.g. tin, beryllium and tantalum–niobium (Kesler et al., 2012). Pegmatites that are zoned often have large minerals enriched in lithium, e.g., in Namibia, U.S.A. and Canada (Kesler et al., 2012). The melt, forming pegmatites, could originate from lithium-rich sediments or strong differentiation of low-calcium granites (e.g., London, 2008a, b; Norton, 1977, Stewart, 1978). London (2017) states that Li-rich pegmatites can originate from sediments that accumulated in ocean basins, which later, due to metamorphism, are melting and release Li into the melt (Kesler, 2012).

One of the economically important pegmatite deposits is Kings Mountain pegmatite belt in North Carolina and South Carolina (USA). The pegmatites found in the Kings Mountain pegmatite belt are homogeneous and produce 0.32 Mt lithium per year at the Kings Mountain deposit and 0.42 Mt lithium per year at the Bessemer City deposit (Kesler, 1978). Another important pegmatite is the Tanco deposit (Bernic Lake, Manitoba), which produces 0.14 Mt lithium per year (Kesler, 2012).

Brine deposits are enclosed basins with lacustrine evaporates. Economically important deposits of this type, which are more enriched in lithium compared to marine evaporites, are found in Chile, Argentina and China (Kesler, 2012). The current theory for the formation of lithium-rich brines is that lithium is leached from rhyolitic tuffs and lavas by hydrothermal fluids and meteoric water and bound to secondary clay minerals that are deposited in basins close to the source rocks (e.g., Ide and Kunasz, 1989; Zheng and Liu, 2009; Lowenstein and Risacher, 2009). Garrett (2004) stated that lithium can only be leached from rocks and minerals at temperatures over 300–350 °C.

The Andean salars, located in Bolivia, Argentina and Chile, have waters and brines that are enriched in lithium with concentrations of several grams per litre (e.g., Moraga et al., 1974; Ericksen et al., 1978; Risacher and Fritz, 1991). Salar de Atacama in Chile (3000 km^2) is the brine that economically produces the highest amount of lithium, with lithium concentration of over 4000 ppm

(Garrett, 2004; Lowenstein and Risacher, 2009; Kesler et al., 2012). The Salar de Hombre Muerto (Argentina) has lithium concentrations ranging from 220 to 1000 ppm, which supports the idea that there is a shallow lithium-brine aquifer present (Garrett, 2004). Risacher and Frith (2009) determined that lithium concentration in spring waters and ground waters of Andean salars is not a function of their temperature, leading them to conclude that hydrothermal alteration is not solely responsible for the enrichment of lithium in brines and waters of the Andean salars.

Other "unusual" lithium-rich deposits form due to the interaction between clastic sedimentary or volcanic material and hydrothermal solutions or evaporative brines (Kesler et al., 2012). One example is King Valley/McDermitt (Nevada, USA) with lithium-rich smectite clay hectorite layers (Castor and Henry, 2020), which are clay minerals that form due to the hydrothermal alteration of volcanic ash by fluids (Kesler et., 2012). This deposit produces around 2 megatons per year (Benson et al., 2017).

1.4 Geological background

The Yellowstone Volcanic Field (USA; Idaho - Montana - Wyoming) is located at the northern end of the Snake River Plain hotspot track (USA) and represents the current location of a continental hotspot. Three of the largest caldera forming eruptions in the Quaternary have taken place in this volcanic field (e.g., Christiansen, 2001; Selten et al., 2018). The first and largest one was Huckleberry Ridge Tuff (HRT, 2.08 Ma; Rivera et al., 2014; Singer et al., 2014) forming the Island Park Caldera. The second one was Mesa Falls Tuff (MFT, 1.30 Ma; Rivera et al., 2016) producing the Henry's Fork Caldera. The youngest of the three caldera forming eruptions is Lava Creek Tuff (LCT; 0.63 Ma; Matthews et al., 2015), which formed the Yellowstone Caldera. These calderas formed in three cycles and ~6500 km^2 of material has been erupted in the Yellowstone Volcanic Field over this period of these three cycles. Rhyolite flows and basalts predating and postdating the caldera forming eruptions (Christiansen et al., 2007; Rivera et al., 2016) represent the larger part of the volcanism (~2.1 Myr; e.g., Christiansen, 2001) at the Yellowstone Volcanic Field (Christiansen, 2001).

The Huckleberry Ridge Tuff was the most voluminous eruption (~2500 km^3; Christiansen, 2001) of the three eruptions within the Yellowstone Volcanic Field. It is considered as a single eruptive event but is split into three members (A, B, C; Christiansen & Blank, 1972; Christiansen, 2001). All three members consist of quartz, sanidine, plagioclase, titanium oxides, clinopyroxene, and accessory phases with different abundance and grain size between the different members (Christiansen, 2001).

The Mesa Falls Tuff was part of the second cycle and forms the Henry's Fork caldera in the Island Park (Idaho, USA). MFT is a single eruption unit. It has a thick ash and pumice deposit at its base with large pumice blocks (up to 30 cm in diameter) (Christiansen, 2001; Rivera et al., 2016). Below this base are several rhyolite flows (Christiansen, 2001). The upper part of MFT are welded ash flows (Rivera et al., 2016). MFT consists of quartz, plagioclase, sanidine, orthopyroxene, clinopyroxene, olivine, and accessory phases.

Lava Creek Tuff was part of the third cycle and represents the youngest caldera forming eruption (> 1000 km^3; Christiansen, 2001). LCT has two ignimbrite members (A and B) but they are believed to belong to one cooling unite as significant stratigraphic gaps are missing. The two members vary in welding and crystal content (Christiansen, 2001). Both members consist of sanidine, quartz, magnetite, ilmenite, fayalite and zircon. Only member A has amphibole present.

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Chapter 2

Partitioning and isotopic fractionation of lithium in mineral phases of hot, dry rhyolites: The case of the Mesa Falls Tuff, Yellowstone

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Abstract

Studying the inventory and distribution of lithium (Li) in rhyolitic magmas, and the potential Li isotope fractionation during progressive crystallisation is crucial to understand the formation of economic Li deposits. Lithium concentrations and isotopic compositions of co-existing groundmass glass, quartz, sanidine, plagioclase, clinopyroxene, fayalite, and orthopyroxene from the Mesa Falls Tuff (Yellowstone) were determined using LA-ICP-MS and MC-ICP-MS. The highest Li contents were obtained from quartz-hosted melt inclusions (avg. 244 ppm) and groundmass glass (avg. 43 ppm). Lithium concentrations are lower in mineral phases, decreasing from quartz (avg. 18 ppm), plagioclase (avg. 17 ppm), fayalite (avg. 16 ppm), clinopyroxene (avg. 11 ppm), orthopyroxene (avg. 8 ppm) to sanidine (avg. 6 ppm). Lithium isotopic compositions of bulk tuff samples and major mineral phases reveal a range in δ^7Li values (per mil deviation of ^{7}Li/^{6}Li ratio relative to L-SVEC reference material), spanning ~10‰ between the co-existing phases and decreasing from groundmass glass (+6.5 – +7.5‰) to feldspars (plagioclase from −2.3 to −1.4‰; sanidine from −0.6 to −0.1‰). Lithium concentration profiles across sanidine and plagioclase crystals show a decrease towards the crystal rims, which is not observed in the other mineral phases of the Mesa Falls Tuff. The variations identified in feldspar are decoupled from both the major and all other trace element compositions, precluding an origin related to mafic recharge and magma mixing. We propose that they result from Li loss from the melt to a vapour or fluid phase taking place immediately prior to, or synchronously with, eruption. This is supported by the observation that Li contents in quartz-hosted melt inclusions are a factor of six greater than those found in groundmass glass while the concentrations of immobile trace elements are identical. The low-Li rims on sanidine and plagioclase crystals observed in the high-silica Mesa Falls Tuff rhyolite are potential candidates to preserve Li isotopic disequilibrium as has been observed in less evolved systems. The variation in Li abundances within feldspar crystals hints at the potential for kinetic isotopic fractionation to play a role in the reported isotopic compositions of bulk separates. The large elemental database of Li concentrations from the MFT allows us to calculate apparent partition coefficients between groundmass glass and co-existing minerals. These data are compared to fifteen other ignimbrites from the Yellowstone-Snake River Plain province to provide a coherent picture of Li partitioning in hot and dry rhyolites with Li most compatible in quartz and olivine, and least compatible in sanidine.

2.1 Introduction

The last twenty-five years have seen an increased interest in the geochemistry and global cycling of lithium (Li). Studies have used Li contents and isotope systematics to investigate the composition of the Earth's mantle (e.g., Elliott et al., 2006; Tomascak et al., 2008; Marschall et al., 2017), the transfer of mass at subduction zones (e.g., Leeman et al., 2004; Magna et al., 2006; Plank, 2014), degassing and cooling (Coogan et al., 2005; Beck et al., 2006; Kent et al., 2007; Charlier et al., 2012; Benson et al., 2017; Rubin et al., 2017; Ellis et al., 2018; Holycross et al., 2018), and continental weathering (e.g., Pistiner and Henderson, 2003; Rudnick et al., 2004; Teng et al., 2004; Pogge von Strandmann et al., 2010; Pogge von Strandmann et al., 2017), among other applications. With an increasing drive towards

renewable energy sources, Li has also become an economically important element in the manufacture of fuel cells.

Despite the recognised association between economic deposits of Li (mainly brines and pegmatites) and evolved magmas (e.g., Kesler et al., 2012), relatively little is known about the behaviour of Li in such evolved magmas compared with more mafic systems. The latest compilations of partitioning data of Li between minerals and co-existing melt (Tomascak et al., 2016; Penniston-Dorland et al., 2017) lack data for mineral phases common in felsic systems (e.g., quartz, sanidine) even though they could be an important source for Li through weathering and erosion. Studies about Li isotopic fractionation among coexisting mineral phases in evolved systems are equally rare. A study of Fe and Li isotopes from the Hekla system in Iceland using bulk rock samples suggested that little Li isotopic fractionation occurred during a fractional crystallisation-dominated evolution from basaltic to rhyolitic compositions (Schuessler et al., 2009), consistent with earlier results for the Kilauea Iki lava lake (Tomascak et al., 1999). However, detailed studies indicate that Li isotopic fractionation between co-existing minerals commonly exists on order of 10–20‰ in mafic and/or highly evolved systems (e.g., Teng et al., 2006; Weyer and Seitz, 2012; Magna et al., 2016), and up to ca. 40‰ within single phenocrysts (e.g., Jeffcoate et al., 2007; Cabato et al., 2013). Lithium isotopic variability between mineral phases is even preserved within granitoid rocks (Teng et al., 2006), which cool over long timescales. It is therefore possible that sequential crystallisation of mineral phases could induce Li isotopic fractionation and drive evolution of δ^7Li in the system. Such evolution could be of interest to fingerprint the source and mechanisms of formation of the economic Li deposits related to magmatic processes, such as pegmatites.

We aimed to further constrain and understand the elemental and isotopic behaviour of Li throughout the crystallisation and emplacement of evolved, silicic magmas. For this purpose, we selected the ca. 1.30 Ma Mesa Falls Tuff (Yellowstone, USA) as a case study as it is a well-documented high-silica rhyolite system with relatively simple crystallisation history (e.g., Christiansen and Blank, 1972; Rivera et al., 2016), and mostly lacking post-eruptive alteration. We combined in situ major and trace element analyses of co-existing mineral phases and groundmass glasses (including quartz-hosted melt inclusions), coupled with Li isotopic measurements of bulk mineral separates, to constrain the major hosts of Li and first-order approximation of Li isotopic fractionation among major mineral phases in rhyolitic magmatic systems.

2.2 Geological background

The Yellowstone Volcanic Field (Idaho/Wyoming, USA) represents the current manifestation of the Columbia River–Yellowstone volcanic province which has been active for the last ~16.5 Myr (Lowenstern et al., 2006; Hooper et al., 2007). Following the early flood basalt eruptions, volcanism has been dominantly bimodal (basalt–rhyolite) and for the last 14 Myr the silicic volcanism has been broadly time transgressive along the track of the Snake River Plain to the presently active Yellowstone Volcanic Field (e.g., Nash et al., 2006). Yellowstone has been erupting rhyolitic and basaltic magmas for the past ~ 2 Myr with three voluminous ignimbrites (Huckleberry Ridge, Mesa Falls, and Lava Creek tuffs) separated by periods of relative quiescence dominated by the effusion of rhyolitic lavas (Christiansen, 2001).

The Mesa Falls Tuff (MFT) erupted at 1.30 Ma (Rivera et al., 2016; Ellis et al., 2017a) as part of the second volcanic cycle of Yellowstone forming the Henry's Fork caldera, located south-west of the Yellowstone National Park (Christiansen, 2001; Fig. 2.1). The MFT ignimbrite has an estimated deposit volume of 280 km^3 and covers an area of ~2,700 km^2 in south-eastern Idaho and western Wyoming (Christiansen, 2001) with ashfall dispersed regionally. The MFT is typical for the rhyolites of the Yellowstone Volcanic Field with a mineral assemblage of sanidine, quartz, plagioclase, fayalite, clino- and orthopyroxene, ilmenite, magnetite, zircon and apatite. Samples for this study come from one location (described in Ellis et al., 2017a) of the non-welded portion of the MFT with juvenile clasts preserving glassy groundmass indicative of rapid quenching upon eruption. Using only glassy samples minimises the potential for post-eruptive mobility of Li as has been observed in the slowly-cooled welded ignimbrites of the Snake River Plain (Ellis et al., 2015, Ellis et al., 2018).

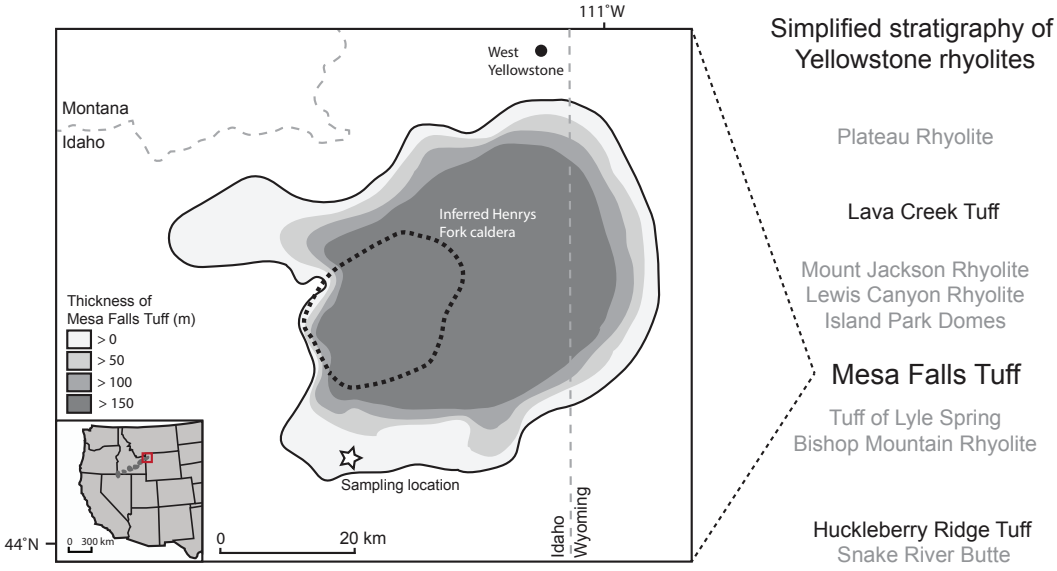

Fig. 2.1: Map showing the sampling location of the Mesa Falls Tuff, the thickness of the deposit (in grey) and the inferred source of the deposit (Henry's Folk caldera; after Christiansen, 2001) as well as the simplified stratigraphy of Yellowstone rhyolites (after Christiansen, 2001 and Rivera et al., 2018). Inset map shows the location of Yellowstone hotspot track in North America.

2.3 Analytical methods

Samples were crushed with aliquots reserved for bulk rock powder and the rest of the sample was cleaned, sieved and used to separate crystals for *in situ* geochemical work and Li isotopic determinations. Prior to in situ geochemical analyses, groundmass glass, sanidine, plagioclase, clinopyroxene, orthopyroxene, fayalite (embedded in epoxy mounts) were backscatter electron (BSE) imaged using a JEOL JSM-6390 scanning electron microscope (SEM) at ETH Zürich. The SEM was also used to image the quartz and sanidine by cathodoluminescence (CL). The major element compositions of minerals were determined using a JEOL JXA 8200 Superprobe at ETH Zürich. For pyroxenes and fayalite, operating conditions were 15 kV and 20 nA beam current with a focused beam while sanidine and plagioclase were analysed with a 10 µm beam diameter with counting times of 20 s on peak and 10 s on background.

All analyses were organised so that the potentially mobile elements (Na, K) were measured first. Natural and synthetic minerals were used as standards (see Appendix A1: Supplementary data 1).

2.3.1 Trace element measurements

Trace element concentrations in groundmass glass, sanidine, plagioclase, clinopyroxene, orthopyroxene, fayalite, zircon, apatite, ilmenite, and magnetite were measured using an Excimer 193 nm (ArF) Resolution laser ablation system coupled to a Thermo Element XR ICP-MS at the Institute of Geochemistry and Petrology, ETH Zürich. The spot size was 43 μm for all minerals except for groundmass glass, smaller crystals and detailed profiles of feldspar crystals for which a 29 μm spot was employed. We used a repetition rate of 5 Hz and on-sample energy density of the laser beam of ~3.5 $J \cdot cm^{-2}$. The ablation was performed under a flow of high-purity He (ca. 0.7 $L \cdot min^{-1}$) and Ar make-up gas (ca. 1.0 $L \cdot min^{-1)}$ from the ICP-MS. The list of elements and details of the analytical conditions are reported in the Appendix A1: Supplementary data 1. For all minerals and groundmass glass (except quartz), concentrations were quantified against the NIST SRM 612 silicate glass wafer as the primary standard (Jochum et al., 2011), using standard–sample bracketing with a block of 25 samples between the standards. The USGS basaltic glass GSD-1G was used as the secondary standard to check for the accuracy and reproducibility of the analyses (see results in the Appendix A1: Supplementary data 1). The average 2 standard deviation (2 SD) reproducibility of concentrations in the GSD-1G standard for all analytical sessions was used to determine uncertainties on the concentrations of unknowns (5% relative for Li).

Trace element concentrations in quartz and melt inclusions in quartz were determined using an Excimer 193 nm (ArF) GeoLas (Coherent) laser system coupled to a Perkin Elmer Elan 6100 DRC quadrupole ICP-MS. The on-sample energy density of the laser beam was 15–20 $J \cdot cm^{-2}$. All quartz was measured with a spot size of 40 μm whereas for the melt inclusions the spot size was adjusted to fully ablate the entire inclusion. The ablation was performed under a flow of He (ca. 1.0 $L \cdot min^{-1}$) and Ar make-up gas from the ICP-MS (ca. 1 $L \cdot min^{-1}$) was admixed downstream of the ablation chamber. The list of elements and details of the analytical conditions are reported in the Appendix A1: Supplementary data 1. Concentrations were quantified against the NIST SRM 610 silicate glass wafer as the primary standard (Jochum et al., 2011) and a natural quartz crystal characterised by Audétat et al. (2015) was employed as a secondary standard (see results in the Appendix A:1 Supplementary data 1). The average 2 SD reproducibility of concentrations in the secondary quartz standard for all analytical sessions was used to determine uncertainties on the concentrations of unknowns (9% relative for Li).

Raw data were reduced using the Matlab-based SILLS program (Guillong et al., 2008) by using one of the major elements (Si, Ca, Al) that were determined from microprobe analysis as an internal standard. As no microprobe data were obtained for quartz-hosted melt inclusions we used two internal standards: (i) the assumption that the sum of major oxides was 95 wt.% (to account for the possible presence of volatiles in the melt that are not quantifiable by LA-ICP-MS); and (ii) a SiO_2 content of 70 wt.%. The latter estimate would encompass most of the compositional range of silicic magmas within ±10% (which is a lower estimate for the bulk reproducibility of the melt inclusion data in any case). The uncertainties on melt inclusion concentrations were set to 15% relative (2 SE).

2.3.2 Lithium isotopic measurements

For Li isotopic analyses, grains containing mineral inclusions or cracks were avoided and only the highest-purity crystals were selected. The bulk mineral separates were washed in an ultra-sonic bath with dilute HNO_3 and again with double-distilled ultra-pure water in order to remove potential adherent contamination on grain boundaries. Clinopyroxene, orthopyroxene, sanidine and plagioclase separates were analysed using a Dilor LabRaman with an ILD – Laser (532.1 nm) to ensure their purity. Lithium analytical procedures, including sample digestion, ion-exchange chemistry, and concentration and isotopic measurements for bulk whole rock and handpicked bulk mineral separates were performed at the Czech Geological Survey, following procedures given in Magna et al. (2004). For mass spectrometry measurements, a Neptune MC-ICP-MS (Thermo Fisher Scientific, Bremen, Germany) was used. The lithium concentrations were analysed in clean Li fractions against the L-SVEC reference solution (Flesch et al., 1973). A standard–sample–standard bracketing method using L-SVEC solution was employed to determine natural Li isotopic variations in unknown samples. The results of Li isotopic measurements are reported in the δ-notation relative to the L-SVEC reference solution and calculated as $\delta^7Li\ (‰)=[(^7Li/^6Li)_{sample}/(^7Li/^6Li)_{L-SVEC} - 1] \times 1000$. The reference rock materials JR-2 (rhyolite; GSJ), BHVO-2 (basalt; USGS), JG-2 (granite; GSJ), BCR-2 (basalt; USGS) and UB-N (serpentinite; CRPG-CNRS) were analysed to monitor the reliability of the entire procedure. The resulting δ^7Li values are provided in Appendix A1: Supplementary data 1 and are all in agreement with published values for these standards (e.g., Pistiner and Henderson, 2003; Parkinson et al., 2007). The reproducibility of Li isotopic measurements was generally better than ±0.4‰ (2 SD). All analytical results are provided in the Appendix A1: Supplementary data 1. Trace element concentrations in dissolved aliquots of each sample were acquired using an Agilent 7900× ICP-MS, housed at the Czech Geological Survey.

2.4 Results

2.4.1 Quartz

Quartz is the most abundant mineral phase in the MFT with subhedral grains reaching 2–4 mm and often containing large (100–200 μm), glassy, melt inclusions. The quartz crystals show multiple internal growth zones revealed as variations in brightness in CL images (see Appendix A1: Supplementary data 1). CL-bright rims are relatively common in MFT quartz; however, no coherent pattern of internal zoning occurs across the quartz population. Titanium contents in quartz correlate with the CL intensity in the different growth zones, the CL-bright domains being Ti and Al-rich and mostly Li-poor (Fig. 2.2b and Appendix A1: Supplementary data 1). The Ti concentrations are variable (60–182 ppm), with one anomalous grain returning values as low as 37–47 ppm, while having Li, P, and Al concentrations comparable with other grains. The abundances of these trace elements (Al = 76–125 ppm; P = 39–80 ppm; Li = 13.2–24.5 ppm; n = 718) appear more homogenous (see full dataset in Appendix A1: Supplementary data 1). Magnesium and Fe contents are close to the detection limits and concentrations of other trace elements (Ca, Mn, K, Rb, Sr, Cs, Pb, and Ba) are below the respective detection limits. Lithium contents of MFT quartz show a small increase from core (mean 17.4 ppm; n = 571) to rim (mean 19.0; n = 147) and are comparable to previously published Li contents of Yellowstone quartz

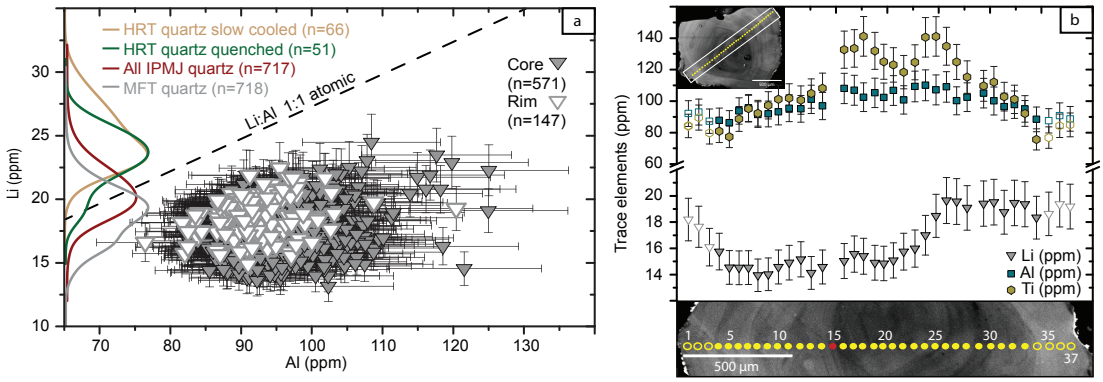

Fig. 2.2: Trace element compositions of MFT quartz. (**a**) Plot of Li vs. Al concentration (±9% error bars) of all analysed quartz grains from MFT (cores as grey filled triangles, rims as open triangles, measured with 40 µm spot size), compared to the probability density distribution of Li concentrations in literature data from Yellowstone (IPMJ quartz in red, data from Troch et al., 2017; HRT quartz from slowly cooled part in brown and HRT quartz from quenched part in green, data from Ellis et al., 2018). The isoatomic Li:Al 1:1 line, illustrating the ideal $Si4^{+} \leftrightarrow Al^{3+} + Li^{+}$ substitution, is shown for reference. (**b**) Li (grey filled triangle), Al (green filled square) and Ti (yellow hexagon) concentration profile (±9% error bars) in one representative quartz crystal. Lithium shows an increase towards the rims represented by open symbols, Al exhibits a limited variability, and Ti follows the growth zones that were identified by the CL image. CL image with position of trace element analyses indicated in yellow, open symbols represent rim measurements, filled represent measurements in the core and red indicate excluded data point.

(Fig. 2.2a) from the Island Park–Mount Jackson lava series (Troch et al., 2017) and slightly lower than those from Huckleberry Ridge Tuff (Ellis et al., 2018).

2.4.2 Sanidine

Sanidine is ubiquitous in the MFT, occurring as large (up to a few mm), euhedral, clear, crystals which may contain glassy melt inclusions. CL images reveal multiple growth zones with alternating bright and dark CL domains (Fig. 2.3). Sanidine compositions from the MFT have been well-characterised in previous studies of major and trace element concentrations, and $^{40}Ar/^{39}Ar$ ages (Gansecki et al., 1998; Lanphere et al., 2002; Rivera et al., 2016; Ellis et al., 2017a). Our results are in good agreement with those studies, showing little compositional variability in major elements ($Or_{55–65}$) either within or between crystals. Trace elements, however, exhibit large ranges of concentration; our results (Ti = 34–155 ppm, Sr = 27–331 ppm, Rb = 85–145 ppm) are in excellent agreement with existing data (Ellis et al., 2017a). Our results for Ba (208–15,180 ppm) exceed the previously described range (up to 8,721 ppm) with the highest Ba contents found in the rims of the sanidine, as previously reported for Yellowstone rhyolites (Troch et al., 2017). Barium and Ti zoning in the sanidine correlates with the zoning patterns identified by CL images. Lithium contents in MFT sanidine crystals measured in this study span from 1.1 to 11.9 ppm (average 5.8 ppm; n = 688), overlapping the data of Ellis et al. (2017a) who reported 2.7 to 5.1 ppm (average 4.4 ppm; n = 163). Traverses across crystals revealed systematic variation in Li (Fig. 2.3) with higher Li content in the cores (1.7–11.9 ppm, average 6.0 ppm) and on average lower concentrations in the rims (1.1–7.8 ppm, average 4.3 ppm). In addition to the common occurrence of low Li contents at sanidine rims, analyses located near cracks (not shown in Fig. 2.3, for more CL images see Appendix A1: Supplementary data 1) in crystals often returned lower Li values.

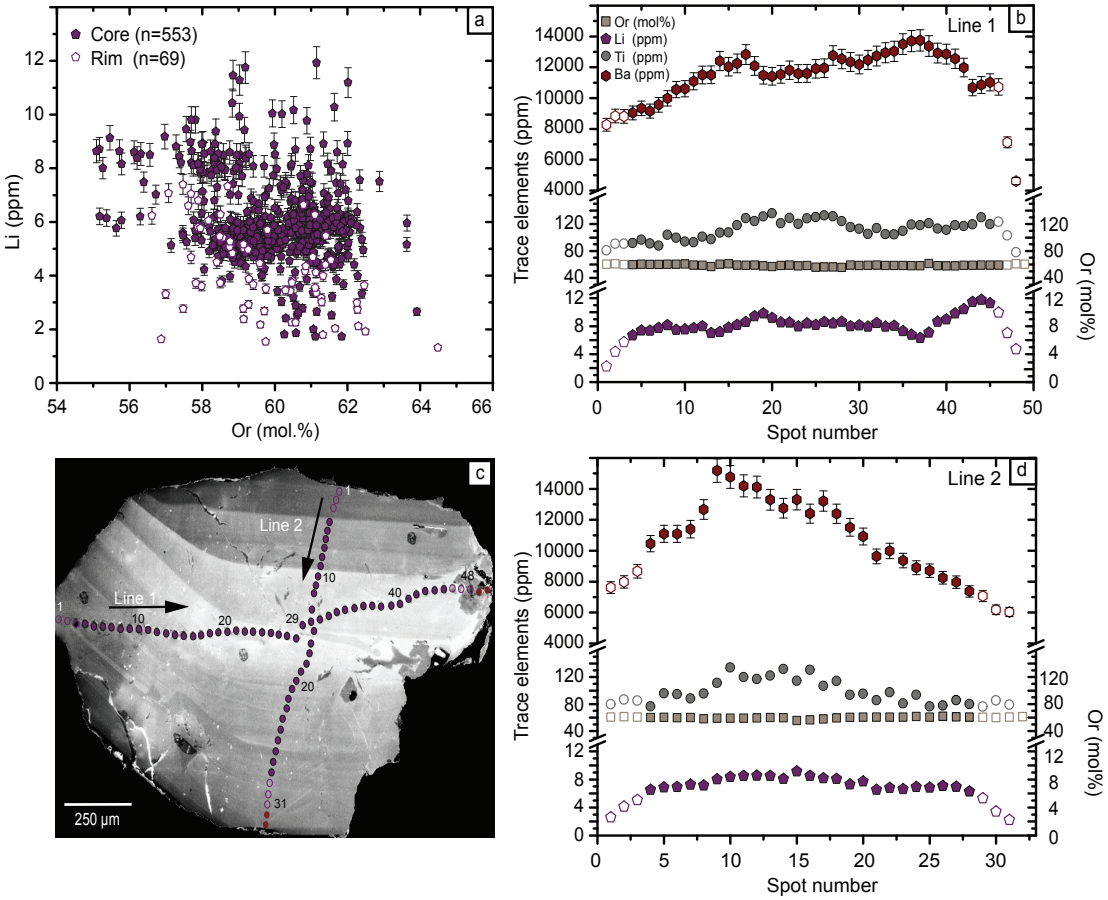

Fig. 2.3: Major and trace element compositions of MFT sanidine. (**a**) Li concentrations (measured with 29 µm spot size) in all analysed crystal rims (open purple pentagon) and cores (filled purple pentagon) relative to the orthoclase (Or mol.%) component. Two traverses were measured, represented as line 1 (**b**) and line 2 (**d**). (**c**) CL image of one representative sanidine grain with analysis locations indicated in purple, excluded data points indicated in red. (b & d) results of traverses showing variations of orthoclase, Li (filled purple pentagon), Ti (grey filled circle) (uncertainties on the analyses are smaller than the symbols) and Ba contents (red hexagon; ±5% error bars) across the crystal in (b).

2.4.3 Plagioclase

Plagioclase is relatively rare in the MFT compared to sanidine. The crystals are euhedral (up to 2 mm) and transparent to milky in appearance. There is a limited compositional range in plagioclase from the MFT with variability predominantly between grains ($Ab_{66–74}An_{16–29}Or_{5–11}$). As with sanidine, despite a limited range in major elemental composition, trace elements show significant variations up to one to two orders of magnitude (Ba = 13–1,140 ppm, Ti = 27–106 ppm, Sr = 21–289 ppm). Lithium concentrations are less variable but still exhibit a range between 4.7 and 28.5 ppm (average = 17.3 ppm; n = 653) that appears unrelated to the major element composition, size or shape of the crystals (Fig. 2.4). Profiles across crystals indicate a large Li concentration heterogeneity within the crystals and three different zones can be identified (Fig. 2.4). The first zone corresponds to crystal cores showing homogeneous, intermediate concentrations (average of 17.6 ppm). Between core and rim, there appears a zone on average slightly enriched in Li compared with the core (average of 21.2 ppm and up to 26.9 ppm), while the rims, which were directly in contact with the melt, are slightly depleted in Li (average 15.7 ppm and down to 4.7 ppm). Similarly, to sanidine, analyses in plagioclase crystals that were close to cracks return lower Li contents.

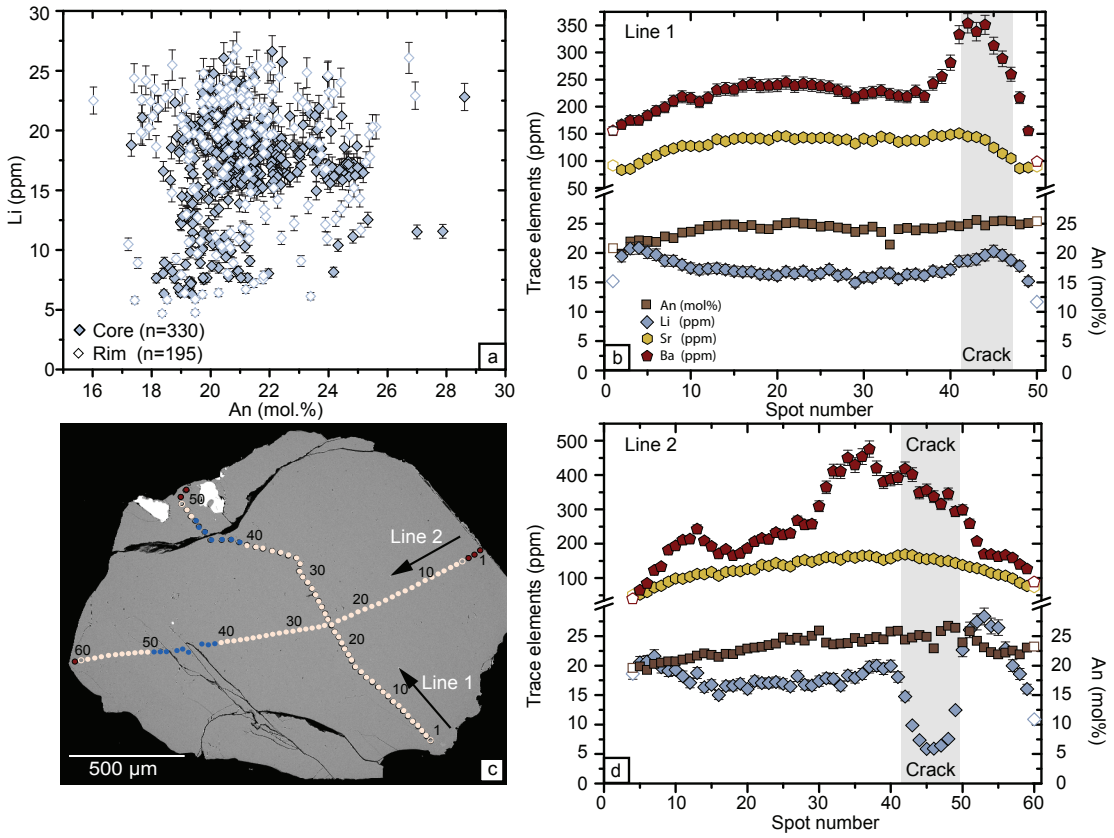

Fig. 2.4: Major and trace element compositions of MFT plagioclase. (**a**) Li concentrations (measured with 29 µm spot size; ±5% error bars) in all analysed crystal rims (open blue diamond) and cores (filled blue diamond) relative to the anorthite (An mol.%) component. (**b**) and (**d**) represent two of the measured traverses shown as line 1 (b) and line 2 (d). (**c**) BSE image of plagioclase grain with analysis locations for the traverses indicated in pink, excluded data points indicated in red and measurements influenced by cracks shown in blue. (c & d) results of traverses showing variations of anorthite (brown square), Li (blue diamond), Sr (yellow hexagon) (uncertainties on the analyses are smaller than the symbols) and Ba contents (red pentagon; ±5% error bars) across the crystal in (b).

2.4.4 Pyroxenes

The MFT contains both clinopyroxene and orthopyroxene. Orthopyroxene rarely forms single crystals and commonly occurs as cores surrounded by rims of clinopyroxene (Fig. 2.5). In addition to these rims around orthopyroxene, clinopyroxene frequently occurs as single euhedral to subhedral grains. Notably, the smaller clinopyroxenes do not contain any core of orthopyroxene. Both clinopyroxene and orthopyroxene commonly exhibit inclusions of Fe-Ti oxides, apatite, and zircon (Fig. 2.5).

Clinopyroxenes are augitic ($Wo_{32–42}En_{13–33}Fs_{25–48}$) in composition. Their compositions do not vary significantly as a function of grain size or texture (i.e., single crystals or rims enveloping orthopyroxene). The clinopyroxenes exhibit a variation in some trace elements for the entire population such as Ti (749–1,679 ppm) and Mn (4,381–7,974 ppm). Lithium concentrations are rather homogeneous (9.9–13.6 ppm, average 11.2 ppm; n = 259) and show no correlation with any major element. Traverses across single crystals indicate that the clinopyroxenes are homogeneous (Appendix A1: Supplementary data 1), notably lacking the low-Li rims observed in the plagioclase and sanidine crystals.

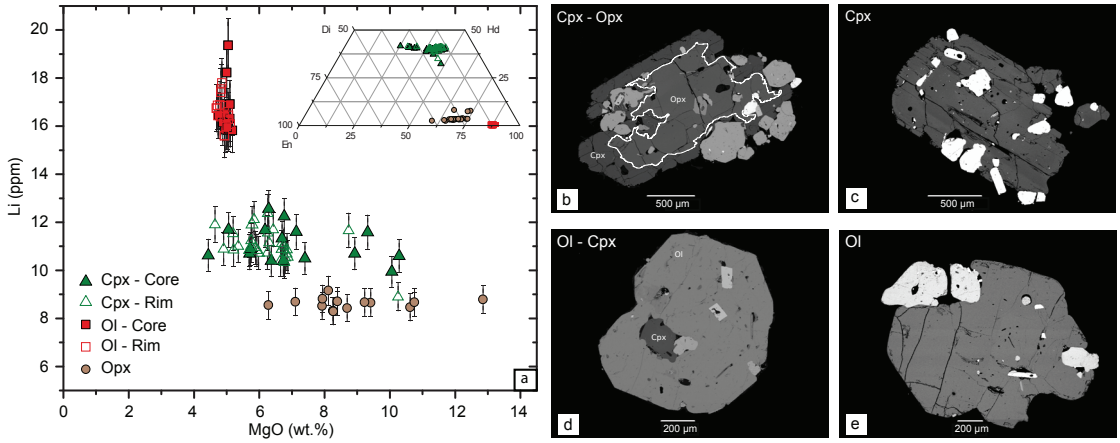

Fig. 2.5: Major and trace element compositions of MFT mafic minerals showing (**a**) variations between augite (green triangle), orthopyroxene (brown circle) and olivine (red square) in Li relative to MgO and inset with pyroxene classification diagram; the composition of olivine is included for comparison. (**b**) to (**e**) BSE images of the mafic minerals (cpx with opx core, cpx, olivine with cpx core, and olivine, respectively) that occur in the MFT. Clinopyroxene, orthopyroxene and olivine have inclusions of Fe-Ti oxides, apatite, and zircon.

The orthopyroxenes ($Wo_{2–8}En_{18–39}Fs_{59–75)}$ are moderately uniform in their major and trace elements. There are modest variations in the major elements CaO (1.1–3.6 wt.%), FeO (37.6–42.2 wt.%) and MgO (5.7–10.8 wt.%). The minor elements are relatively homogeneous with TiO_2 ranging 0.14–1.0 wt.% and Mn from 1.2 to 1.6 wt.%. The Li concentrations are strikingly homogeneous, from 7.8 to 9.3 ppm (Fig. 2.5 and Appendix A1: Supplementary data 1).

2.4.5 Fayalite

Fayalite is the least abundant of the major phases in the MFT. Homogeneous fayalite ($Fa_{87–89}$) crystals are subhedral and rarely enclose clinopyroxene while commonly containing magnetite and ilmenite inclusions (Fig. 2.5). Titanium (43–205 ppm) and P (25–97 ppm) are variable within fayalite crystals with lower values occurring at crystal rims. The other trace elements are relatively homogeneous with Li ranging between 13.9 and 19.4 ppm (average 16.2 ppm; n = 127). Profiles across the grains show no significant variations (see Appendix A1: Supplementary data 1), and specifically, no Li decrease towards the rims.

2.4.6 Groundmass glass and melt inclusions

MFT groundmass glasses are all high-silica rhyolite (>75 wt.% SiO_2, recalculated on volatile-free basis) with K_2O and Na_2O contents ranging from 5.2–6.5 wt.% and 2.9–3.4 wt.%, respectively. In terms of trace elements, the MFT groundmass glasses are similar to others from the Yellowstone–Snake River Plain province (Zr = 155–198 ppm, Ba = 91–221 ppm, Rb = 230–281 ppm, Ti = 647–851 ppm). Strontium contents are very low (<32 ppm), interpreted as a result of extensive plagioclase fractionation. These compositions are in good agreement with previously published MFT groundmass glass data (Pearce et al., 1996; Perkins and Nash, 2002). Lithium contents of the groundmass glass vary between 36.1 and 51.9 ppm (average 43.1 ppm; n = 73). The groundmass glass exhibits a strong negative Eu anomaly with an enrichment in light rare earth elements (LREE) and a degrease towards the heavy rare

earth elements (HREE), but is enriched relative to the Bulk Silicate Earth-normalised rare earth element (REE) pattern (Fig. 2.6) which is typical for rhyolites from the Yellowstone–Snake River Plain province (Ellis et al., 2013).

Quartz-hosted melt inclusions contain significantly more Li (69.5–397 ppm, average 243.7 ppm; n = 29) than the groundmass glasses. These Li contents are similar to, or slightly lower than, those reported by Benson et al. (2017) for other quartz-hosted melt inclusions in rhyolites from the McDermitt volcanic field in Oregon and Nevada, and the Huckleberry Ridge Tuff from Yellowstone. Further, while we did not observe bubbles within our melt inclusions, Benson et al. (2017) demonstrated that re-homogenisation of melt inclusions tends to result in higher Li contents by approximately 10% compared

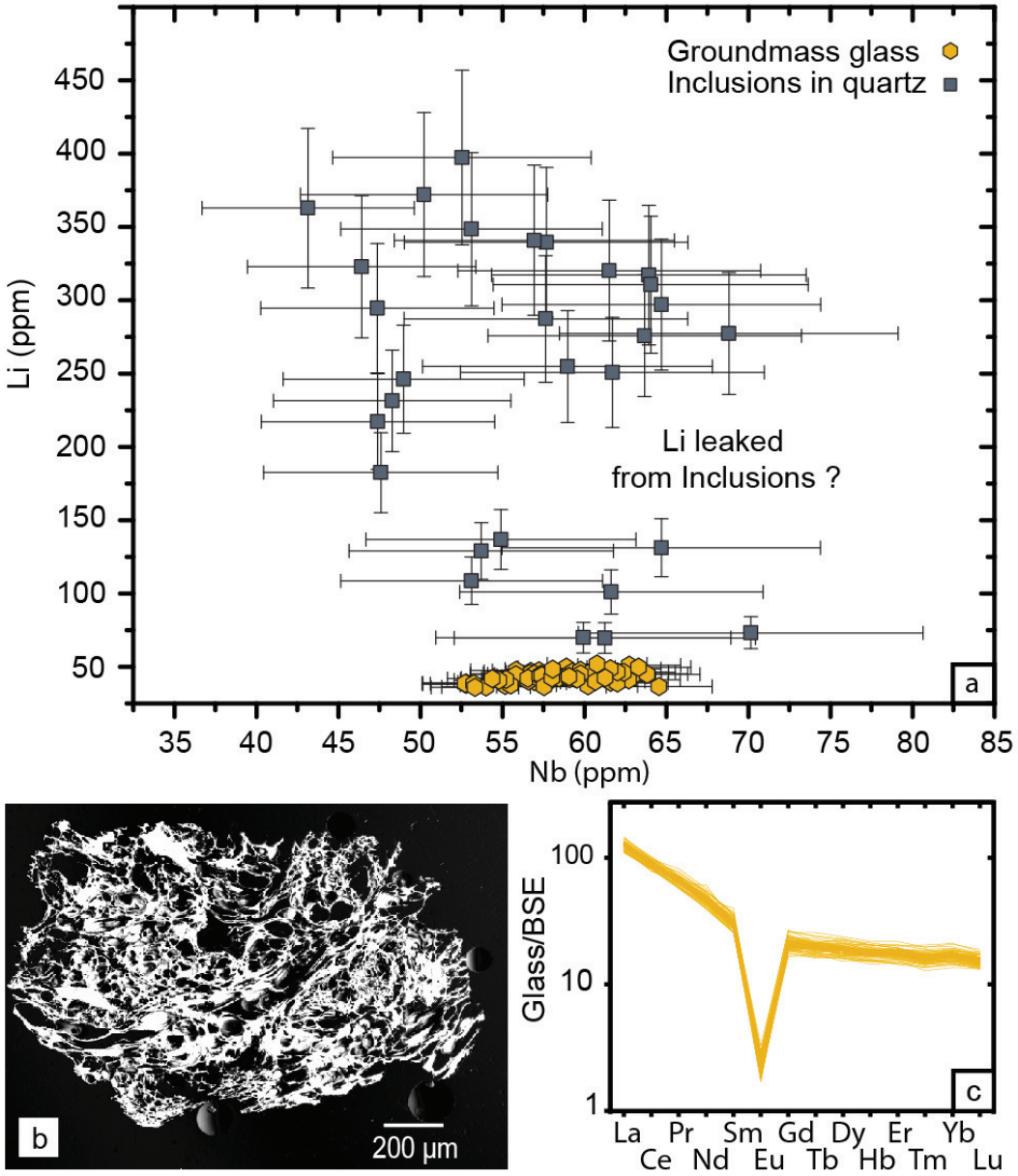

Fig. 2.6: Trace element compositions of the quartz-hosted melt inclusions (blue square) and groundmass glass (yellow hexagon) of MFT. (**a**) Plot of Li relative to Nb (immobile during degassing) concentrations in groundmass glass (±5% error bars) and melt-inclusions in quartz (±15% error bars). (**b**) BSE image of the vesicular groundmass glass. (**c**) Rare earth element patterns (concentrations normalised to the Bulk Silicate Earth; McDonough and Sun, 1995) for the groundmass glass, showing strong negative Eu anomaly typical of rhyolites from the Yellowstone-Snake River Plain province.

to un-homogenised inclusions. Thus, our values may be considered as minima. Besides these higher Li contents, the quartz-hosted melt inclusions notably show similar trace element compositions as the groundmass glass, illustrated in Fig. 2.6 by comparable ranges in Nb contents (49–70 ppm, average 58 ppm in the groundmass glass; 43–70 ppm, average 57 ppm in the inclusions).

2.4.7 Other phases

The MFT also contains magnetite, ilmenite, apatite and zircon but all those minerals have Li concentrations below the typical limits of detection for our analytical system (between 0.3 and 0.7 ppm depending on the analytical session). Therefore, these phases are not considered further here.

2.4.8 Lithium isotopes

Lithium isotopic compositions of bulk samples and mineral separates show a significant variability, with a range of δ^7Li values between different phases of nearly 10‰ from −2.3‰ in plagioclase to +7.5‰ in groundmass glass (Table 1.1; Fig. 2.7). Notably, the isotopically heaviest materials are groundmass glass (6.5–7.5‰) and quartz (6.7–7.2‰). The bulk rock MFT (3.9–4.3‰) and fayalite (3.1‰) show intermediate δ^7Li values whereas clinopyroxene, orthopyroxene and sanidine all show slightly positive to negative δ^7Li values (−0.1 to +1.0‰, ~−2.0‰ and −0.6 to −0.1‰, respectively).

Table 1.1: Lithium contents and isotopic compositions (with 2 SD error) in bulk whole rock aliquots and bulk mineral separates from this study.

Sample	Li (ppm)	δ^7Li (‰)	2SD
Bulk 1	39.0	4.28	0.15
Bulk 2	37.3	3.94	0.29
Groundmass glass 1	32.8	6.92	0.57
Groundmass glass 2	27.2	6.48	0.42
Groundmass glass 3	26.5	7.31	0.27
Groundmass glass 4	27.3	7.46	0.47
Quartz 1	17.1	7.24	0.19
Quartz 2	18.8	6.69	0.34
Olivine 1	30.6	3.05	0.41
Olivine 2	24.1	3.10	0.19
Clinopyroxene 1	13.7	−0.11	0.16
Clinopyroxene 2	11.1	1.02	0.22
Orthopyroxene 1	11.9	−2.10	0.41
Orthopyroxene 2	13.7	−1.95	0.33
Plagioclase 1	12.9	−1.39	0.36
Plagioclase 2	13.4	−2.31	0.54
Sanidine 1	4.16	−0.11	0.18
Sanidine 2	4.74	−0.58	0.37

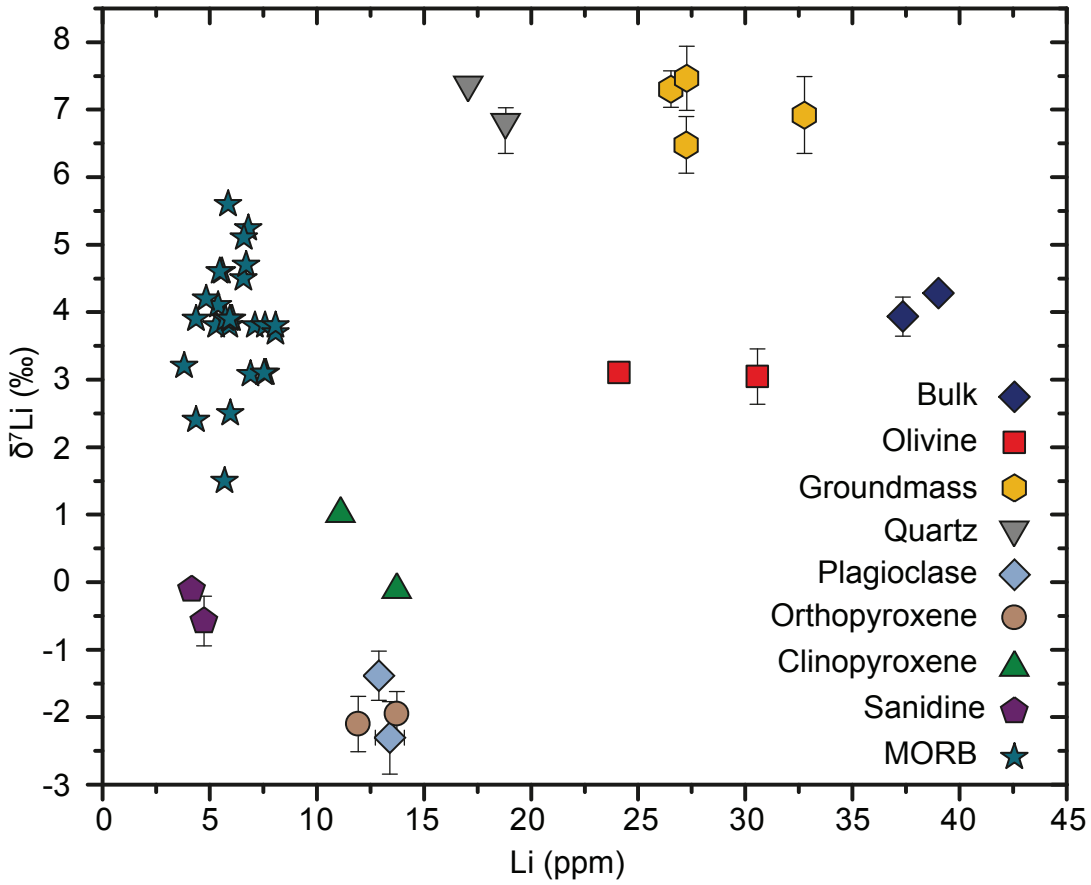

Fig. 2.7: Plot of δ^7Li versus Li concentrations for different mineral separates and bulk rock samples from MFT. Error bars correspond to 2 SD uncertainty on the δ^7Li values (Table 1.1) and are shown where they exceed symbol size. Literature data (Moriguti and Nakamura, 1998; Elliott et al., 2006; Tomascak et al., 2008) for unaltered MORB samples are shown for comparison.

2.5 Discussion

2.5.1 Partitioning coefficients for Li in MFT

In contrast to more mafic systems, there has been relatively little work addressing the crystal/melt partitioning of Li in silicic magmatic systems. Based on >2,500 new analyses from this study combined with literature data for major and trace elements on MFT crystals and glasses, we can constrain in detail the inventory of Li in the MFT. Lithium is found in the following order of decreasing abundance: melt inclusions (243.7 ± 198.5 ppm; n = 29) > groundmass glass (43.1 ± 7.2 ppm; n = 73) > quartz (17.9 ± 3.9 ppm; n = 718) ≈ plagioclase (17.3 ± 9.6 ppm; n = 653) ≈ fayalite (16.2 ± 2.2 ppm; n = 127) > clinopyroxene (11.2 ± 1 ppm; n = 259) > orthopyroxene (8.3 ± 0.7 ppm; n = 58) ≈ sanidine (5.8 ± 3.2 ppm; n = 688).

The significant difference between Li contents of quartz-hosted melt inclusions and the groundmass glass, both in our data from the MFT (Fig. 2.6) and from other rhyolites (Stix and Layne, 1996; Kent et al., 2007; Charlier et al., 2012; Hofstra et al., 2013) requires that Li readily passes into a fluid or vapour phase during the latest stages of magmatic evolution. This is supported by the concentrations of all other trace elements, especially those expected to be "immobile" during such degassing process (e.g., Nb, Ta, Zr, Hf, Y, REE), because they are similar between the melt inclusions and the groundmass glass. The range in Li contents of the melt inclusions from higher values down towards those approaching the

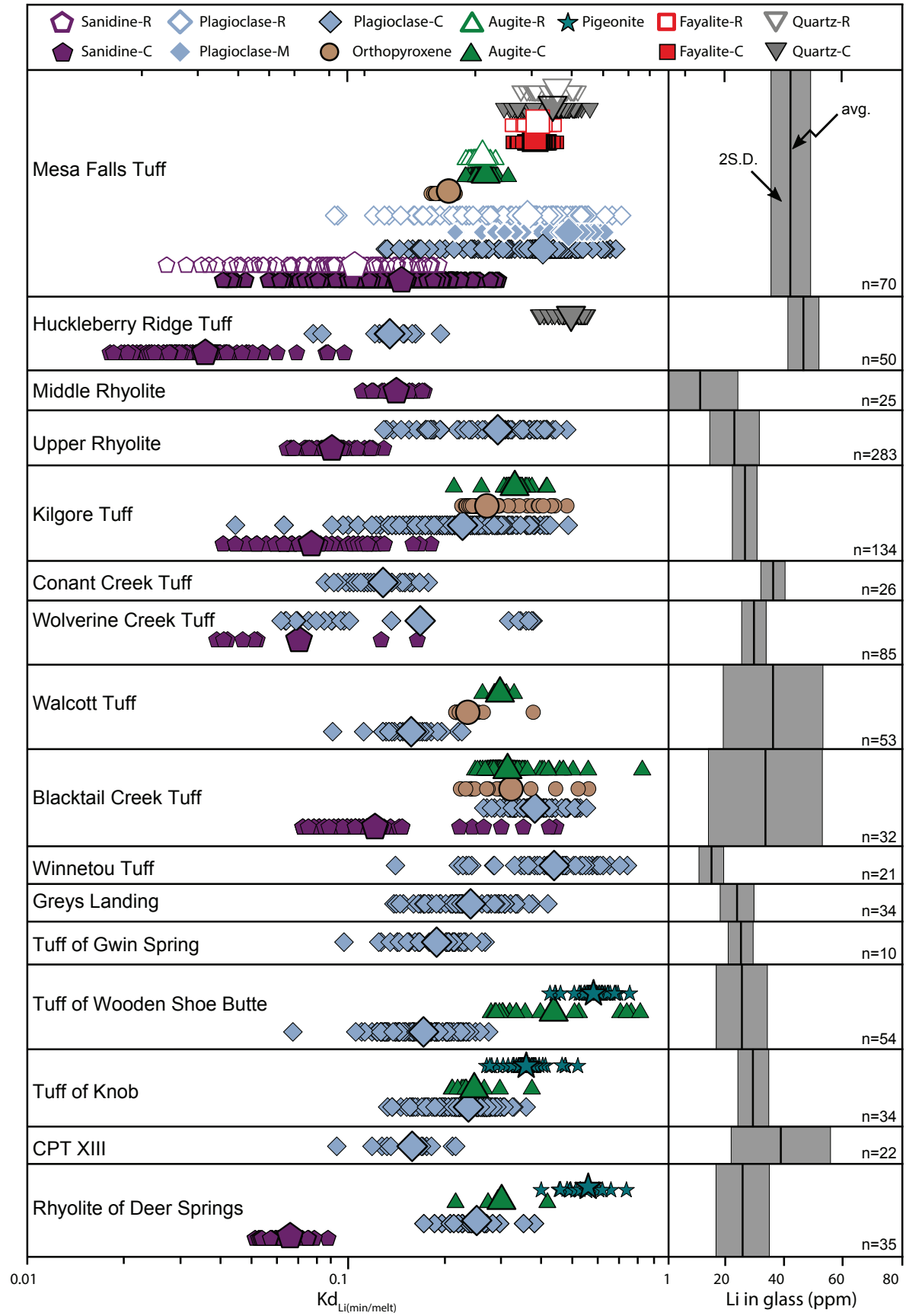

Fig. 2.8: Partitioning of Li between co-existing minerals and groundmass glass in rhyolitic systems, obtained using the filtering and calculation procedure described in text. On the left hand side of the diagram, apparent partition coefficients ($Kd_{Li(min/melt)}$) are shown for minerals from the MFT, compared to other rhyolites from the Yellowstone-Snake River Plain province from the literature (Szymanowski et al., 2015; Ellis et al., 2015, Ellis et al., 2017b, Ellis et al., 2018). Larger symbols indicate the average value of each mineral phase (with plagioclase

data obtained close to cracks excluded). MFT partition coefficients for plagioclase are subdivided into core (C), middle zone (M) and rim (R). On the right hand side of the diagram, Li concentration in the co-existing glass for each eruptive unit is presented as mean values (black bar) with their spread represented by 2 SD (grey bar).

groundmass values suggests either heterogeneous entrapment of inclusions throughout degassing, or 'leakage' of Li that may have occurred from some of the inclusions.

The effect of this loss of Li from the matrix melt on estimating partitioning behaviour requires further consideration since pairing groundmass glass values or melt inclusion values with minerals returns different apparent partition coefficients. In the case of the MFT plagioclase, the average outermost rim which is directly in contact with the melt (considered later) returns an apparent partition coefficient of 0.37 when paired with the groundmass glass but would give a partition coefficient of 0.06 using the average Li content of the 'non-leaked' quartz-hosted melt inclusion. Estimated partition coefficients from Ellis et al. (2018), using the model of Dohmen and Blundy (2014) for a Snake River Plain (SRP) rhyolite of similar composition (Tuff of Knob; Fig. 2.8) gave values of 0.3 for plagioclase/glass, while the experimental results of Iveson et al. (2018) returned partition coefficients of 0.23 ± 0.02 for hydrous rhyodacite. Given that the apparent partition coefficient of plagioclase paired with the groundmass glass is in good agreement with the experimentally determined partition coefficients, we prefer to use the groundmass glass values rather than the values for melt inclusions in our calculations. However, these apparent partition coefficients should be considered as maximum values.

With the new extensive dataset of trace element measurements from all major Li-bearing phases in the MFT, we can calculate the apparent partition coefficients for Li between groundmass glass and co-existing minerals (Fig. 2.8), taking into consideration that Li can be highly variable within each phase, the apparent partition coefficients based on MFT data are shown in Table 1.2.

Table 1.2: Apparent partition coefficients for Li in co-existing mineral phases of MFT.

MFT	Mean	Min	Max	n
Sanidine (R)	0.10	0.03	0.18	88
Sanidine (C)	0.14	0.04	0.28	600
Plagioclase (R)	0.37	0.11	0.67	112
Plagioclase (M)	0.50	0.24	0.63	123
Plagioclase (C)	0.41	0.15	0.67	368
Orthopyroxene	0.20	0.18	0.22	58
Clinopyroxene (R)	0.26	0.23	0.29	74
Clinopyroxene (C)	0.27	0.23	0.32	185
Fayalite (R)	0.39	0.31	0.58	53
Fayalite (C)	0.38	0.33	0.46	74
Quartz (R)	0.45	0.35	0.53	148
Quartz (C)	0.41	0.31	0.58	570

All values are calculated relative to groundmass glass. R, M and C stand for rim, middle and core, respectively.

To further understand the apparent distribution coefficients calculated for the minerals of MFT (Table 1.2) and, in more general, assess where Li is partitioned in hot (>850 °C) and dry (<3.5% H_2O) rhyolitic settings, we compared the new results with natural mineral and groundmass glass data from 15 other rhyolite bodies from the Yellowstone–Snake River Plain (YSRP) province (Szymanowski et

al., 2015; Ellis et al., 2015, Ellis et al., 2017b, Ellis et al., 2018). The majority of these ignimbrites are high-grade, lava-like, rheomorphic deposits, which underwent prolonged post-emplacement cooling on the Earth's surface. This post-eruptive history has the potential to significantly affect the inventory and behaviour of Li in mineral phases, with phenocrysts from slowly cooled microcrystalline lithologies having Li contents higher by up to a factor of 5 than their counterparts from the rapidly chilled vitrophyres (e.g., Ellis et al., 2015, Ellis et al., 2018). To minimise these effects for this comparison, we only use literature data from vitrophyric samples. To mitigate against the well-known potential of Li to be mobilised from volcanic glass (e.g., Hofstra et al., 2013), we took all glass Li compositions and imposed an iterative filter which excluded values outside 2 SD of the mean until no measurements were excluded, and used this 'filtered' Li concentration value as the glass composition. By using this iterative filter 3 out of 73 data points for MFT where excluded and on average 94% of the glass data for the other ignimbrites was included. All mineral data (without filtering) were then plotted with this new glass value (Fig. 2.8; also see Appendix A2: Supplementary data 2). The Li groundmass glass composition of the other ignimbrites shown in Fig. 2.8 varies from 4 to 54 ppm (average of 29 ppm).

2.5.1.1 Apparent partition coefficient for feldspar

Overall, these results reveal a coherent picture of where Li is partitioned in hot and dry rhyolitic settings. Considering only the units (seven out of fifteen) where data from co-existing plagioclase and sanidine are available, the overall average of all ignimbrites (Fig. 2.8) of their Kd_{plag} (0.28) is 2–3 times higher than that determined for Kd_{san} (0.10). Huckleberry Ridge Tuff has the lowest average Kd_{san} (0.04) whereas the sanidine cores of MFT have the highest average Kd_{san} of 0.14.

For quartz the overall average apparent Kd value is higher (0.43) than the overall average Kd_{plag}. The overall average Kd values are 0.48, 0.38, 0.29 and 0.26 for pigeonite, fayalite, augite and orthopyroxene, respectively. In the Tuff of Wood Shoe Butte, Tuff of Knob and Rhyolite of Deer Spring most Li is found in pigeonite whereas in Kilgore Tuff and Walcott Tuff, with pigeonite absent, clinopyroxene and orthopyroxene incorporate the highest amount of Li.

These results confirm that Li is a moderately incompatible element in all phases of rhyolitic systems, as has been shown for basaltic systems (e.g., Blundy et al., 1998; Brenan et al., 1998; Ottolini et al., 2009). For basaltic systems and phenocrysts in peridotite xenoliths, several partition coefficients have been established experimentally (summarised in Tomascak et al., 2016 and Penniston-Dorland et al., 2017). These studies show that in mantle minerals Li preferentially partitions into olivine (Kd = 0.20–0.56; Ryan, 1989; Brenan et al., 1998; Taura et al., 1998; McDade et al., 2003; Ottolini et al., 2009), to a lesser extent into plagioclase (Kd = 0.15–0.7; Ryan, 1989; Blundy et al., 1998; Aigner-Torres et al., 2007), followed by clinopyroxene (Kd = 0.11–0.59; Ryan, 1989; Hart and Dunn, 1993; Blundy et al., 1998; Brenan et al., 1998; McDade et al., 2003; Ottolini et al., 2009) and orthopyroxene (Kd = 0.17–0.26; Brenan et al., 1998; McDade et al., 2003; Ottolini et al., 2009). In rhyodacitic glass the partition coefficients that have been established experimentally show that Li preferentially partitions into clinopyroxene (Kd = 0.26 ± 0.04; Iveson et al., 2018) followed by plagioclase (Kd = 0.23 ± 0.02; Iveson et al., 2018). Thus, in terms of preference for Li, rhyolitic systems appear to mirror basaltic systems (e.g., Seitz and Woodland, 2000; Jeffcoate et al., 2007; Weyer and Seitz, 2012) with most Li found in olivine, followed by plagioclase, clinopyroxene and orthopyroxene.

2.5.1.2 Lithium distribution in fayalite

The major element compositions of fayalite in the MFT ($Fa_{87–89}$) are significantly more Fe-rich than most compositions studied both from natural samples, such as mantle xenoliths (see above) or in experimental studies (i.e., almost pure forsterite; Grant and Wood, 2010). The study of Grant and Wood (2010) employed constant olivine compositions, temperature, and pressure (at 1 atm) to study the effect of variable trivalent trace element composition of olivine on Kd(Li) values. Their results span two orders of magnitude between 0.01 and 1.04 with those from their DiFoScFe suite of experiments that are the most compositionally appropriate for natural basalts (~20 ppm Li and ~7–20 ppm Sc in the melt) returning Kd(Li) values of 0.1 to 0.23, somewhat lower than our average fayalite Kd(Li) value of 0.38. Interestingly, in these experiments, the highest-Fe olivine (at 9,380 ppm Fe) returned the highest Kd value suggesting that higher FeO contents in olivine are associated with an increased Li content in olivine (Caciagli et al., 2011). Several studies (e.g., Purton et al., 1997; Taura et al., 1998) have established that incorporation of Li into olivine requires a charge balance, preferentially from a coupled substitution with a trivalent cation (Fe, Al, Sc, Ga). Dohmen et al. (2010) verified experimentally that Li can partition into two sites in olivine, one being the octahedral site and the other interstitial sites.

This ‘two-site’ model for the incorporation of Li in olivine has previously been proposed to be responsible for unusual diffusional profiles and isotopic gradients observed in olivine as Li diffuses faster in interstitial sites than in the metal site (Dohmen et al., 2010; Tomascak et al., 2016). However, several authors (e.g., Jeffcoate et al., 2007; Parkinson et al., 2007) concluded that diffusion in the metal site is more common in nature. In the fayalite from MFT we do not observe any diffusion profiles; therefore, we speculate that only a minor proportion of Li is in the interstitial sites and the majority is in the metal site coupled to a slower moving trivalent cation that prevents the formation of diffusion profiles that can be found in plagioclase from MFT.

2.5.2 Lithium elemental variation within feldspars

An interesting feature of the feldspar data (Fig. 2.3, Fig. 2.4) is a resolvable decrease in the Li content in both plagioclase and, to a lesser extent, sanidine towards the crystal rims. Previous studies on Li partitioning into plagioclase show little agreement, with some suggesting a Li partition coefficient almost independent of plagioclase composition (Bindeman et al., 1998) while others indicate that the major element composition of plagioclase exerts a major control on Li partitioning (Coogan, 2011). In the case of the MFT, this discussion is rendered moot by the limited variability in An content of the plagioclase crystals ($An_{16–29}$ with only six out of 555 measurements above An_{25}). The decrease in Li at the feldspar rims could reflect either (1) a mixing event with Li-poor magma, or (2) some Li loss shortly prior to or during eruption. As there are no coherent relationships between decreasing Li to the rims of the feldspar crystals and either major or other trace elements (e.g., Rb, Sr, Ba) that would indicate a new magma input, the prior hypothesis can be excluded. In favour of the latter interpretation, low-Li rims in feldspar crystals were already suggested to reflect degassing (Giuffrida et al., 2018; Charlier et al., 2012). This interpretation is supported by the melt inclusion data discussed above, clearly showing that the melt underwent dramatic Li loss between its entrapment as inclusions in quartz and the quenching of the groundmass glass.

Although it is clear that Li leaves the melt phase at some point prior to quenching, the mechanism by which this translates into the patterns observed in MFT feldspars is uncertain. One explanation is that Li partitions in a fluid/vapour phase together with H_2O, and CO_2 while feldspar growth continues and the feldspar rims are growing in a liquid progressively depleted in Li. This is one possibility since feldspar stability is more sensitive to loss of water than that of the other mineral phases where low-Li rims are not observed. We would infer that the other mineral phases are growing up to the point of eruption, or the rims are much thinner than the laser spot size (<40 μm). An alternative explanation is suggested in which degassing outpaces crystallisation and the low-Li rims in feldspar reflect the attempts of the crystal to re-equilibrate with the changing conditions. In this case, the lack of gradients observed in quartz is a potential consequence of the relatively inert behaviour of Li within quartz. During slow post-eruption cooling in the interiors of thick deposits, Ellis et al. (2018) have shown that the Li content in plagioclase significantly increases (by a factor of five or more), yet the Li content of quartz crystals remains unaffected by post-eruptive processes. Lithium in quartz typically correlates with Al (Müller et al., 2003; Larsen et al., 2009; Rusk et al., 2011; Breiter et al., 2013) with Al^{3+} and Li^{1+} acting as a part of coupled substitution for Si^{4+} in the quartz lattice (Rusk et al., 2011). Therefore, the lack of mobility of Li within quartz may result from coupling to a slowly diffusing element, as indicated by the absence of diffusion profiles in our data set. However, while our samples show no clear relationship between Li and excess Al (Fig. 2.2), the departure from a 1:1 line in terms of atomic Li:Al likely reflects a role of H^+ in this substitution. Charlier et al. (2012) suggested yet another mechanism whereby Li^+ diffuses into the quartz lattice along the *c*-axis channels and moves independently from more slowly moving cations. Interestingly, they also describe an increase of Li concentration towards quartz rims, which can also be observed in MFT quartz.

In contrast, none of the mafic phases in the MFT show the low-Li rim signal. Rhyolite-MELTS models for MFT bulk and glass compositions (see Appendix A2: Supplement data 2) suggest that feldspars, fayalite and clinopyroxene should be crystallising up to the point of eruption. Despite the suggestion by Ellis et al. (2018) that the most commonly used rates of Li diffusion in plagioclase determined experimentally are faster than those occurring in nature, Li diffusion in feldspar is thought to be faster than in clinopyroxene or olivine (Giletti and Shanahan, 1997; Spandler and O'Neill, 2010; Richer et al., 2014; Tomascak et al., 2016). Thus, if the formation of the volatile phase (into which Li partitions together with H_2O, and CO_2 depleting the residual melt) occurs shortly before, or perhaps synchronously with, eruption as recently suggested by Stock et al. (2016), then the differing rates of diffusive re-equilibration between feldspars and the mafic phases may explain their different Li profiles. Distinguishing between potential processes could be aided by in situ Li isotopic measurements. Unfortunately, these techniques are hampered by the lack of matrix-matched standards in the case of SIMS and remain in a development stage for femtosecond laser ablation instruments (e.g., Oeser et al., 2014).

2.5.3 Magmatic fractionation of lithium isotopes

Stable isotopic variability between co-existing minerals may reflect either equilibrium isotopic partitioning resulting from isotopes of differing mass being preferentially incorporated into different bonding environments, or kinetic fractionation arising from the trapping (in the volcanic case, by quenching) of transient isotopic signals that result from differential movement of different isotopes. The

rapid diffusion of lithium in most geologically relevant materials (Tomascak et al., 2016; Holycross et al., 2018) and the large mass difference between ^{7}Li and ^{6}Li render Li particularly susceptible to kinetic fractionation in magmatic systems. Thus, the question of the ultimate cause of the remarkable ~10‰ isotopic variability recorded for the MFT requires addressing. Unfortunately, in the Li isotopic system, there are so far no experimentally derived isotopic fractionation factors compared to other stable isotope systems, such as oxygen (e.g., O'Neil and Taylor Jr., 1969; Kulla and Anderson, 1978; Chiba et al., 1989). In the better-characterised mafic systems, Seitz et al. (2004) found a systematic relationship between mafic minerals representing the upper mantle, whereby the olivine shows similar $\delta^{7}Li$ values to MORB, and ortho- and clinopyroxene are isotopically lighter, with clinopyroxene being the isotopically lightest phase. By compiling the data from natural systems, Penniston-Dorland et al. (2017) proposed that mafic minerals with $\delta^{7}Li$ within ±2‰ of one another are in isotopic equilibrium. In terms of bulk compositions, Schuessler et al. (2009) have shown that differentiation from the mafic series at Hekla, Iceland, (average $\delta^{7}Li = +4.89 \pm 0.69$‰, 2 SD) to the silicic series ($\delta^{7}Li = +4.27 \pm 0.57$‰, 2 SD) causes limited Li isotopic fractionation.

MFT bulk whole rock $\delta^{7}Li$ values (+3.9 – +4.3‰) are similar to the published MORB data (4 ± 2‰; Moriguti and Nakamura, 1998; Elliott et al., 2006; Tomascak et al., 2008). In the case of the MFT mafic minerals, clinopyroxene paired with orthopyroxene and clinopyroxene paired with fayalite return $\delta^{7}Li$ values within ±2‰ (Penniston-Dorland et al., 2017). Therefore, we infer that these pairs are in equilibrium. Only orthopyroxene and fayalite pairs are in apparent disequilibrium. This could be due to fayalite having heavier Li isotopic compositions through the incorporation of Fe^{3+} on the tetrahedral position. In forsteritic olivine, Li usually enters the octahedrally co-ordinated Mg site due to their almost identical ionic radii, or it fills the interstitial sites (Dohmen et al., 2010). However, in fayalitic olivine, it is also possible to substitute Fe^{3+} or Al^{3+} for Si^{4+} with Li^{+} in the interstitial sites (as shown for quartz; Soltay and Henderson, 2005) and, therefore, occurring in tetrahedral co-ordination. This would lead to the preferential incorporation of ^{7}Li over ^{6}Li and explain the isotopically heavy values for the fayalite compared to pyroxenes. To estimate the amount of Fe^{3+} occupying the tetrahedral position is beyond the scope of this paper as it would require carefully characterised experiments because Fe^{3+} in olivine strongly depends on the fayalite content, fO_2 and temperature (Dohmen and Chakraborty, 2007).

Quartz and groundmass glass separates from the MFT return the isotopically heaviest values, where Li is expected to occur in tetrahedral co-ordination (e.g., Soltay and Henderson, 2005). We note here that the solution measurements for groundmass glass are systematically lower in Li content than the LA-ICP-MS measurements. When a broad range of trace elements for groundmass glass are compared between the dissolutions and in situ data (see Appendix A1: Supplementary data 1) it is apparent that the groundmass separates contained some trace of sanidine and Fe-Ti-oxides that were too small to be separated. This slight contamination means that the quoted Li abundances and $\delta^{7}Li$ values are likely slightly too low for the groundmass glass. The recognition of this effect also helps removing the issue of the bulk MFT having a higher Li abundance than any of its individual components. If Li concentration of the groundmass glass is taken from the LA-ICP-MS measurements, then mass balance constraints are satisfied. Mineral phases in which Li is octahedrally co-ordinated (e.g. mafics and feldspars) are isotopically lighter, which confirms that the $\delta^{7}Li$ variability could be a consequence of the co-ordination of Li

in the different mineral phases, consistent with more general findings (e.g., Teng et al., 2006; Wunder et al., 2006; Magna et al., 2016).

The potential for the groundmass glass δ^7Li to have undergone large and rapid shifts as a result of degassing makes it difficult to assess what the equilibrium melt–mineral Li isotopic fractionation should be. Recent studies investigating stable isotopic behaviour during volcanic degassing have suggested that where bubble growth is diffusion-limited, an isotopic fractionation arising from the variable diffusivities of the different isotopes in the melt may occur (Fortin et al., 2017; Watson, 2017). The models of Watson (2017) and Holycross et al. (2018) suggest that Li isotopic fractionations arising from degassing may be as large as 20‰. If the Li depletion in feldspar rims is a result of degassing, then intra-mineral isotopic variability likely exists and the bulk mineral δ^7Li values contain some component of kinetic fractionation. The other phases that show no zonation in Li abundances (i.e., mafic phases, quartz) may better preserve the equilibrium pre-eruptive δ^7Li signature.

2.6 Conclusions and future perspectives

The extensive MFT dataset allows, for the first time, the Li budget of a rhyolitic magma to be defined. Lithium is variably incompatible in all phases occurring in the MFT with average Li contents in the liquid from ~250 ppm (melt inclusions) to ~40 ppm (groundmass glass), and major mineral phases ranging from quartz (mean ~18 ppm) to sanidine (mean ~6 ppm). The apparent partitioning behaviour observed in the MFT is reproduced from glassy samples from a number of other rhyolites of the Yellowstone-Snake River Plain province, suggesting these values may approach mineral–melt equilibrium. Intra-crystal variations in Li abundances in plagioclase and sanidine are interpreted as reflecting pre/syn eruptive degassing and likely impart a kinetic fractionation on the Li isotopic signature. Lithium isotopic measurements on bulk mineral separates display a remarkable δ^7Li variation of almost 10‰ from δ^7Li of $+7.46 \pm 0.47$‰ in groundmass glass to δ^7Li of -2.31 ± 0.54‰ in plagioclase. Such variations will require further investigation with *in situ* methods.

The highly elevated Li abundances in MFT melt inclusions (as also reported in studies of other rhyolites; Hofstra et al., 2013; Benson et al., 2017) and the low-Li rims on feldspar crystals together make a compelling case that between melt inclusion entrapment and quenching of the glass at eruption the majority of Li is lost from the system. The fate of this 'lost-Li' remains a key question – does it pass into a vapour phase together with H_2O, and CO_2 (and so is ultimately lost from the system), or does it pass into a magmatic brine (allowing it to be 'pre-concentrated') and potentially be a source for economic deposits? Understanding the extent to which these processes occur and the conditions favouring Li passing to a gas phase as opposed to a brine will require a carefully planned campaign of experimental petrology.

Despite the general agreement that evolved magmas either directly or indirectly appear to be crucial to the generation of economic lithium deposits (Kesler et al., 2012), this study represents the first attempt to define the various reservoirs for Li. For hot, dry rhyolites (and we note that similar studies involving rhyolites from subduction zones which follow different fractionation trajectories with different mineral assemblages would be illuminating) it appears that 20–60 ppm Li is a characteristic abundance for the quenched groundmass glass. Particularly this has a bearing on whether leaching of

volcanic rocks alone could be sufficient or magmatic fluids are required to form economically important Li deposits.

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Chapter 3

Time scales of syn-eruptive volatile loss in silicic magmas quantified by Li-isotopes

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ABSTRACT

Most explosive, silicic volcanoes spend thousands of years in repose between eruptive events. The timing of the switch from repose to eruption is key to interpreting monitoring signals and improving the safety of people living close to active volcanoes. We addressed this question using a novel technique based on lithium isotopic (δ^7Li) and elemental concentration profiles within plagioclase crystals from the Mesa Falls Tuff of the Yellowstone volcanic system (Idaho and Wyoming, USA), constraining volatile degassing to occur on minimum time scales of tens of minutes prior to eruption. During this ephemeral time, Li abundances drop by a factor of four to 10 from crystal cores to rims, accompanied by an increase in δ^7Li of as much as 10‰, reflecting diffusion-driven equilibration between plagioclase cores and outgassed, Li-poor melt. New times scales obtained in this study show the potential for rapid syneruptive changes in the volatile inventory of magmas.

3.1 INTRODUCTION

A key aim of volcanology is to improve the forecasting of volcanic eruptions in order to safeguard millions of people who live in volcanically prolific regions. Understanding magma dynamics, particularly the time scales of bubble nucleation and magma degassing, which control eruptive explosivity (e.g., Sparks et al., 1994; Mangan and Sisson, 2000), can help minimise this hazard. The study of volcanic deposits remains fundamental to understanding and quantifying the processes occurring immediately prior to eruption (Humphreys et al., 2006; Cashman et al., 2017). This requires the ability to define and characterise the factors that lead to changes in chemical (major and trace elements, volatile contents) (Shea et al., 2015) and isotopic compositions in melt and associated crystals (Oeser et al., 2015). In particular, crystals in rapidly quenched, nonwelded deposits can record magmatic histories from storage in the magma chamber to eruption and provide information about changes in volatile concentration, magma composition, temperature, and pressure before and during eruptions (e.g., Sparks, 1978; Ellis et al., 2018).

The Yellowstone volcanic system (Idaho and Wyoming, USA) represents the archetypal supervolcano. Silicic volcanism at Yellowstone has predominantly produced rhyolitic lavas punctuated by three voluminous caldera-forming eruptions (Huckleberry Ridge Tuff, Mesa Falls Tuff, and Lava Creek Tuff) (Christiansen, 2001). The 1.3 Ma Mesa Falls Tuff (MFT; Fig. 3.1) represents a large-volume explosive event that produced a variably welded ignimbrite sheet overlying fallout deposits (Rivera et al., 2016). While the MFT is well characterised in many respects, the final processes that tipped the system from stability to eruption remain unknown.

The groundmass glass from the MFT is depleted in lithium (Li) (36–52 ppm) relative to quartz-hosted melt inclusions (70–397 ppm) (Neukampf et al., 2019). We propose that Li was lost with a H_2O-rich fluid upon syneruptive degassing. Although the fluid-melt partitioning behaviour of Li is debated, natural fluid-melt inclusion pairs consistently show that Li tends to partition in favour of a H_2O- and Cl-rich fluid phase, thereby depleting the melt in Li (Zajacz et al., 2008; Fiedrich et al., 2020), as supported by some experimental results (Webster et al., 1989). Kinetic isotopic fractionation has been proposed to occur between the faster-diffusing ^{6}Li and the slower-diffusing ^{7}Li during bubble formation, enriching the vapour in ^{6}Li and, conversely, the melt in ^{7}Li (Vlastélic et al., 2011). These processes, as

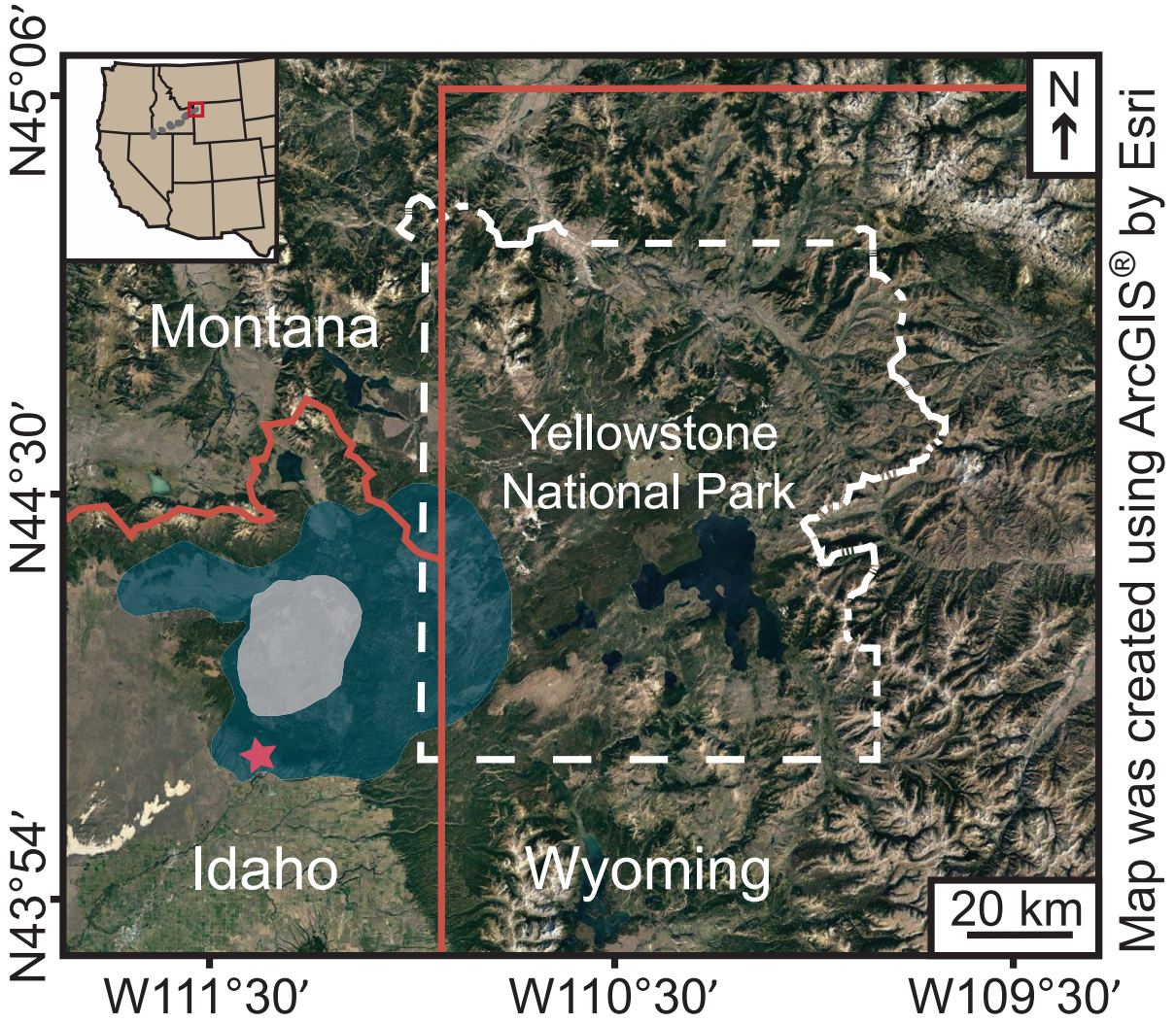

Fig. 3.1: Map showing sample location (44°7′8.49″N, 111°26′39.49″W; Ellis et al., 2017) of Mesa Falls Tuff (in blue), indicated with a red star. Inferred Henry's Folk caldera (Christiansen, 2001) is in light gray, and state borders are in red.

shown experimentally (Holycross et al., 2018) and theoretically (Watson, 2017), can produce significant Li elemental and isotopic variations between groundmass glass and mineral phases as the system strives to re-establish equilibrium. The extent to which diffusion can homogenise these records reflects the time between onset and termination of diffusion upon quenching. Here, we use a novel technique combining Li concentration and Li stable-isotope ratios (Steinmann et al., 2020) in plagioclase phenocrysts from the MFT and applying diffusion modelling to constrain time scales of Li loss from the melt.

3.2 LITHIUM CONCENTRATION MAPS AND PROFILES

Seven plagioclase crystals from the non-welded portion of the MFT were geochemically characterised by electron microprobe and laser ablation inductively coupled plasma mass spectrometry (LA-ICPMS). Only plagioclase crystals rimmed by groundmass glass were used, to ensure that crystal rim measurements truly reflect plagioclase in contact with the surrounding melt. Lithium concentration maps obtained by LA-ICPMS (Figs. 3.2A and 3.2B) reveal homogeneous crystal interiors with high Li concentrations mantled by a narrow zone (≤200 µm) where Li contents continuously decrease toward crystal edges (Figs. 3.2C and 3.2D).

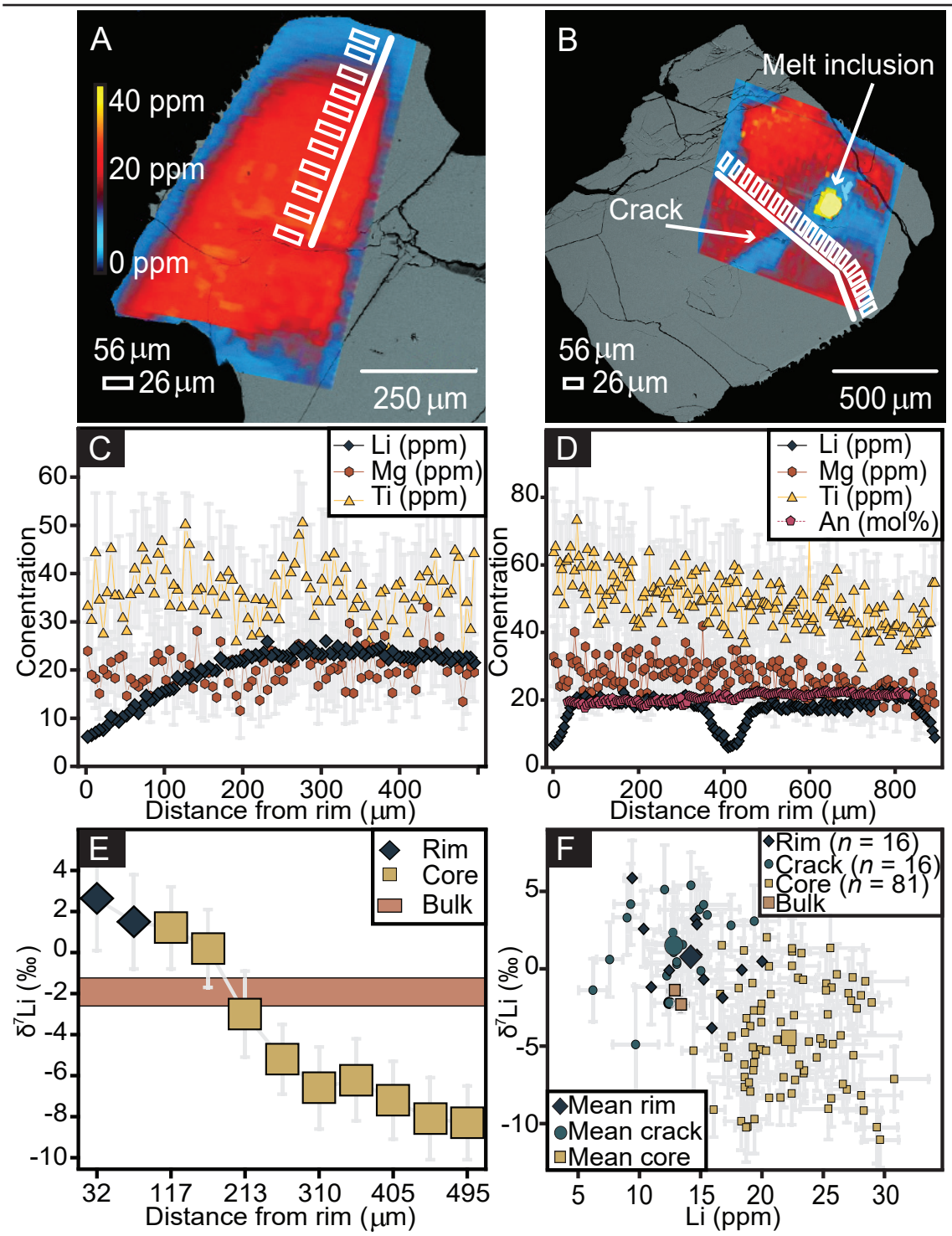

Fig. 3.2: Lithium elemental and isotopic zoning in Mesa Falls Tuff plagioclase (Yellowstone volcanic system, Idaho and Wyoming, USA). (**A,B**) Backscatter electron images combined with Li concentration maps (by laser ablation–inductively coupled plasma–mass spectrometry [LA-ICPMS]). White lines indicate measurement area of concentration profiles, and white boxes represent areas used for δ^7Li measurements. Representative plagioclase crystal with magmatic cracks is shown in B. (**C,D**) Concentration profiles measured from core to rim of crystals shown in A (grain 27 in the Supplemental Material) and B (grain 21 in the Supplemental Material), respectively, with Li (error within symbol size; two standard deviations, 2 SD) depletion toward the rim and magmatic crack (D) while other trace and major elements, e.g., magnesium (Mg) and titanium (Ti), and anorthite concentration (An), remain homogenous. Errors on the measurements are represented as grey error bars (2 SD). (**E**) δ^7Li profile within the crystal shown in A. δ^7Li value of bulk plagioclase separate (Neukampf et al., 2019) is illustrated with a brown bar. Symbol width represents size of laser spot (~55 µm). Errors on the measurements are represented as grey error bars (2 SD). (**F**) All δ^7Li measurements (2 SE) with corresponding Li concentrations. Large symbols represent average (mean) values of rims, cracks, and cores.

Concentration profiles through crystals confirm high-Li cores, from 12 to 33 ppm depending on the crystal (mean 22 ppm; n = 1440), decreasing to 19 to ~5 ppm at the very edge of the crystals (mean 12 ppm; n = 208). The anorthite content (An) varies between crystals (An 17–31) but is homogenous within grains, and all other major and trace elements lack any strong, systematic core-to-rim variation (Fig. 3.2C and 3.2D).

Some crystals exhibit Li depletion along cracks within the crystal interior similar to that in rims. These cracks likely formed due to depressurisation during eruptive ascent allowing melt inclusions to expand and fracture their host plagioclase (Fig. 3.2B). Interestingly, concentration profiles perpendicular to magmatic cracks return steeper depletion profiles (Fig. 3.2D) compared to measurements at crystal rims. This supports the interpretation that the cracks developed at a later stage during ascent, leading to shorter Li diffusion times.

3.3 *IN SITU* δ^7LI MEASUREMENTS

Lithium isotopic composition (δ^7Li) was measured in situ using a femtosecond laser ablation system coupled to a multicollector ICPMS (fs-LA-MC-ICPMS) along transects following crystal zoning patterns. The δ^7Li profiles exhibit large but systematic differences (of as much as 10‰; Fig. 3.2E), with Li-poor plagioclase rims isotopically heavier (–3.8‰ to +5.9‰; mean +1.0‰ ± 2.5‰; two standard errors [2 SE], n = 19) than the Li-rich cores (–11‰ to +2‰; mean –4.2‰ ± 2‰; 2 SE, n = 85). Measurements associated with magmatic cracks mimic those from crystal rims (–4.9‰ to +5.4‰; mean +1.2‰ ± 2.6‰; 2 SE, n = 13), resulting in a broad negative correlation between Li concentrations and δ^7Li across all crystals (Fig. 3.2F).

The observed Li loss toward crystal edges and magmatic cracks requires charge balancing by other elements. Hydrogen is unsuitable, as it would behave similarly to Li. The charge balance can occur by an exchange reaction of $Li^+ + Al^{3+} \rightarrow Si^{4+}$ and/or oxidation of Fe^{2+} to Fe^{3+} during eruption. Although none of these elements correlates with the observed edge ward decrease in Li, their higher abundance relative to the small concentration change (~20 ppm) observed in Li challenges the identification of the charge-balance mechanism. We favour the oxidation of Fe^{2+} to Fe^{3+} because it is independent from elemental diffusion.

The variation in Li abundance cannot result from simple crystal-liquid equilibrium partitioning during crystal growth because Li is moderately incompatible in plagioclase [apparent partition coefficient $Kd_{Li(plag/melt)}$] = 0.1–0.7; Neukampf et al., 2019) and other mineral phases present in the MFT (Tomascak et al., 2016; Neukampf et al., 2019). Hence, continued crystal growth would enrich Li in the melt, thereby increasing the Li concentration toward the plagioclase rim assuming that Li is not lost into the volatile phase. This process would result in isotopically lighter rims because the resulting concentration gradient would foster ^{6}Li diffusion into the crystal as observed for magmatic olivine and clinopyroxene (Jeffcoate et al., 2007). Magma recharge with a Li-poor, ^{7}Li-enriched melt can be excluded because no other element correlates with the decrease in Li toward plagioclase rims.

The decreased Li concentration and elevated δ7Li toward crystal edges can be explained by scavenging of Li from the melt into the vapour phase during magma ascent and degassing (e.g., Genareau et al., 2009; Giuffrida et al., 2018; Steinmann et al., 2020). ^{6}Li preferentially moves into the vapour phase during vesiculation (Watson, 2017), resulting in the depletion of ^{6}Li along with Li concentrations in the

melt, inducing a disequilibrium between plagioclase and melt (Fig. 3.3). This disequilibrium causes diffusion of Li—preferentially ^{6}Li because it diffuses faster than ^{7}Li—from the rim of the plagioclase into the melt. This in turn leads to a disequilibrium within the plagioclase between the Li-depleted rim and its interior, driving Li diffusion toward the rims. Such a scenario results in the observed depletion of Li and enrichment of ^{7}Li in the plagioclase rims.

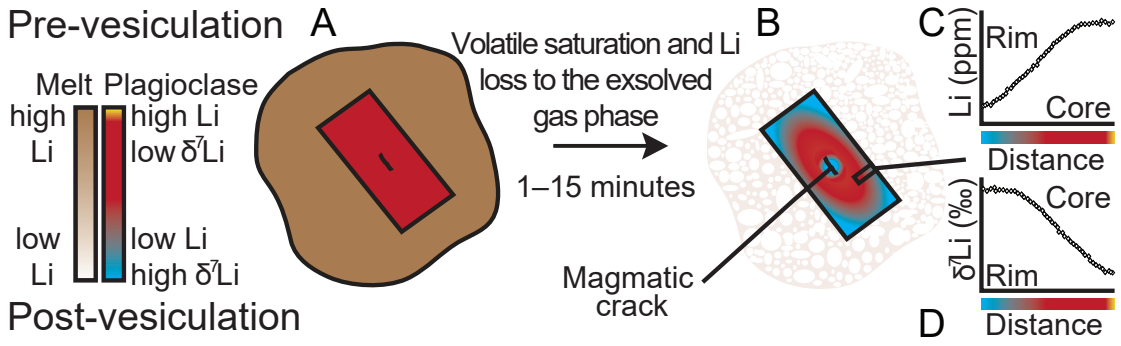

Fig. 3.3: Schematic sketch of processes recorded in Mesa Falls Tuff plagioclase (Yellowstone volcanic system, Idaho and Wyoming, USA). Plagioclase colour bar indicates low Li concentration and high $\delta^{7}Li$ isotopic composition in blue, and red colour represents higher Li concentrations with low $\delta^{7}Li$ values. Melt Li contents are shown by light brown (low Li) and dark brown (high Li). (**A**) Plagioclase in H_2O-undegassed melt with homogenous Li concentration and isotopic composition. (**B**) Diffusion profile formed in plagioclase due to the loss of Li during vesiculation of melt. (**C**) Theoretical concentration profile across a crystal. (**D**) Theoretical $\delta^{7}Li$ profile.

3.4 DIFFUSION MODELLING OF LI CONCENTRATIONS AND δ^{7}LI

Lithium diffusion profiles in plagioclase can be used to determine time spans of this disequilibrium process (Fig. 3.4). Estimating such time scales depends on the applied diffusion coefficient (D), requiring an accurate temperature determination. Here, we investigated a temperature range based on different mineral thermometers for the MFT (Tollan et al., 2019). Diffusion coefficients are calculated using the Arrhenius parameters for Li that were experimentally determined for an anorthitic plagioclase (Giletti and Shanahan, 1997). The published ^{6}Li diffusion coefficient can be applied because Li diffusivity in feldspar is compositionally independent (Giletti and Shanahan, 1997). The minimum applied temperature is 789 °C based on a sanidine-melt thermometer (Putirka, 2008) with a corresponding $D^{6Li}=1.05\times10^{-11}$ m^2/s. Lower temperatures are implausible because the melt was rapidly quenched upon eruption as supported by the absence of microlites. Moreover, the pre-eruptive water content of the MFT melt was ~3 wt% (Tollan et al., 2019). At the pre-eruptive storage pressure of the MFT (<1.5 kbar; Befus and Gardner, 2016), this implies minimum temperatures of 770–780 °C (Holtz et al., 2001). The maximum temperature is 856 °C, which is determined by a magnetite-ilmenite thermometer (Sauerzapf et al., 2008), with a corresponding $D^{6Li}=2.79\times10^{-11}$ m^2/s. Both calculated diffusion coefficients are applied to the concentration profiles.

To calculate time scales for the isotope profiles, ^{6}Li and ^{7}Li are considered as two independent species with different diffusion coefficients. Because no published diffusion coefficient is available for ^{7}Li in plagioclase (Giletti and Shanahan, 1997), we recalculated the diffusion coefficients based on those used for ^{6}Li and considering that ^{6}Li moves 3.5% faster than ^{7}Li in melt (Holycross et al., 2018). This

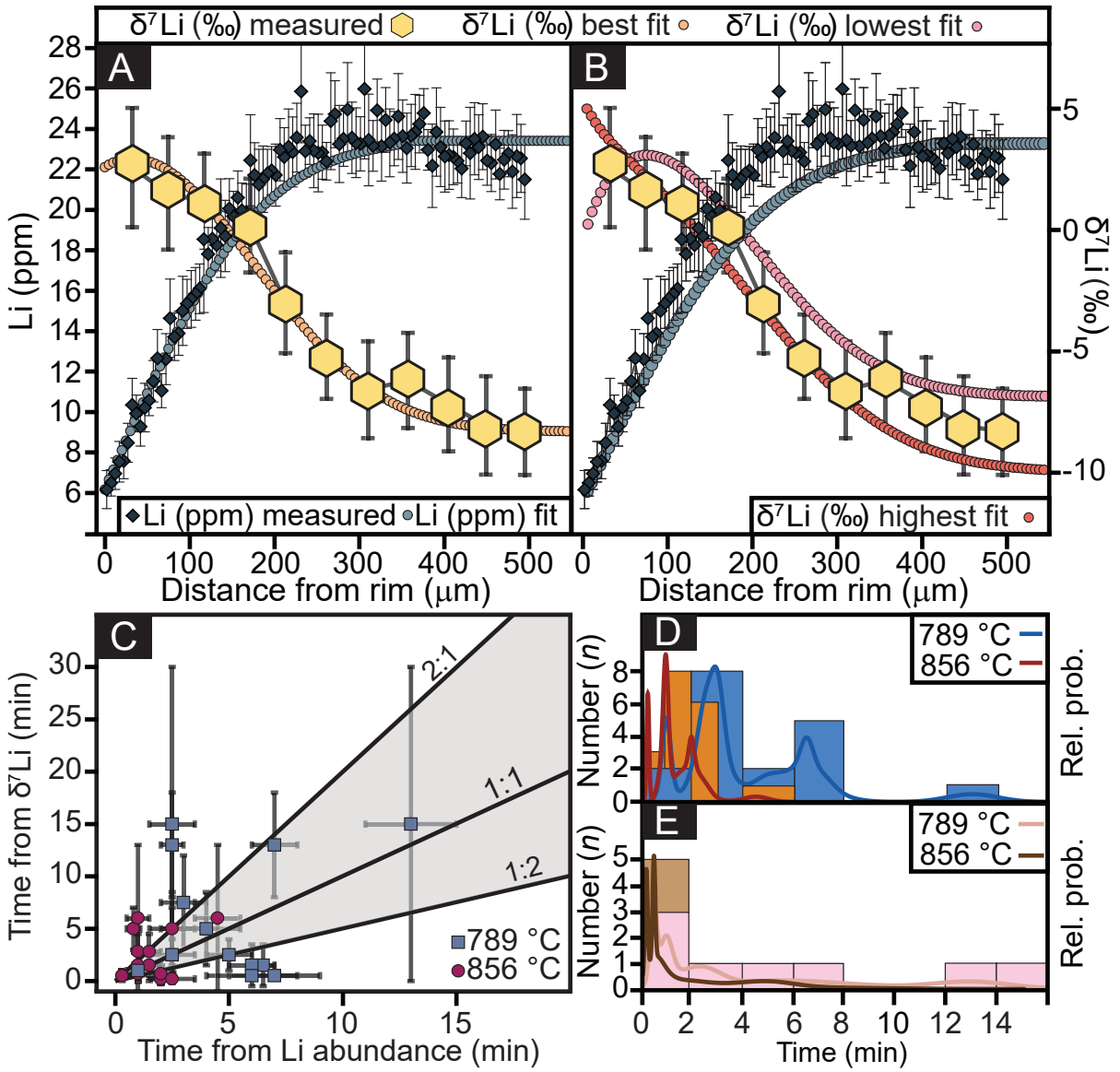

Fig. 3.4: Example of one-dimensional Li diffusion model for Mesa Falls Tuff plagioclase (Yellowstone volcanic system, Idaho and Wyoming, USA). (**A**) Representative diffusion profile with measured (blue diamonds) concentration profile and its modelled best fit (blue circles), in situ measured δ^7Li data (yellow hexagons), and best fit for δ^7Li profile (orange circles). (**B**) Profiles shown in A with boundary conditions set to highest (red) and lowest (pink) isotopic value within analytical error. (**C**) Comparison of time scales obtained by diffusion modelling of Li concentration (Li abundance) and isotope (δ^7Li) profiles. Blue squares represent time scales at 789 °C, and red circles refer to time scales at 856 °C. Errors are provided as dark grey error bars. Lines labelled 1:1, 2:1, and 1:2 and the grey shaded area indicate the field of best agreement between time scales obtained for Li concentration and isotope profiles. (**D**) Time scales obtained from Li concentration profiles (n = 18) shown as lines at 789 °C (blue) and 856 °C (red) for their relative probability (Rel. prob.). Histogram (789 °C in blue, 856 °C in orange) shows distribution of time scales. (**E**) Time scales obtained from all eight (two profiles in the same crystal) analysed δ^7Li profiles at 789 °C (pink) and at 856 °C (brown). Histogram (789 °C in pink, 856 °C in brown) shows distribution of the time scales.

calculation yields $D^{7Li}=1.01\times10^{-11}$ m^2/s for 789 °C and $D^{7Li}=2.69\times10^{-11}$ m^2/s for 856 °C. We recognise that the relative diffusivity of the two isotopes in plagioclase could differ from that in melt and may furthermore be composition dependent, as observed for olivine (in which ^{6}Li moves 3% faster; Dohmen et al., 2010) and clinopyroxene (in which ^{6}Li moves 4% faster; Richter et al., 2014). However, these differences in relative isotope diffusivities between phases are much smaller than that resulting from our

inferred temperature range. The δ^7Li fit is calculated as the ratio of individual Li isotope paths (Equation S1 in the Supplemental Material 2.1). Estimated time scales are 1–13 min at 789 °C and 0.3–4.5 min at 856 °C for concentration profiles, and 0.5–15 min at 789 °C and 0.2–6 min at 856 °C for δ^7Li profiles. The results for the diffusion modelling of concentration and isotopic profiles are thus mutually consistent.

Figure 3.4C shows that for some profiles, a slight mismatch exists between time scales derived from concentration profiles and isotope profiles. This can be a result of different errors that are introduced into the model, e.g., different spatial resolution and analytical errors on the measurements and/or inaccurate diffusion coefficients. To better estimate errors on the time scales, the model boundary conditions (Tables S2.1–S2.3 in the Supplemental Material) were set to match the highest and the lowest ^{7}Li/^{6}Li ratio within analytical uncertainty (Fig. 3.4B) and modelled for the best fit. The time difference between the best fit and the model using the highest and the lowest ^{7}Li/^{6}Li ratio is used as a more realistic uncertainty (Fig. 3.4C) on the time scales derived from the diffusion models.

Crystal size has no influence on the estimated time scales, but crystal geometry and magmatic cracks can have a non-negligible impact. There might be a diffusional anisotropy of Li isotopes along different crystallographic directions, as reported for olivine (Dohmen et al., 2010). Audétat et al. (2018) recognised that Li has two, slow- versus fast-diffusing pathways in plagioclase. If the used diffusion coefficients represent the latter, the resulting time scales are minima. However, even considering that Li diffusion could be two orders of magnitude slower, the maximum time scales would increase to only a few hours.

Our results agree well with decompression time scales from a study of the Huckleberry Ridge Tuff (Myers et al., 2016), which yields durations of <12 h to 5 days. A recent study of Li concentration profiles in plagioclase from Mount Etna (Italy; Giuffrida et al., 2018) predicts time scales of ascent and degassing within minutes. Other studies have also recognised Li gradients in plagioclase (e.g., Kent et al., 2007; Charlier et al., 2012), but these investigations have suggested magmatic processes other than degassing to be responsible for formation of Li gradients.

With particular attention to the suitability of individual crystals, e.g., identifying the rims that were in contact with melt, crystal geometry, and three-dimensional effects, the new combination of Li concentrations and *in situ* δ^7Li measurements in phenocrysts represents a powerful tool and affords new opportunities for understanding time scales of late magmatic processes. Our results show that at minimum a few tens of minutes elapse between the onset of the eruptive volatile degassing of the magma and quenching. The possibility of such rapid shifts from quiescence to explosivity underscores the need for the improved understanding of the dynamics of magmatic systems and the causes for the formation of a magmatic volatile phase. This study strengthens the role of petrology in assisting in the key observations in monitoring potentially explosive volcanoes in real time.

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3.6 Supplementary Materials

3.6.1 Methods

3.6.1.1 Major element measurements

Backscattered electron imaging by scanning electron microscope (SEM) and electron probe (EPMA) analyses (Si, Na, Mg, Al, Ca, K, Sr, Ti, Fe, Ba) of plagioclase grains were obtained at the Institute of Geochemistry and Petrology, ETH Zürich. Profiles were measured from core to rim with 5 to 10 μm steps with standards every 30 to 40 measurements. All analyses were measured with 15 kV acceleration voltage, a beam diameter of 10 μm and a beam current of 20 nA with counting times of 20 s on peak and 10 s on background. All analyses were performed so that the mobile elements (Na, K) were measured first. To ensure measurement accuracy, in-house reference minerals (albite, anorthite and microcline) from the ETH collection were used as secondary standards and reproducibility was better than 5 %.

3.6.1.2 Laser ablation inductively coupled plasma mass spectrometry (LA-ICPMS) mapping

Laser ablation inductively coupled plasma mass spectrometry (LA-ICPMS) mapping was undertaken at The University of Queensland Centre for Geoanalytical Mass Spectrometry, Radiogenic Isotope Facility (UQ RIF-lab). Plagioclase crystals embedded in 1-inch polished resin mounts were analysed following a published mapping method (Ubide et al., 2015; Ubide et al., 2019). The analytical set up comprised an ASI RESOlution 193 nm excimer UV ArF laser ablation system with a dual-volume Laurin Technic ablation cell, coupled to a Thermo iCap RQ quadrupole mass spectrometer. Ablation was performed in ultra-pure He to which Ar make-up gas with a trace amount of N_2 was added for efficient transport and to aid ionization. The mapping area was built by overlapping ablation lines to form a rectangular grid, using a 20x20 μm square-shaped laser aperture, 20 μm/s translation speed, 10 Hz repetition rate, 3 J/cm^2 fluence, and 1 μm overlap between lines. A baseline measurement of 20-30 s was programmed between lines. Pre-ablation of the crystals using large, quick rasters (100 μm spot, 200 μm/s speed and 20 Hz repetition rate) was found to improve the subsequent mapping. The total dwell cycle was 115 ms, including maximised dwell time for ^{7}Li (50 ms). The instrument was tuned with scans on NIST SRM 612 silicate wafer reference material. NIST SRM 612 silicate wafer was employed as calibration standard and silicon concentrations (homogenous throughout single crystals) obtained by EPMA for each of the plagioclase crystals as internal standard. Spatially registered, quantitative multi-elemental maps were built with Iolite (Paton et al., 2011) v2.5, using CellSpace (Paul et al., 2012). Accuracy and precision were monitored via analysis of BHVO-2G, BCR-2G and GSD-1G glasses as secondary standards, using the same parameters as for the unknowns. Accuracy was better than 5 % for Li and better than 10 % for all other analysed elements. Limits of detection (Longerich et al., 1996) were at the sub-ppm level for Li as well as all other trace elements.

3.6.1.3 *In situ* Lithium isotope analysis of plagioclase crystals by femtosecond laser ablation-MC-ICPMS

For the *in situ* determination of Li isotope composition in plagioclase phenocrysts a femtosecond laser based ablation system (Spectra-Physics Solstice) coupled to a multi-collector-ICP-MS (Thermo-Finnigan Neptune Plus) at the Leibniz Universität Hannover, Germany, was used. The ablation beam had a pulse duration of ~100 fs and wavelength of 194 nm which was generated via frequency conversion from an infrared beam with 775 nm wavelength in an in-house built mirror and lens system and focused on the sample surface via a modified New Wave (ESI) stage combined with an optical microscope (Horn et al., 2006). The laser spot size of ~26 µm on the komatiite reference glass wafer GOR132-G (MPI DING) allowed for sufficient spatial resolution. Isotope measurements were performed according to the published method of Steinmann et al., (2019), by employing standard-sample-bracketing with the GOR132-G glass as a bracketing standard according to Equation 5 and recalculation to IRMM-16.

$$\delta^7Li=[(^7Li/^6Li)_{sample}/(^7Li/^6Li)_{GOR132\text{-}G}-1]\times1000 \qquad (5)$$

Due to low Li concentrations (5-30 ppm) in the plagioclase a device was implemented for gas flow homogenisation into the tubing system behind the ablation cell to homogenise the ablated aerosol with the transport Helium gas. Afterwards the make-up Ar gas was added and the gas-aerosol mixture was transported to the mass spectrometer. The homogenisation of the gas flow was necessary to enhance signal stability and decrease the analytical error. In order to decrease matrix effects by avoiding the ionisation of matrix elements in the plasma, relatively cool plasma conditions (RF power 900 W) were applied. *In situ* Li isotope ratio measurements were performed in static mode at low mass resolution which is sufficient to resolve atomic interferences. In order to keep background Li signals low, the measurements were performed under dry plasma conditions. For the detection of ^{7}Li, a Faraday cup equipped with a slow-response 10^{13} Ω amplifier was deployed whereas a secondary ion multiplier was used for the detection of ^{6}Li. Due to the slower signal response of the 10^{13} Ω amplifier a tau correction (Kimura et al., 2016) was applied for data evaluation.

Measurements of the bracketing standard were performed in raster ablation mode with a scan speed of 20 µm/s. The plagioclase profiles were measured in line ablation mode at the rims and raster ablation mode (26 µm by 56 µm) further into the grains, with lines and rasters arranged perpendicular to the crystal rim, each line/raster accounting for one measurement value. Individual measurements consisted of 180 cycles with an integration time of 1.049 s per cycle. The first ~35 cycles were used for background correction using only the gas blank reading, followed by ~130 cycles of laser ablation. All analyses that represent one isotopic profile were measured during a single analytical session. As an internal control, the MPI DING reference glass T1-G was measured yielding a long-term reproducibility of 2.1 ‰ (δ^7Li = 0.4 ‰, 2 SD, n=64 in 16 sessions during 22 months) in agreement with Steinmann et al., (2019). The results of Li isotopic measurements were recalculatd to the δ-notation relative to the L-SVEC reference material.

Table S1. Time scales of Li diffusion from Li concentration in plagioclase crystals from MFT and boundary conditions for each profile. Timescales are calculated for 789°C and 856°C using *D* of 1.05 x 10^{-11} m^2/s and 2.79 x 10^{-11} m^2/s, respectively.

				789 °C		856 °C	
Grain	**Line**	**C_0 - Core ppm)***	**Rim (ppm)***	**Time (min)**	**S.D.**	**Time (min)**	**S.D.**
7	L1	20.2	5.3	3	0.5	1.5	0.5
	L2	19.6	6.7	3	1	1	0.2
11	L1.1	27.7	6.2	5	1	2	0.6
	L1.2	28.3	5.9	2.5	1	1	0.3
13	L1.1	27.2	5.0	6.5	0.5	2	0.5
	L1.2	30.0	6.8	6	1	2	0.2
15	L2.1	27.8	5.1	7	2	2.5	1
	L2.2	28.6	6.4	6	2	2	0.5
	L3.1	25.6	4.9	3	1	1	0.2
	L3.2	21.1	6.5	3	1	1	0.2
21	L1.1	20.1	6.7	1	0	0.3	0.1
	L1.2	22.3	8.5	1	1	0.3	0.1
	L3.1	28.6	7.7	3	1	1	0.2
	L3.2	28.7	7.4	4	2	1.5	0.5
25	L1	23.6	8.8	2.5	0.5	0.8	0.3
	L2	23.6	7.0	7	1	2.5	0.5
27	L1	23.4	6.2	13	2	4.5	1
	L2	28.4	8.4	3	1	1	0.5

Note: Samples are stored in the collection of ETH Zurich, Department of Earth Sciences, Zurich, Switzerland.
*Measured using a LA-ICPMS.

Table S2. Time scales of Li diffusion from δ^7Li profiles in plagioclase crystals from MFT and boundary conditions for each profile. Timescales are calculated for 789°C and 856°C using D of 1.05 x 10^{-11} m^2/s and 2.79 x 10^{-11} m^2/s, respectively.

				789 °C		856 °C	
Grain	**Line**	**C_0 - Core (δ^7Li)***	**Rim (δ^7Li)***	**Time (min)**	**S.D.**	**Time (min)**	**S.D.**
7	L1	-9.1	-0.8	7.5	1	2.8	0.2
11	L1.1	-2.6	3.2	2.5	1	0.7	0.2
13	L1.1	-9.2	-1.2	1.5	1	0.5	0.5
15	L2.1	-1.4	0.7	0.5	0.1	0.2	0.1
21	L1.1	-7.0	-3.8	1	0.5	0.5	0.1
21	L3.1	-9.0	-1.9	5	1	1.5	0.5
25	L1	-7.0	2.9	13	5	5	2
27	L1	-8.3	2.6	15	3	6	2

Note: Samples are stored in the collection of ETH Zurich, Department of Earth Sciences, Zurich, Switzerland.
*Measured using a LA-ICPMS.

Table S3. Time scales of Li diffusion from δ^7Li profiles in plagioclase crystals from MFT and boundary conditions for each profile. Timescales are calculated for 789°C and 856°C using D of 1.05 x 10^{-11} m^2/s and 2.79 x 10^{-11} m^2/s, respectively. The highest and lowest Li isotopic value within the error are taken as boundary conditions for the diffusion modelling.

				789 °C	856 °C
Grain	**Line**	**C_0 - Core (δ^7Li)***	**Rim (δ^7Li)***	**Time (min)**	**Time (min)**
upper values					
7	L1	-10.9	1.5	12	6
11	L1.1	-4.4	5.7	4	1.5
13	L1.1	-11.2	1.2	3.5	1.1
15	L2.1	-3.6	3.0	0.75	0.3
21	L1.1	-7.4	-1.7	0.75	0.3
21	L3.1	-11.0	1.0	8.5	3.25
25	L1	-9.0	5.1	16	6
27	L1	-10.1	5.0	30	12
lower value					
7	L1	-7.3	-3.0	4.5	1.6
11	L1.1	-0.7	0.8	1	0.35
13	L1.1	-7.1	-3.6	0.9	0.4
15	L2.1	-1.6	0.8	0.3	0.1
21	L1.1	-2.7	-5.9	0.15	0.05
21	L3.1	-7.0	-4.7	2.75	1
25	L1	-5.1	0.6	5.5	2.2
27	L1	-6.5	0.1	10	4

Note: Samples are stored in the collection of ETH Zurich, Department of Earth Sciences, Zurich, Switzerland.
*Measured using a LA-ICPMS.

3.6.1.4 Trace element measurements

Plagioclase trace element concentration profiles were obtained by LA-ICPMS using an Excimer 193 nm (ArF) Resolution (Australian Scientific Instruments) nanosecond laser ablation system coupled to a Nexion2000 (Perkin Elmer, Canada/USA) fast-scanning quadrupole ICPMS, at the Institute of Geochemistry and Petrology, ETH Zürich. The trace element concentration profiles in the plagioclase crystals were measured parallel to the previously analysed chemical and Li isotopic profiles. The ablation was performed in a S-155 dual-volume ablation cell (Laurin Technic, Australia) under a carrier gas flow consisting of high-purity He (ca. 0.5 $l.min^{-1}$), N_2 (cica 2 $ml.min^{-1}$) and Ar make-up gas (ca. 1.0 $l.min^{-1}$) from the ICPMS. Line scans were ablated with a spot diameter of 29 μm, a repetition rate of 10 Hz, a laser energy density of ca. 3.5 $J.cm^{-2}$ and a scan velocity of 1 $\mu m.s^{-1}$. All concentrations were quantified against the NIST SRM 612 silicate glass wafer as the primary standard (Jochum et al., 2011), using conventional standard-sample bracketing with one line between two standards. The USGS basaltic glass GSD-1G was used as the secondary standard to monitor for the accuracy and reproducibility of the analyses. Both reference materials were ablated with line scans under the same conditions as the unknown samples. The resulting raw intensities were processed using the Igor Pro-based Iolite v2.5 software (Hellstrom et al., 2008), using the implemented data reduction scheme for trace element quantification. The baseline-corrected intensities for each line scan were averaged over integration periods of 5 s (corresponding to 20 mass cycles with a sweep time of 0.25 s each), resulting in a spatial resolution of 5 μm for the final concentrations along the profiles. We used Si as an internal standard to correct for differences in relative sensitivities, based on the average SiO_2 content of the analysed plagioclase crystals (63±0.5 wt.%) measured by EPMA. The uncertainties on concentrations at each step of the profiles correspond to the scatter of the 20 measurement cycles integrated within the corresponding time step, quoted at 95% confidence level (2 S.D.).

3.6.2 Diffusion modelling

Diffusion modelling as shown in Fig. 4 was conducted using the diffusion coefficient of Li in an anorthitic plagioclase (Giletti and Shanahan, 1997). Each profile was modelled using a one-dimensional model, and a diffusion exchange at a constant temperature with an infinite medium (core is unaffected by diffusion) is assumed. The shape of the Li concentration profiles as well as the δ^7Li profiles can be described by an error function. Therefore, the following equation (6) can be applied:

$$C_x=(C_{0-1})(1-\mathrm{erf}(x/(2\sqrt{Dt}))+1 \qquad (6)$$

where C_x represents the composition at a distance x (in μm) from the crystal surface, *D* is the Li diffusion coefficient in plagioclase, and t is the time since the diffusion started. C_0 represents the composition in the core (used values are given in Table S1, S2 and S3). To calculate the timescales for the isotope profiles, the ^6Li and ^7Li are considered as two independent species with different diffusion coefficients. The temperature range used in this study is between 789 °C (sanidine–melt thermometer; Putirka, 2008) to 856 °C (ilmenite–magnetite thermometer; Sauerzapf et al., 2008). Only ilmenite-magnetite pairs passing the equilibrium criteria (Bacon and Hirschmann, 1988) were used for temperature estimations.

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Chapter 4

Li elemental and isotopic composition of rhyolitic melt inclusions and their host quartz: a record blurred by multiple diffusive re-equilibration

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Paper in preparation

Abstract

Ion-microprobe measurements of Li isotopic composition and Li concentration of quartz-hosted melt inclusions and groundmass glass from the rhyolitic Mesa Falls Tuff were obtained in order to reconstruct the Li concentration and isotopic composition within the magma chamber. The δ^7Li values between melt inclusions and groundmass glass vary by up to 25‰. Lithium concentrations in the glassy melt inclusions (10 to 37 ppm) are lower compared to the groundmass glass (28 to 46 ppm) and overlap with their host quartz (8 to 15 ppm). This indicates a diffusional exchange between entrapped melt inclusions and their host-quartz resulting in a potential re-equilibration of the melt inclusions. The re-equilibration between inclusion and host-quartz modified the δ^7Li values of the melt inclusions, therefore, they are not recording the isotopic composition of the melt. Crystallised melt inclusions from the same eruption have higher Li concentrations (6 to 160 ppm) compared to the groundmass glass and their host-quartz (15 to 24 ppm) reflecting the loss of H_2O from the melt inclusions and leading to an enrichment of Li during the crystallisation of the melt inclusions.

Two quartz populations were identified as they differ in Li concentration by up to a factor of two, but are similar in other trace elements. One quartz population has homogenous Li concentrations and the other is heterogeneous in its Li concentration with an increase of Li concentration towards their rims. The heterogeneous quartz population indicates a diffusive exchange between quartz and surrounding melt which formed during ascent due to a change in pressure and resulting H^+ diffusion. By diffusion modelling it was determined that the Li diffusion profiles in the quartz crystals formed within a few hours. The quartz crystals with homogenous Li concentration erupted earlier, therefore experienced only small amounts of diffusive exchange and no Li diffusion profiles formed.

4.1 Introduction

The economic importance of lithium (Li) has increased over the past decades because Li is a major component in energy storage devices that are key in many technologies (Kesler et al., 2012). The majority of economic Li deposits are found in salars, predominantly located close to the silicic volcanic deposits like Andes in Bolivia, Chile and China (Kesler et al. 2012), but pegmatites, associated with mineralized granitic rocks, represent another important repository of Li (e.g., Australia, Canada, USA, Congo). A number of studies (e.g., Kesler et al., 2012; Hofstra et al., 2013; Benson et al., 2017) have focused on the origin of Li-rich brines and pegmatite deposits and linked them to silicic magmatism where either Li-rich rhyolites are leached due to weathering, with Li further enriched due to its affinity to transport during weathering, combined with the incompatibility of Li in most rock-forming minerals (e.g., Tomascak et al., 2016) or enriched by hydrothermal fluids. Hofstra et al. (2013) and Benson et al (2017) showed that quartz-hosted rhyolitic melt inclusions can contain up to 9,400 ppm Li with significant enrichments compared to the host groundmass glass, this trend was also recognised elsewhere (e.g., Stix and Layne, 1996; Lindsay et al., 2001). Therefore, the cycling of Li in magmatic systems needs to be further addressed to understand the formation of economically important Li-rich deposits.

Processes related to the enrichment of Li in silicic magmas at mid to upper crustal conditions are still not fully disentangled and studies focusing on Li concentration and isotopic composition of

pre-eruptive magmas in chemically more evolved systems are infrequent. Available studies have shown that the Li concentration of groundmass glass and minerals in evolved systems can be modified by syn- (e.g., Neukampf et al., 2019; Neukampf et al. 2020) and post-eruptive processes (e.g., Ellis et al., 2018) and may not represent the original Li inventory elemental/isotope data of the melt. A recent study (Neukampf et al., 2020) on the Mesa Falls Tuff (MFT; Fig.4.1), Yellowstone, USA, showed that diffusive (kinetic) fractionation can lead to sizeable Li isotopic differences of >10‰ within plagioclase crystals. The large Li isotopic diffusion profiles in plagioclase can be formed within tens of minutes prior to eruption as a response to expeditious degassing whereby ^{6}Li moves preferentially into the volatile phase and ^{7}Li remains in the melt. Indeed, this change of the original Li concentration and isotopic composition of melt was theoretically predicted by Watson (2017). Holycross et al. (2018) and Richter et al. (2009) experimentally demonstrated that Li isotopes diffuse at a different speed, depending on the water content of the melt (^{6}Li moves ~3 to 3.5 % faster compared to ^{7}Li). The large mass difference (17%) between the two Li isotopes (^{6}Li and ^{7}Li) has been recognised as the mechanism that leads to natural Li isotopic differences of >50‰ between different geological reservoirs (e.g., Tomascak et al. 2016). The fast diffusivity of Li and its isotopes (Richter et al., 2003) and the resulting diffusive fractionation driven by concentration gradients can cause large isotopic variations within minerals on the micron scale (e.g., Jeffcoate et al., 2007; Parkinson et al., 2007) to variations on the meter scale (e.g., Lundstrom et al., 2005; Marschall et al., 2007, John et al. 2012, Beinlich et al., 2020). Even though high-temperature fractionation has been recognised as an important process to influence the Li isotopic composition of igneous systems (e.g., Jeffcoate et al., 2007, Magna et al., 2008), the elemental and isotopic composition of chemically evolved melts in the magma chamber before eruption has not been studied in detail and previous studies only focused on arc setting (e.g., Gurenko et al., 2005; Bouvier et al., 2008, 2010; Schiavi et al., 2010, 2012).

Melt inclusions in phenocrysts are used to study magmatic processes because they are considered to preserve the original melt composition after their entrapment (e.g., Roedder, 1979). It has been shown that melt inclusions can be modified prior to eruption leading to compositional changes as a result of crystallisation on the inclusion walls or leakage of the inclusions through cracks (e.g., Nielsen et al., 1998; Frezzotti, 2001), diffusive exchange between inclusions and host minerals and/or between host minerals and a surrounding melt (e.g., Qin et al. 1992; Danyushevsky et al., 2000). The modification of melt inclusions due to crystallisation can, to a certain extent, be experimentally reversed, but re-equilibration with the host mineral/melt cannot be reversed (Danyushevsky et al., 2000). Therefore, care must be exercised in unravelling the intrinsic to potential process that can modify the chemistry of melt inclusions.

In this study, we report Li concentrations and isotopic compositions of quartz-hosted melt inclusions (MI) and groundmass glass, complemented with the Li concentrations of the host quartz from the rhyolitic Mesa Falls Tuff (Yellowstone, USA) in order to test whether diffusional exchange between melt inclusions and host quartz can lead to the modification of the original Li elemental and isotopic inventory of melt inclusions.

4.2 Geological setting and samples

The Yellowstone caldera system is located at the northern end of the Snake River Plain hotspot track. It had three caldera-forming eruptions with Huckleberry Ridge Tuff representing the most voluminous (~2500 km³; Christiansen, 2001) and the earliest eruption (2.08 Ma; Rivera et al., 2014; Singer et al., 2014), which forms the Island Park Caldera. The youngest eruption (0.63 Ma; Matthews et al., 2015) produced the Lava Creek Tuff (~1000 km³; Christiansen, 2001) which formed the Yellowstone Caldera. The Huckleberry Ridge Tuff and Lava Creek Tuff erupted in multiple pulses whereas the Mesa Falls Tuff (MFT, 1.30 Ma; Rivera et al., 2016), the smallest of the caldera forming eruptions, erupted in a single pulse (Christiansen, 2001) and formed the Henry's Fork Caldera. Mesa Falls Tuff was a voluminous explosive event with fallout and pumice deposits at its base were covered with a welded ignimbrite sheet (Rivera et al., 2016). This eruption is a high-silica rhyolite containing quartz, plagioclase, sanidine, fayalite, clinopyroxene, orthopyroxene and accessory phases and shows no large chemical differences throughout the unit (Christiansen, 2001).

Samples used in this study come from one sampling location and were collected from a thick ash and pumice deposited at the base of Mesa Falls Tuff that can be found at a road cut along Highway 20 in the north of Ashton, Idaho. One sample are loose grains from highly vesicular MFT fallout (11022) and the other a large piece of highly vesicular pumice (13005). Both samples were collected close to each other and represent the same eruption as MFT is single-eruptive unit. The non-welded part of the MFT deposit was used to minimise the potential of post-eruptive changes in the Li concentration.

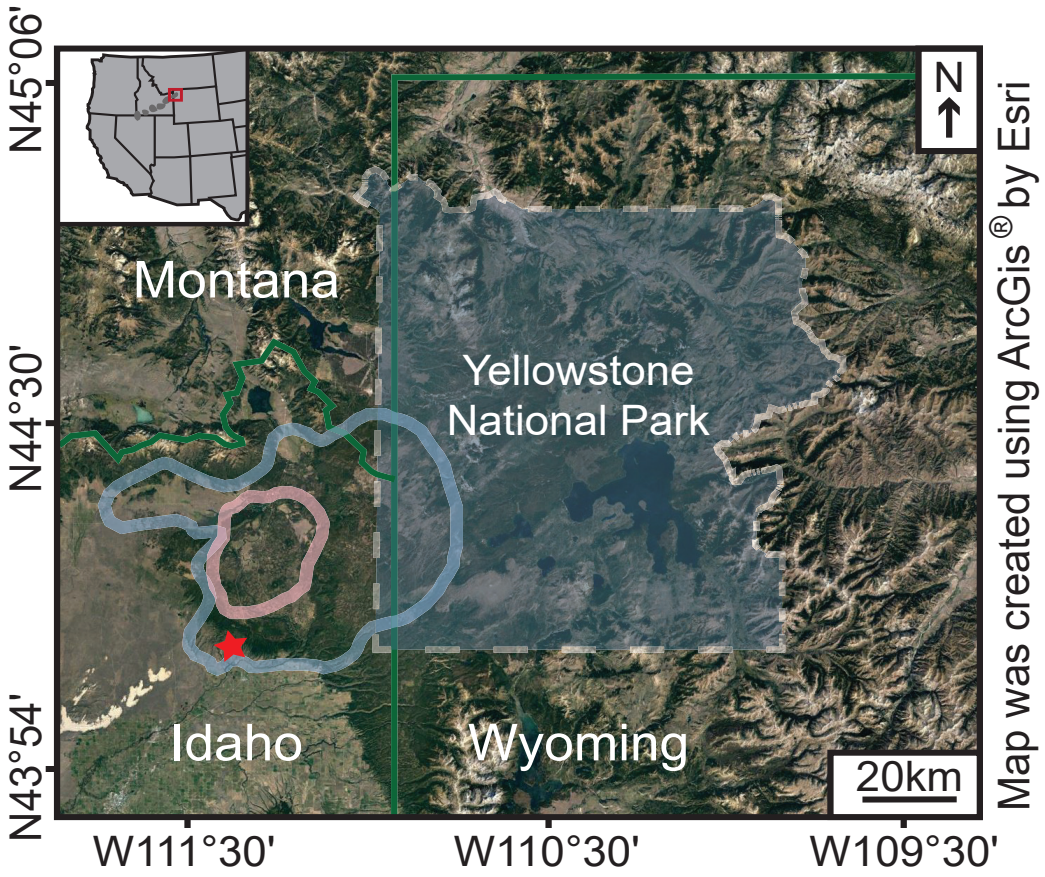

Fig. 4.1: Location map of the two samples (44°7'8.49"N, 111°26'39.49"W; Ellis et al., 2017) of MFT (light blue line) indicated with a red star (changed after Neukampf et at., 2020). Inferred Henry's Folk caldera (Christiansen, 2001) in light pink line and state lines in green.

4.3 Analytical methods

4.3.1 Sample preparation

Quartz crystals with melt inclusions and groundmass glass were hand-picked under a binocular microscope from crushed samples and mounted in 1-inch epoxy mounts. The quartz mounts were then double polished down to a variable thickness of ~350 to ~450 µm. H_2O and CO_2 contents of the melt inclusions were determined using the Fourier transform infrared spectroscopy (FTIR). Following the FTIR measurements single melt inclusions were selected for δ^7Li measurements using SIMS. The selected melt inclusions were exposed, polished and the quartz crystals hosting the melt inclusions were excavated from the epoxy mount and mounted into a 1-inch indium mount for SIMS measurements. Major and trace element contents were measured after the SIMS analyses to minimise potential modifications of the melt inclusions.

4.3.2 Fourier transform infrared (FTIR) spectroscopy

The H_2O and CO_2 contents of quartz-hosted melt inclusions were determined by employing a transmitted light FTIR spectroscopy following the technique described in Tollan et al. (2019). In short, this method involves measuring the melt inclusions that remain fully enclosed in the crystal and then correcting for the absorbance contribution from the crystal host itself. First, the transmitted light images of quartz crystals and their melt inclusions were taken at the University of Bern using an optical microscope recording their position, appearance, and geometry (Fig. 4. 2). The thickness of each quartz crystal was then measured using a Mitutoyo ID-S IP42 digital depth gauge (3 µm precision). FTIR spectra were obtained at the University of Bern with a Bruker Hyperion 3000 microscope attached to a Bruker Tensor II spectrometer. The measurements were conducted in a dry air-purged measurement chamber, using non-polarised light, a 15x Cassegrain objective and a mercury-cadmium-telluride detector. The light source and beamsplitter were composed of SiC and KBr, respectively. Background and sample measurements were made with 64 scans and a resolution of 8 cm^{-1}. Three measurements with a varying spot size were made on each melt inclusion, followed by the measurement immediately adjacent through the host quartz (without any inclusions in the beam pathway). The host quartz has relatively little to no interfering absorption at the wavelengths of total H_2O and CO_2 in rhyolitic glass. Therefore, this latter step is solely used to obtain the Si–O overtone bands of the quartz for the calculation of the size of the melt inclusion, critical in the calculation of volatile concentration. The concentrations of H_2O and CO_2 were calculated using the (non-integrated) absorbance of the bands centred at 5200 cm^{-1}, 4500 cm^{-1} and 2345 cm^{-1}, with a direct baseline correction in each case. Conversion from the absorption to concentration was achieved using Zhang et al. (1997) for H_2O and Behren et al. (2004) for CO_2. Three individual measurements on each melt inclusion were monitored for the consistency and any significant deviation in concentration resulted in discarding of the data. As noted by Tollan et al. (2019), any melt inclusion whose size was less than 15% of the thickness of the host quartz typically did not yield reliable values of concentration.

4.3.3 Secondary Ionization Mass Spectrometry measurements

Lithium isotope compositions were determined using a CAMECA ims1280-HR secondary ionization mass spectrometer at the Swiss SIMS laboratory (University of Lausanne). Samples were mounted in indium together with a reference material (either NIST SRM 612 or BHVO-2G; Jochum et al., 2011). Prior to the analysis samples were coated with 35 nm thick gold layer. Sample surfaces were bombarded using O^- beam generated by a Hyperion RF source. The analyses were performed in three separate SIMS sessions; the intensity of the primary O^- ion beam was ~2 nA in the first session whereas it was ~5 nA in the second and third session, respectively. The $^6Li^+$ and $^7Li^+$ ion beams were collected in multi-collection mode on two opposing electron multipliers. The mass resolution was set to 2400, using an entrance slit width of 121 µm and multi-collector slits 1 . The field aperture was closed to 1360 , in order to avoid possible surface contamination. Prior to each analysis, the surface was pre-sputtered for 200 s using a 15-µm raster in order to remove the gold layer and any potential Li surface contamination. Automatic centring of the field aperture and contrast aperture deflectors were conducted at the end of the pre-sputtering. Measurements were performed using a 5-µm rastered primary beam. Each Li measurement consisted of 70 cycles, with each cycle 12 s long.

Calibration was made using StH, Atho and Tl MPI-DING reference glass materials (Jochum et al., 2006). NIST SRM 612 and BHVO-2G were used to monitor the instrumental stability during the analytical sessions. Analyses of melt inclusions were bracketed every four to five analyses by either NIST SRM 612 or BHVO-2G.

The measured data were corrected for an instrumental drift for each analytical session (typically 2–3‰ over an eight-hour period) using the δ^7Li isotopic composition of NIST SRM 612 or BHVO-2G measured throughout each session. The long-term reproducibility of the reference materials (2SD) after a drift correction is ±1.6‰ for NIST SRM 612 and ±2.3‰ for BHVO. The internal error for each measurement is dependent on the Li content and it varied between ±0.3 and ±1.5‰ (2SE) during the course of this study.

4.3.4 Major element measurements

Backscattered electron (BSE) and cathodoluminiscence (CL) images of the melt inclusions, the quartz host and groundmass glass were acquired using a scanning electron microscope (SEM). Major element compositions of the exposed melt inclusions and the groundmass glass were determined with a Jeol JXA-8230 electron microprobe (EMPA) probe analysis (Si, Na, Mg, Al, Ca, K, Ti, Fe, P, Cl, Cr, Mn), housed at the Institute of Geochemistry and Petrology, ETH Zürich. All analyses were measured with 15 kV acceleration voltage. The beam diameter for the melt inclusions was either 2 µm with a beam current of 2 nA, 5 µm with a beam current of 4 nA or 20 µm with a beam current of 10 nA, depending on the size of the melt inclusions. The beam diameter for the groundmass glass was 5 µm with a beam current of 4 nA. For Si, Na, Al, Mg, Ca and P a counting time of 30 s on peak was used whereas a counting time of 20 s on peak was employed for K, Ti, Cl, Fe, Mn and Cr. To ensure the reliability of the technique, the rhyolitic reference material from Smithsonian (VG-568) was used as a secondary standard with the reproducibility better than 5% (SD). Two to five individual measurements per melt inclusion were obtained.

4.3.5 Laser ablation inductively coupled plasma mass spectrometry (LA-ICP-MS)

Trace element concentrations in host quartz and quartz-hosted melt inclusions were analysed using an Excimer 193 nm (ArF) GeoLas (Coherent) laser system coupled to a Nexion2000 (Perkin Elmer, Canada/USA) fast-scanning quadrupole ICP-MS, at the Institute of Geochemistry and Petrology, ETH Zürich. The on-sample energy density of the laser beam was 20 $J \cdot cm^{-2}$. All quartz was measured with a spot size of 40 µm; for the melt inclusions the spot size was 40 µm with one to nine measurements per inclusion depending on the inclusion size. The ablation was performed with ca. 1.0 $L \cdot min^{-1}$ He carrier gas flow and ca. 1 $L \cdot min^{-1}$ Ar make-up gas was admixed downstream of the ablation chamber. Concentrations were quantified against the NIST SRM 610 glass wafer as the primary reference material (Jochum et al., 2011) and a natural quartz crystal characterised by Audétat et al. (2015) was employed as a secondary standard (see results in Data S1). The average 2 SD reproducibility of concentrations in the secondary quartz standard for all analytical sessions was used to determine the uncertainties on the concentrations of unknown samples (5% relative for Li).

The raw data were reduced using the Matlab-based SILLS program (Guillong et al., 2008) by using the Si concentration of the melt inclusions as an internal standard that were determined by EMPA. The uncertainties on melt inclusion concentrations were 5% relative (2 SD).

4.4 Results

4.4.1 Melt inclusions

Eight glassy and sixteen crystallised quartz-hosted melt inclusions were selected for further geochemical investigation. The studied quartz crystals host a variety of glassy melt inclusion types (Fig. 4.2 A, B and C) from brown to colourless or bubble-bearing in either spherical shapes (sample 11022) (Tollan et al. 2019), or cubic-shaped fully crystallised melt inclusions (sample 13005), all ranging in

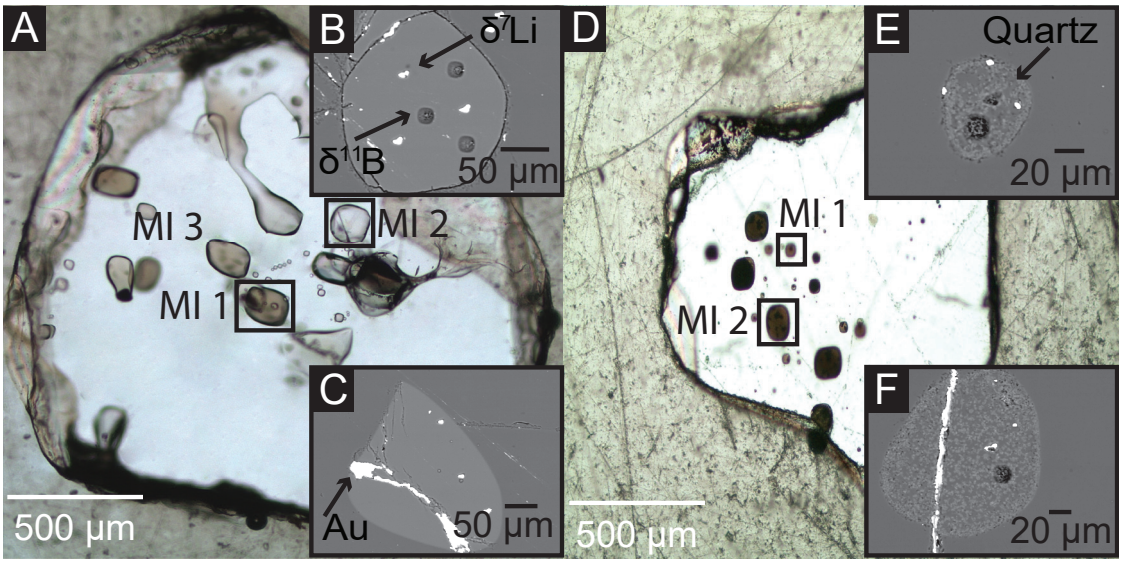

Fig. 4.2: (**A**) Transmitted light image of a quartz with glassy melt inclusion (MI1 = brown MI; MI2 = colourless MI, sample 11022). (**B**) BSE image of MI2 with SIMS spots indicated for δ^7Li and $\delta^{11}B$. (**C**) BSE image of MI1 with gold (Au) coating in a crack. (**D**) Transmitted light image of a quartz with crystallised MIs (sample 13005). (**E**)and (**F**) BSE images of the crystallised MI1 and MI2 showing small quartz crystallising at the rim of the melt inclusions as in the MIs.

size between 10 and 400 µm. The crystallinity of the melt inclusions in sample 13005 varies among individual inclusions, but all crystallised melt inclusions have a thin film of a few microns of new small quartz needles (approx. 5 to 15 µm) on the rims of the inclusions, and feldspar and quartz crystallised within the inclusion (Fig. 4.2D, E and F). Quartz grains from sample 11022 contain mostly glassy melt inclusions with a subordinate proportion of crystallised melt inclusions, whilst; quartz grains from sample 13005 only contain minor amounts of glassy melt inclusions and the majority of melt inclusions are crystallised.

Major element composition the MFT glass melt inclusions are all high-silica rhyolite (> 75 wt.% SiO_2, recalculated to a volatile-free basis) with K_2O and Na_2O ranging from 5.2 to 5.7 wt.% and 1.6 to 2.7 wt.%, respectively. The concentration of dissolved H_2O and CO_2 in the glassy melt inclusions ranges from 2.8–3.7 wt.% and 68–416 ppm CO_2, respectively (Tollan et al., 2019) (Appendix C: Supplementary data - Table 1).

Glassy melt inclusions contain less Li (10–37 ppm; average 21 ppm; n = 26) compared to the crystallised melt inclusions (6–160 ppm; average 72 ppm; n = 46). The Li concentration of the glassy melt inclusions is lower compared to the concentration measured in the groundmass glass (36–52 ppm; Neukampf et al., 2019) and the crystallised melt inclusions have less Li than the previously studied crystallised melt inclusions from MFT (70–397 ppm, average 244 ppm; n = 29; Neukampf et al., 2019). The glass melt inclusions are similar in their trace element composition, which is in contrast to other data published on groundmass glass from MFT (Pearce et al., 1996; Perkins and Nash, 2002; Neukampf et al., 2019) with Zr ranging 144–177 ppm, Rb 192–273 ppm, Sm 8–14 ppm and Ti 522–747 ppm. The crystallised melt inclusions show a wider range in their trace element inventories with Zr ranging 73–204 ppm, Rb 115–370 ppm, Sm 4–13 ppm and Ti 330–1051 ppm.

4.4.2 Groundmass glass

The major element composition of the groundmass glass from sample 13005 are in good agreement with the published data (Neukampf et al., 2019) attesting to a high-silica rhyolite (> 75 wt.% SiO_2,

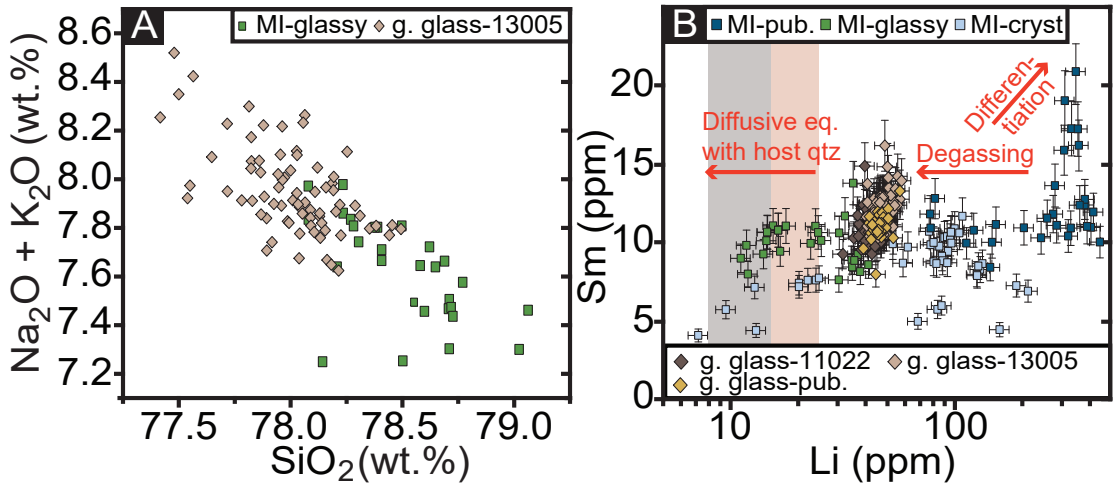

Fig. 4.3:(**A**) Alkalis vs. SiO_2 of the glassy melt inclusions and the groundmass glass. (**B**) Lithium versus Samarium concentration (Sm; also immobile during degassing) plot of analysed MIs, corresponding groundmass glass (g. glass) and published data from Neukampf et al. (2019) for comparison. Only crystallised MIs are enriched in Li and glassy melt inclusions have a lower Li concentration than corresponding groundmass glass.

recalculated to a volatile-free basis) with Na_2O ranging 2.1–2.5 wt.% and K_2O 5.3–6.3 wt.%. (Fig. 4.3A). The trace element abundances of both investigated samples are mutually similar (Zr = 128–174 ppm and 133–175 ppm, Ba = 85–165 ppm and 43–303 ppm, Rb = 216–243 ppm and 225–281 ppm, Ti = 555–743 and 510–858 ppm, for sample 13005 and 11022 respectively). Lithium concentration in the groundmass glass from sample 13005 ranges 35–51 ppm (average 42 ppm; n = 35) whereas it is 28–46 ppm in sample 11022 (average 40; n = 59 (Fig. 4.3B).

4.4.3 Quartz

Quartz crystals from both samples are subhedral and range in size from 1 to 5 mm. The CL images of the two quartz samples show different growth zones (Fig. 4.3A and 4.3.B; Appendix C: Supplementary data - Fig. C1). The observed elemental patterns are in a good agreement with the previously revealed internal zoning (Neukampf et al., 2019). In the quartz crystals from sample 13005 (Fig. 4.3A and 4.3.C) Ti concentration varies 60–151 ppm in the core (n= 106) and 79–97 ppm in the rim. Titanium and all other measured elements (e.g., Al=93–147 ppm) are in good agreement with the previously

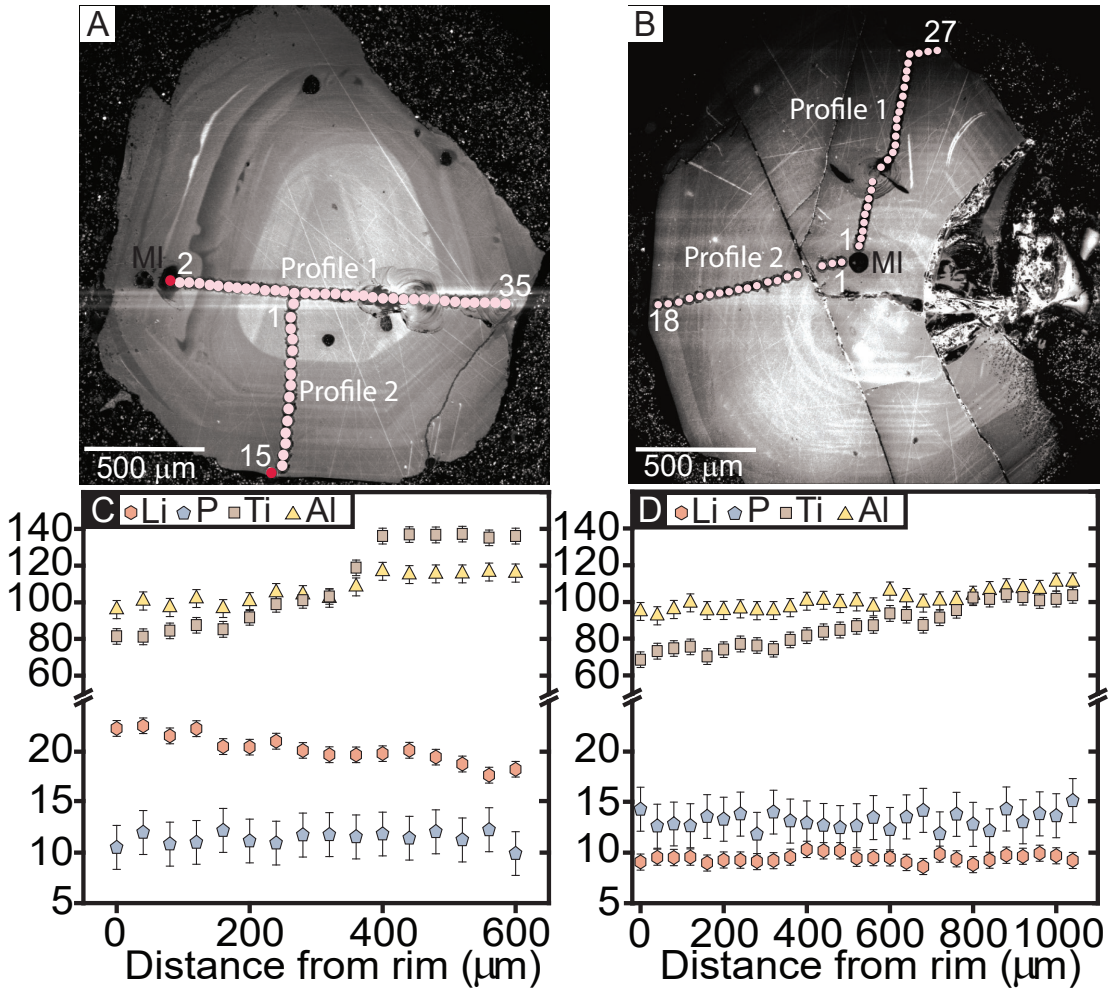

Fig. 4.4: Trace element composition in two different quartz samples. (**A**) CL image of a quartz with crystallised melt inclusion (MI) and measured (by LA–ICP–MS) trace element profiles in pink (red indicates failed measurement). (**B**) CL image of quartz with glassy melt inclusion (MI). (**C**) Trace element composition (in ppm, with 2SD error) of the quartz profile 2 shown in (A) with lithium (Li), phosphorus (P), titanium (Ti) and aluminium (Al). Showing an increase of Li concentration towards the rim. (**D**) Represents the trace element composition of the profile 1 shown in (B).

published values (Neukampf et al., 2019). Lithium concentrations in sample 13005 increase from the core (15–24 ppm; n=106) to the crystal edge (22–24 ppm; n=7). Quartz crystals with crystallised melt inclusions have up to a factor of two higher Li concentrations (Fig. 4.6) compared to quartz crystals from sample 11022 (Fig. 4.3B and 4.3D). Those latter quartz crystals show more homogenous Li concentration (8–15 ppm, average: 10 ppm; n=184) but, at the same time, they are similar in other trace elements (e.g., Al = 88–117 ppm, Ti = 63–126 ppm).

4.4.4 Lithium isotopes

The brown glassy inclusions have δ^7Li values from −7.8‰ to +2.8‰, colorless glassy MIs display almost identical Li systematics (δ^7Li from −8.0 to +3.3‰) and a single analysed bubble-bearing glassy MI falls in the same range (−7.1‰). Some melt inclusions vary in their isotopic composition from rim to core, with the rims being isotopically light and the cores isotopically heavy. No δ^7Li data for crystallised melt inclusions is presented because there is no SIMS reference material that can be reliably applied to a multi-component matrix. Compared to the inclusions, the groundmass glass from sample 13005 (+7.6 to +20.5‰) is up to 25‰ higher (Fig. 4.5).

The δ^7Li values of the groundmass glass that were measured by SIMS are not in agreement with the published δ^7Li values measured by MC−ICP−MS, that might be due to matrix effects during SIMS measurement, the use of different reference material for the measurements, which could lead to a discrepancy between MC-ICP-MS and SIMS or the bulk glass contained minor amounts of other

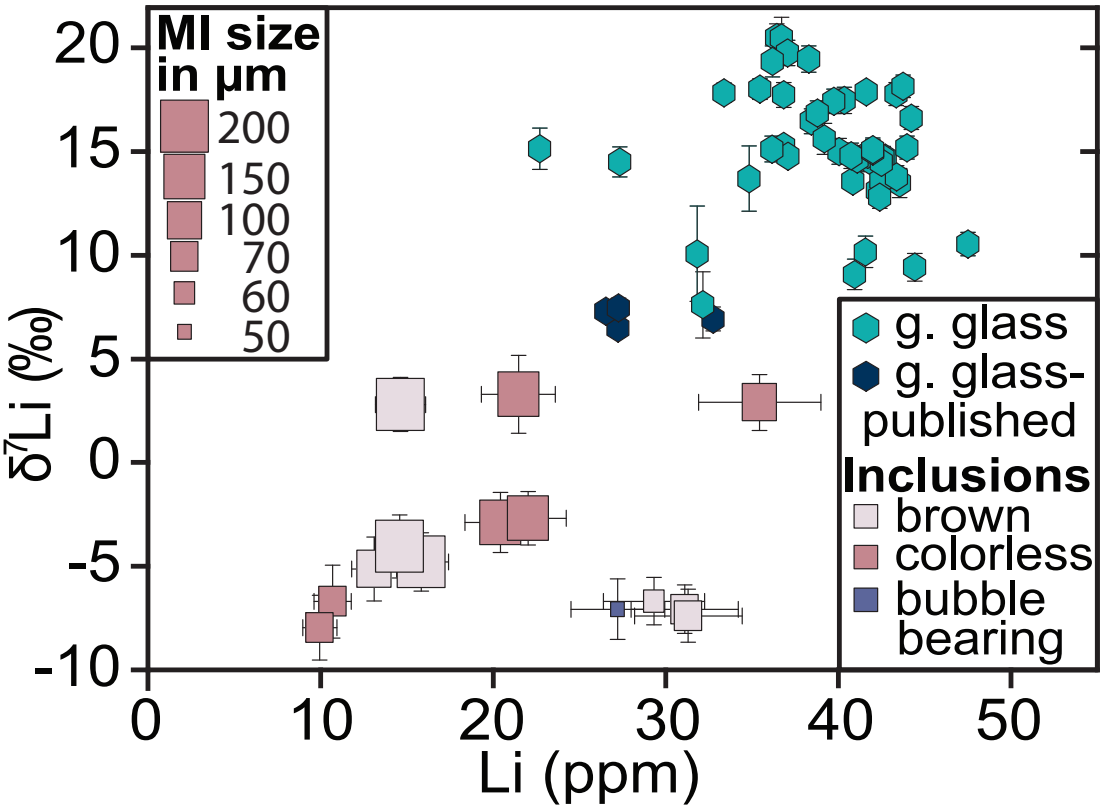

Fig. 4.5: Li concentration (by LA-ICP-MS; 2SD error) vs. isotopic composition (δ^7Li) of different kinds of glassy melt inclusions (by SIMS; 2SE error) and groundmass glass (by SIMS; 2SE error) compared to isotopic composition of groundmass glass measured by MC–ICPMS (Neukampf et al., 2019). Symbol sizes represent melt inclusion size (see table 4.1).

mineral-phases which would lower the δ^7Li value as they are all isotopically lighter than the groundmass glass. The third explanation is more probable as it also explains the differences in the lithium concentrations between MC−ICP−MS and LA−ICP−MS described by Neukampf et al. (2019). Since these are preliminary results the isotope value still may change.

4.5 Discussion

It has been experimentally shown that the trace element composition (e.g., Ag, Cu, Na, Li) of quartz-hosted melt inclusions can be altered within a few days as a result of a concentration gradient, a gradient in pressure or change in water fugacity (e.g., Audétat and Günther, 1999, Zajacz et al., 2009; Rottier et al., 2017) and it was inferred that H_2O can diffuse out of melt inclusions within hours to days when high temperatures are maintained (e.g., Qin et al., 1992; Massare et al., 1998; Massare et al., 2002; Severs et al., 2007). The re-homogenisation of devitrified melt inclusions is used to study processes that lead to volcanic eruptions and to reconstruct their P-T conditions during entrapment. However, Zajacz et al. (2009) have shown that the elemental composition of melt inclusions may change as a result of reheating. Indeed, laboratory-controlled reheating of the melt inclusions can lead to changes in their composition. Errors in the heating temperature, errors on the time span used to reheat the melt inclusions, diffusive re-equilibration with the host crystal, cracking of the melt inclusions can lead to the modification of melt inclusions (Nielsen et al., 1998), therefore in this study the crystallised melt inclusions were not re-homogenised.

4.5.1 Lithium concentrations and isotopic composition in melt inclusions and groundmass glass

The Li isotopic composition varies up to 25‰ between the groundmass glass and glassy melt inclusions; at the same time the Li concentrations of the melt inclusions are up to 50% lower compared to the presumably degassed groundmass glass. Assuming that Li moves into the vapour phase leaving the melt Li-depleted (e.g., Neukampf et al., 2020), the final Li concentration in the groundmass glass represents the minimum Li content of the source melt. The isotopic variation within the groundmass glass (7.6 to 20.5 ‰) could be explained by different bubble sizes during degassing. Whereby a big sized bubble would lead to more ^{6}Li diffusing from the melt into the vapour leading to heavier values whereas smaller bubbles would lead to less depletion of ^{6}Li in the melt and lighter values. This has only been theoretically addressed by Watson (2017) and still needs to be experimentally confirmed.

One explanation for the compositional and isotopic difference between the glassy melt inclusions and groundmass glass could be that those are representative of two distinct stages of melt evolution through early and late differentiation, respectively. Even considering a purely incompatible behaviour of Li, over 50% of crystallisation would be required to explain the compositional difference between the melt inclusions (~20 ppm) and the groundmass glass (>40 ppm). This is, however, not supported by any other major- or trace element indicator, since the groundmass glass and melt inclusions are strikingly similar in their chemistry (Fig. 4.3A and B) and petrographic relationships. Therefore, the fractional crystallisation can be excluded to play a major role in the variations of Li concentrations and δ^7Li values

of the melt inclusions. By inference, the Li concentration measured in the melt inclusions cannot represent the original Li concentration of the melt at the time of MI entrapment.

The experimental results of Zajacz et al. (2009) showed that the trace element composition of melt inclusions after entrapment can be modified due to the migration of molecular H_2 and H_2O into and out of a melt inclusion and/or host quartz as a consequence of a concentration gradient at temperature and pressure conditions that are typical for upper crustal felsic volcanism. This gradient can result in a rapid diffusion in quartz of H^+, Li^+ and Na^+ parallel to the c-axis as H^+ loss needs to be charge balanced with a slower diffusion along a- and b-axis (e.g., Audétat and Günther, 1999, Rottier et al., 2017). Qin et al. (1992) determined experimentally that molecular H_2O can diffuse through the host quartz on geologically reasonable time scales and that the diffusion is a result of the pressure gradient that the melt inclusions experienced. The melt inclusions are entrapped at a high pressure and this is followed by a period of residence at a lower pressure in the magma chamber/conduit during degassing of a melt which introduces the pressure gradient. Experiments of Severs et al. (2007) on melt inclusions hosted in quartz from the Bishop Tuff showed that diffusive loss of H-bearing species (OH^-, H_2O) can occur through the quartz crystal during ascent. Considering these experimental results, we propose equilibration of melt inclusions with their host quartz as an alternative explanation during ascent. As shown for the different H- bearing species Li diffuses from the melt inclusion into the quartz. This is supported by the different lithium concentrations and isotopic composition of some of the melt inclusions, where the melt inclusions are higher in Li concentration and isotopically heavier in the core and lower in concentration and isotopically lighter towards the rims of the melt inclusions. As quartz preferentially incorporates ^7Li over ^6Li (e.g., Soltay and Henderson, 2005; Teng et al., 2006), any re-equilibration with quartz would deplete the melt inclusion in ^7Li and consequently result in low δ^7Li values. This may explain why the melt inclusions are 10–30‰ lighter than the groundmass glass (Fig. 4.5) and published MORB data (δ^7Li = 3.5 ± 1.5‰; e.g., Moriguti and Nakamura, 1998; Elliott et al., 2006; Tomascak et al., 2008). A possible explanation for the observed scatter of δ^7Li values in the melt inclusions could be related to the size and perhaps shape of the melt inclusions. Smaller melt inclusions (50–100 µm) appear to have lower δ^7Li values (–8.9 to –5.1‰) compared to larger melt inclusions (100–200 µm) that are isotopically heavier (–4.8 to +2.8‰) and would have, suffered less diffusive re-equilibration. There is no clear correlation between Li concentration and δ^7Li in the melt inclusions, presumably because quartz shows some variability in Li concentrations (8–15 ppm).

Gurenko et al. (2005) investigated the Li systematics of melt inclusions (20–60 ppm, +4 to +15‰) in plagioclase and orthopyroxene from a dacitic pumice (Plat Pays Volcanic Complex, Dominica, Lesser Antilles) and Bouvier et al. (2010) presented an even larger range in Li elemental and isotopic composition (1.1–12 ppm, −24 to +8.2‰) for mafic olivine-hosted melt inclusions from basaltic lavas (Grenada Island, Lesser Antilles). The authors explained the range of δ^7Li to be caused by the contribution of dehydration/aqueous fluids from to the underlying slab, possible influence of sediments and/or melting of a metasomatised mantle, which was also shown for Stromboli, Italy (Schiavi et al., 2012). This cannot explain the variation of the melt inclusions from MFT quartz as MFT is in a continental setting whereas Lesser Antilles are in an arc setting and no differences in major or trace elements are observed that would support different origins of the samples.

Kobayashi et al. (2004) measured lithium isotopes in olivine-hosted melt inclusions from Hawaiian lavas that showed variations from −10.2‰ to +8.4‰. The authors stated that these variations represent different mantle sources. However, their melt inclusions were homogenised prior to their measurements which may have changed the Li elemental and isotopic composition of the melt inclusions.

Table 4.1: Lithium isotopic composition (by SIMS) and Li concentration (by LA–ICP-MS) of different glassy quartz-hosted melt inclusions from MFT.

Sample	melt inclusion type	size (in µm)	Li (ppm)	δ^7Li (‰)	2 SE
11022-g11-MI3-1	Brown MI	100	13	-5.1	1.5
11022-g11-MI2-1	Colourless MI	150	20	-2.9	1.5
11022-g11-MI2-2	Colourless MI	150	22	3.3	1.9
11022-g11-MI2-3	Colourless MI	150	22	-2.7	1.3
11022-g11-MI1-1	Brown MI	200	16	-4.8	1.4
11022-g11-MI1-2	Brown MI	200	15	2.8	1.3
11022-g11-MI1-3	Brown MI	200	15	-4.1	1.5
11022-g8-MI2-1	Colourless MI	100	34	2.9	1.3
11022-g14-MI1-1	Colourless MI	70	11	-6.7	1.8
11022-g14-MI1-2	Colourless MI	70	10	-8.0	1.6
11022-g10-MI2-1	Brown MI	70	31	-7.1	1.2
11022-g10-MI2-2	Brown MI	70	31	-7.4	1.3
11022-g10-MI3-1	Brown MI	60	29	-6.7	1.2
11022-g1-MI1-1	Bubble-bearing MI	50	27	-7.1	1.5

4.5.2 Lithium abundance in host-quartz

The most common charge balance in quartz is the substitution of $Si^{4+} \leftrightarrow Al^{3+}+Li^{+}$ (Denen, 1966; Perny et al., 1992). However, in Fig. 4.6A it is shown that there is an excess of Al relative to Li, indicating that Al is additionally charge balanced by H^{+} and/or Na^{+}. Fig. 4.6A also highlights that the Li concentration between the two quartz populations varies by more than a factor of 2, but with both populations overlapping. Additionally, it also shows that quartz from sample 11022 is further away from the isoatomic Li:Al 1:1 line compared to quartz in sample 13005, perhaps due to a more pronounced Li deficit in 11022. Since the determined Na contents are the same in quartz from both samples, quartz from sample 11022 must have a higher concentration of H^{+} than sample 13005 to charge balance this Li deficit. Tollan et al. (2019) described a core-to-rim decrease of H^{+} for sample 11022 and their published Li and Al data are in good agreement with the data in this study. The data of Tollan et al. (2019) indicates a diffusive exchange of H^{+} between quartz crystals and the surrounding melt as H^{+} decreases towards the rims of the crystals. Additional FTIR measurements of sample 13005 are required in order to determine if there is a close relationship between H^{+} and Li^{+} diffusion in the quartz crystals of MFT.

Reheating of the deposits by the overlying ignimbrite may offer an explanation for the wide range of Li concentrations in quartz, but no microlite growth in the groundmass glass was observed which would be indicative of a long cooling period of the sample and post-eruptive mobility was previously excluded for the pumice sample 13005 as no microlites where observed (Neukampf et al., 2020). Both

samples were collected only few meters apart and they should thus undergo a similar extent of reheating, and would, in all likelihood, preserve the same Li profiles.

An alternative explanation for the Li diffusion profiles in quartz from the sample 13005 could be that due to a general Li enrichment in the melt due to the continuous crystallisation of mineral phases and the general incompatibility of lithium into minerals the quartz crystals would grow Li-rich rims compared to the cores. This would then involve a diffusion of Li between Li-enriched rims and Li-depleted cores. However, the enrichment in Li of the melt would also affect the other mineral phases such as plagioclase and sanidine (Neukampf et al., 2019), whilst their Li systematics hint at a decrease of Li in the melt rather than an increase. Moreover, as discussed earlier, this cannot explain the >50% difference in Li concentration between the two quartz samples as it would require an unreasonable amount of melt differentiation. This is, however, unsupported by other geochemical proxies.

Charlier et al. (2012) reported the Li gradients in plagioclase and quartz for the rhyolitic Oruanui super eruption (Taupo, New Zealand) with an increase of Li towards the rims of feldspar and quartz and explained this by Li re-partitioning from fluid phase into the melt phase due to the extraction of chloride into the gas phase. However, this does not explain the reversed Li diffusion profiles observed for MFT quartz on one hand (Fig. 4.6B), and plagioclase and sanidine (Neukampf et al., 2019; Neukampf et al., 2020) on the other.

Magma mixing with a less evolved melt can be excluded as an explanation for the Li concentration differences in the quartz samples because their associated groundmass glass would differ in major- and trace element compositions. Moreover, due to a moderately incompatible character of Li, mixing of rhyolitic materials with a more mafic melt would lower the Li concentration towards the rim, while an opposite is observed. Additionally, none of the other minerals present in MFT (plagioclase, sanidine, clinopyroxene, orthopyroxene, olivine) indicate magma mixing or cumulate melting, which would equally decrease the Li concentration. Fluxing of a new volatile phase that is enriched in Li (e.g., plagioclase), described for Mount St. Helens by Berlo et al. (2004), Kent et al., (2007) and Rowe et al. (2008), can be excluded because it would again lead to Li-enriched and isotopically light rims in the feldspar crystals. It has been shown that ^{6}Li favours the vapour phase (Neukampf et al., 2020).

We propose a scenario where the core-to-rim diffusion profiles of Li concentrations in sample 13005 are caused by H^+ diffusing out of the quartz lattice into the melt and Li^+ diffusing inwards to replace these vacancies. The H^+ diffusing out of the quartz occurs due to H^+ moving into the vapour phase during degassing and thereby depleting the melt in H^+ leading to a disequilibrium between quartz and melt. This disequilibrium imparts diffusion of H^+ outwards which is then replaced by Li^+ diffusing into the quartz crystal lattice. This is supported by experiments from Audétat and Günther (1999) and other others who determined the rapid diffusion of H^+, Li^+ and Na^+ parallel to the c-axis and slower diffusion along a- and b-axis occurs when a gradient between quartz and melt is introduced. A way to test this hypothesis would entail measurements of the $\delta^{7}Li$ profiles in the quartz following the observation of Sartbaeva et al. (2005) who determined that ^{6}Li moves faster through quartz compared to ^{7}Li. However, this hypothesis cannot currently be tested using Li isotopes because no suitable $\delta^{7}Li$ quartz reference material is available for in situ analysis.

However, it is unclear which mechanism drives Li to move into the quartz lattice during degassing of the melt as it should move into the vapour phase. A reason why quartz crystals from sample 11022

have not formed Li diffusion profiles could be that they were not kept at lower pressures as long as the quartz crystals from sample 13005, which would also explain why they preserved their glassy melt inclusions.

4.5.3 Diffusion modelling

The Li diffusion profiles from quartz in sample 13005 can be used to estimate the time scales of the disequilibrium between melt and quartz. Quartz from the fallout sample 11022 is not considered due to the homogenous concentrations. The time scales calculated here should only be considered as an oversimplified approximation as only a single diffusion coefficient (D) value for Li along the c-axis in quartz at 720 °C was determined by Verhoogen (1952) ($D^{Li}=1.9\times10^{-11}$ m²/s) and verified more recently by Zajacz et al. (2009) ($D^{Li}=10^{-11}$ m²/s at 710 °C). Because no Arrhenius parameters for Li were experimentally determined it is impossible to recalculate the diffusion coefficient for the accurate temperatures of MFT (789 to 856 °C; Neukampf et al. 2020). The diffusivity of Li is strongly temperature-dependent as shown for plagioclase (Giletti and Shanahan, 1997), using the diffusion coefficient obtained for 720°C will result in the overestimation of the diffusion time scales for the Li diffusion profiles in quartz. In addition, the diffusion coefficient was only determined along the c-axis. Applying this coefficient to profiles along the a- and b-axis will result in an underestimation of the time scales. Orientation of the crystals during sample preparation in the mounts was not considered and most profiles were measured along the a- and b-axis. The time scales estimated for Li diffusion profiles (sample 13005 – this study, and Neukampf et al., 2019) (Fig. 4.6B) range from 2 to 150±20 minutes with a majority of the estimates longer than 40 minutes (n=21, average: 48 min). The measured concentration profiles and variations from short to long estimated time scales support the diffusional anisotropy of Li along different crystallographic axes which has been shown for olivine (Dohmen et al., 2010). The estimated time scales

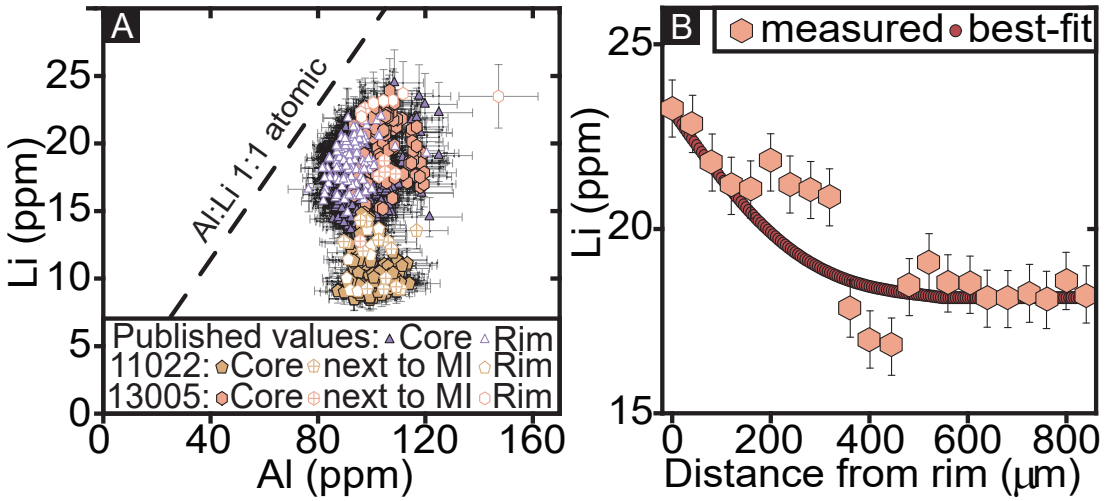

Fig. 4.6:(**A**) Plot of Li vs. Al with isoatomic Li:Al 1:1 line (substitution of $Si^{4+} \leftrightarrow Al^{3+} + Li^{+}$). Purple triangle (core: n=570; rim: n=148) represents data from Neukampf et al., (2019), the brown pentagram refers to the quartz sample with glassy melt inclusions (core: n=160; next to MI: n=13; rim: n=11) and the pink hexagon indicates the quartz with crystallised melt inclusions (sample 13005). (**B**) Example of a one-dimensional Li diffusion model for quartz (profile 1 shown in Fig 4.4A) with crystallised MIs. The pink hexagon represents (symbol size representing size of the analysed spot) the measured Li concentration and red circle the best-fit.

between 2 to 20 minutes are in a good agreement with the time scales estimated for Li diffusion in plagioclase from MFT which ranges from 1 to 15 minutes. Our findings are also in a good agreement with the estimates from Li diffusion in plagioclase from MFT and decompression time scales (<12 hours to 5 days) published for the Huckleberry Ridge Tuff (Myers et al., 2016).

4.6 Conclusions

This study shows that particular attention needs to be paid to the selection of melt inclusions for geochemical analyses and homogenisation of MIs can change their composition. The combination of lithium concentration, *in situ* δ^7Li measurements in quartz-hosted melt inclusions and groundmass glass and diffusion modelling of lithium concentration gradients in quartz could present a powerful tool to understand late stage magmatic processes. The results of this study suggest that the lithium concentration in quartz can double within hours and quartz-hosted melt inclusions do not necessarily preserve the original melt composition and trace element and isotopic composition can be overprinted prior to eruption during ascent due to changes in pressure and as a result of the diffusion of the different H species that need to be charge balanced. Earlier erupted material experienced less diffusion and re-equilibration, therefore preserved the glassy melt inclusion. Later erupted samples experience a longer diffusional exchange leading to the re-crystallisation of the melt inclusions and to a modification of the Li concentration of the host quartz. Further measurements are needed to confirm or exclude theories presented here and may change part of the interpretation.

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Chapter 5

Conclusions and outlook

5.1 Conclusion

In this thesis, I investigated the lithium distribution and isotopic composition between different mineral phases, groundmass glass and melt inclusions of a dry high-silica rhyolite from Yellowstone (USA) as a first detailed study of lithium in an evolved magmatic system. The smallest of the three caldera-forming eruptions, Mesa Falls Tuff, was used for all studies presented in my thesis as the samples were taken from the non-welded part of the eruption and, due to the fast quenching, post-eruptive modification can be excluded. Additionally, none of the minerals is strongly zoned in terms of major elements, making it a simpler system to study. This thesis covers different disciplines within Earth Sciences, e.g., geochemistry, volcanology, igneous petrology, by looking at high-temperature fractionation of lithium isotopes by applying different measurement techniques (MC−ICP−MS, fs−LA−MC−ICP−MS; SIMS). This thesis is one of the first studies to show that high-temperature kinetic isotopic fractionation in evolved magmatic systems exist and gives a systematic overview on the lithium distribution in an evolved magmatic system. Further, the applied measurement techniques can be used to identify economically important Li deposits, however, Mesa Fall Tuff does not represent an economically important Li deposit.

The lithium data of the different minerals and groundmass glass present in the Mesa Falls Tuff showed that lithium is variably incompatible, with quartz-hosted crystallised melt inclusions exhibiting the highest lithium concentration, followed by the groundmass glass and minimising with sanidine. Calculated apparent partition coefficients for lithium between the groundmass glass and the different mineral phases showed that lithium is most compatible in quartz and most incompatible in sanidine. Lithium isotopic composition measurements by MC−ICP−MS show that high-temperature fractionation can span over ~10‰ between different mineral phases and groundmass glass in one single eruption.

By studying plagioclase crystals from Mesa Falls Tuff, it is shown that a single phase can preserve high-temperature kinetic isotopic fractionation that spans over ~15‰ and is, therefore, greater than the fractionation between different mineral phases. The groundmass glass of Mesa Falls Tuff is the isotopically heaviest phase present, resulting from ^{6}Li fractionating into the vapour phase during vesiculation, thereby, depleting the melt in ^{6}Li and enriching it in ^{7}Li. The loss of lithium from the melt then led to the diffusion of ^{6}Li from the plagioclase rims into the melt, depleting the rims in ^{6}Li and resulting in a large isotopic fractionation within plagioclase crystals. This leads to the conclusion that disequilibrium between melt and mineral phases prior to eruption can result in large inter-mineral fractionation. Applying diffusion modelling to lithium concentration profiles and to the δ^{7}Li diffusion profiles can allow to determine the time scales in which this isotopic fractionation appeared and can help track late-stage magmatic processes. This can be applied to different magmatic systems, but magma mixing or cumulate melting needs to be excluded as it would change the isotopic signature that is preserved. Additionally, this shows that ^{6}Li can be lost from the systems due to degassing, and, therefore, the groundmass glass does not represent the original value of the melt, neither in concentration nor in the isotopic composition. However, to be able to apply this to other systems there is the need for more experimental studies on lithium diffusion coefficients that cover a wider range in feldspar composition as well as temperature and pressure. It also shows that collecting δ^{7}Li diffusion profile measurements by fs−LA−MC−ICP−MS combined with diffusion modelling is a powerful tool and should be used more routinely especially

when combined with concentration maps acquired by LA−ICP−MS. This technique could be applied to other caldera forming eruption, e.g., Kos Plateau Tuff to study which influence the geological setting (e.g., arc setting) has on the degassing time scales.

It was further shown that the lithium composition can not only be altered in feldspar but in quartz and quartz-hosted melt inclusions as well. Attention needs to be payed to the selection of melt inclusions and their interpretation. The lithium concentration in quartz appears to be linked to H_2O present in the quartz, but further measurements are needed to confirm this. Diffusion modelling showed that due to diffusional exchange between quartz crystals and melt, the lithium concentration in quartz can change within a few hours. Additionally, quartz-hosted melt inclusions do not necessarily preserve the isotopic composition of the melt and their composition can be changed due to lithium diffusion between host-quartz and melt inclusions. This leads to the conclusion that at magmatic temperature lithium diffusion within melt and crystals is fast and degassing of the melt induces disequilibrium resulting in lithium gradients within feldspars and quartz. However, the mechanism responsible for the enrichment in the quartz is not fully understood, as degassing should lead to a depletion of lithium from the quartz, as shown for the feldspar, rather than to an enrichment. Further measurements are needed to address this contradiction.

In conclusion, by using different *in situ* measurement techniques, preserved lithium compositional and isotopic zonation in different mineral phases that have formed at magmatic temperatures can be identified, while using column chemistry might mask inter-mineral fractionation. High-temperature kinetic isotopic fractionation of lithium can span over ~15‰ and the lithium concentration and isotopic composition of different minerals phases and melt can change within hours prior to eruption. The measurement techniques used in this thesis can also be applied to other volcanic eruptions (e.g., Bishop Tuff) and this would further contribute to the understanding of the lithium cycle.

When studying lithium isotopes, close attention needs to be payed to which processes they preserve and if they represent the actual magmatic values or if they were overprinted. Lithium and its isotopes is a powerful tool to study process that take place on short time scales. However, as it is a fast diffuser these primary signals of a process can be overprinted within a short time span. This is also crucial for studies that use lithium as geochemical tracer of crustal recycling as the lithium isotope ratios they obtain may not represent the processes they want to study. The applicability of lithium isotopes and Li concentration to study melt inclusions is limited as their primary signal can be overprinted by different processes which makes it very challenging to identify the original lithium isotopic composition. Selecting different eruption that have not undergone reheating and measuring melt inclusions that are bigger in size might minimise the effect of diffusion between melt inclusion and host mineral.

I hope that these results might inspire the development of more lithium reference materials, increasing the applicability of *in situ* measurements for minerals of different composition.

5.2 Outlook

The results I present in this thesis have significant implications for the lithium cycle in evolved magmatic systems, while also paving the way for new avenues of research as several questions remain unanswered and new ones have emerged. On one hand, there is still work needed to fully understand large scale processes that lead to the enrichment of lithium in evolved systems and the variations that

arise from different settings (e.g. arc setting vs. continental setting). On the other hand, processes happening on the crystal scale, e.g., δ^7Li diffusion in quartz, require further investigation. Some of this work is hindered by the lack of standards available for *in situ* measurements by SIMS.

My results from chapter 4 show that we still do not fully understand the diffusion of lithium and its isotopes in quartz. Therefore, a more detailed study of different eruptions is needed. A study of δ^7Li of glassy melt inclusions in different minerals and their associated groundmass glass from different eruptions and compositions would aid the formation of a more coherent picture and foster the understanding of the high and low δ^7Li that have been found by multiple authors. Additionally, experiments are needed to fully understand the enrichment of lithium in melt inclusions due to the loss of H^+. The factor by which lithium will be enriched in a quartz-hosted melt inclusion due to homogenizing them is unknown and needs to be determined. The development of a quartz standard for SIMS would further help to better understand the movement of lithium in quartz, as chapter 4 shows that lithium is diffusing out of the melt inclusions and SIMS measurements of δ^7Li profiles along the different axis in quartz could aid our understanding of lithium diffusion in quartz.

I show in chapter 2 and 4 that dry high-silica rhyolite has around 40 ppm of lithium in the groundmass glass and the same trend of lithium enrichment in the groundmass glass has the wet high silica rhyolite of Kos Plateau Tuff. Fiedrich et al. (2020), who also used the LA−ICP−MS to determine the trace element concentrations, found that for Kos Plateau Tuff the quartz crystals vary in lithium concentration from ~4 ppm in the pumice quartz to between 6 and 16 ppm in the granite sample, this differs from the results of the quartz crystals of Mesa Falls Tuff that have up to 25 ppm of lithium. The mechanism by which lithium is incorporated into the quartz lattice is, thus, still not fully understood. Richter et al., 2003, Richter et al., 2006 and Holycross et al., 2018 have shown that ^{6}Li diffuses 3% faster than ^{7}Li in dry rhyolite and 3.5% faster in wet rhyolite. My results suggest that a similar behaviour could be found for lithium isotope diffusivity in quartz. Experiments are needed to understand if the different diffusivity can lead to different enrichment of Li in the mineral phases that are present or if higher H_2O content in quartz leads to less lithium as more aluminium is charge balanced by H^+.

Furthermore, the Kos Plateau Tuff also presents mica minerals, which incorporated large amounts of lithium. Lynton et al., (2005) studied the partition behaviour of lithium between quartz, mica and fluid and showed that there is a significant isotopic fractionation in this system and that lithium exchange is more rapid in quartz compared to muscovite. However, this study only looks at a temperature range of 400 to 500°C and pressures of 50–100 MPa. Extending this study to a wider temperature and pressure range and applying this to the system of quartz-mica-melt could help to understand the enrichment of lithium in pegmatites and the differences of lithium composition between wet and dry rhyolites.

In chapters 2, 3 and 4 I predict that ^{6}Li fractionates into the vapour phase. This had been theoretically predicted by Watson (2017), but so far only one study has measured the lithium isotopic composition of gas (Vlastelic et al., 2011). Experiments and measurements of natural gasses are needed to fully understand the extent to which lithium diffuses into the vapour phase and how much lithium is lost from the magmatic system due to degassing.

Thus, more experimental work in addition to studying different systems at different scales and settings will help to improve our understanding of the lithium cycle between the Earth's interior and exterior reservoirs.

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Appendix

Appendix A: Supplementary material for Chapter 2

A1: Major and trace element data of phases from MFT

Table A1.1: Major elements - groundmass glass

	SiO_2	Na_2O	CaO	K_2O	FeO	Al_2O_3	Cr_2O_3	TiO_2	MnO	MgO	P_2O_5	Total
MFT_Mount 1 grain 2 - 1	73.83	2.92	0.47	5.11	1.20	11.72	0.05	0.12	0.05	0.08	0.10	95.66
MFT_Mount 1 grain 2 - 2	74.51	3.04	0.37	5.20	1.14	11.89	0.00	0.12	0.12	0.04	0.00	96.43
MFT_Mount 1 grain 2 - 4	75.04	2.62	0.55	5.29	1.16	11.39	0.03	0.16	0.03	0.02	0.00	96.27
MFT_Mount 1 grain 2 - 5	74.11	2.73	0.45	5.55	1.03	11.36	0.05	0.14	0.03	0.01	0.05	95.51
MFT_Mount 1 grain 6 - 2	74.02	3.01	0.54	5.05	1.13	11.43	0.01	0.11	0.12	0.04	0.13	95.58
MFT_Mount 1 grain 6 - 3	73.17	2.94	0.52	5.16	1.28	12.02	0.05	0.14	0.00	0.00	0.01	95.29
MFT_Mount 1 grain 6 - 4	74.46	2.87	0.38	5.55	1.19	11.61	0.00	0.08	0.05	0.00	0.00	96.20
MFT_Mount 1 grain 7 - 4	74.05	2.94	0.40	5.21	1.22	11.64	0.01	0.12	0.06	0.05	0.08	95.77
MFT_Mount 1 grain 7 - 5	73.97	3.20	0.56	5.21	1.21	11.57	0.04	0.17	0.02	0.00	0.07	96.02
MFT_Mount 1 grain 12 - 5	74.48	2.79	0.51	5.14	1.19	11.70	0.00	0.14	0.00	0.00	0.04	95.99
MFT_Mount 2 grain 1 - 4	74.82	2.52	0.27	6.26	0.88	11.68	0.07	0.18	0.07	0.05	0.10	96.90
MFT_Mount 2 grain 2 - 2	75.01	3.00	0.34	5.61	1.25	11.94	0.00	0.15	0.00	0.06	0.00	97.36
MFT_Mount 2 grain 2 - 3	74.19	2.94	0.53	5.06	1.17	11.61	0.00	0.15	0.10	0.02	0.06	95.83
MFT_Mount 2 grain 2 - 4	76.00	2.98	0.42	5.56	1.28	11.57	0.08	0.14	0.08	0.08	0.00	98.19
MFT_Mount 2 grain 3 - 1	74.58	2.86	0.39	5.27	1.27	11.79	0.02	0.13	0.00	0.03	0.00	96.35
MFT_Mount 2 grain 3 - 2	73.98	2.96	0.49	5.01	1.09	11.43	0.00	0.15	0.05	0.03	0.10	95.28
MFT_Mount 2 grain 3 - 4	74.85	2.83	0.41	5.44	1.13	11.67	0.00	0.15	0.00	0.00	0.03	96.50
MFT_Mount 2 grain 4 -1	74.03	2.76	0.38	5.43	1.20	11.43	0.03	0.08	0.08	0.04	0.00	95.46
MFT_Mount 2 grain 4 -3	74.27	2.87	0.41	5.71	1.27	11.52	0.00	0.14	0.01	0.01	0.02	96.24
MFT_Mount 2 grain 4 -4	74.22	3.20	0.48	5.01	1.25	11.65	0.00	0.07	0.06	0.08	0.00	96.02
MFT_Mount 2 grain 5 - 4	73.92	2.73	0.44	5.05	1.23	11.45	0.01	0.07	0.00	0.07	0.05	95.02
MFT_Mount 2 grain 6 - 1	74.45	3.10	0.51	5.04	1.31	11.37	0.00	0.10	0.04	0.04	0.01	95.97
MFT_Mount 2 grain 6 - 2	74.46	2.67	0.39	5.65	1.05	11.42	0.00	0.13	0.01	0.01	0.00	95.79
MFT_Mount 2 grain 6 - 3	74.51	2.75	0.44	5.44	1.23	11.55	0.00	0.10	0.06	0.00	0.00	96.07
MFT_Mount 2 grain 6 - 4	74.79	2.95	0.39	5.55	1.23	11.88	0.00	0.15	0.00	0.01	0.03	96.99
MFT_Mount 2 grain 6 - 5	74.46	2.93	0.45	5.39	1.19	11.66	0.05	0.14	0.00	0.01	0.11	96.39
MFT_Mount 2 grain 7 - 1	74.40	3.11	0.43	5.18	1.29	11.46	0.00	0.12	0.04	0.00	0.10	96.14
MFT_Mount 2 grain 7 - 2	74.30	2.81	0.57	4.95	1.37	11.38	0.00	0.11	0.08	0.02	0.02	95.61
MFT_Mount 2 grain 7 - 5	73.66	3.23	0.54	5.03	1.24	11.45	0.02	0.18	0.00	0.08	0.04	95.48
MFT_Mount 2 grain 9 - 8	74.54	2.60	0.35	5.75	1.20	11.71	0.00	0.14	0.06	0.02	0.00	96.38
MFT_Mount 2 grain 10 - 1	73.98	2.94	0.41	5.23	1.04	11.75	0.03	0.16	0.08	0.00	0.08	95.71
MFT_Mount 2 grain 10 - 3	73.75	2.65	0.39	5.73	1.01	11.35	0.02	0.12	0.07	0.02	0.00	95.10
MFT_Mount 2 grain 10 - 4	74.39	2.87	0.46	5.36	1.16	11.50	0.00	0.11	0.06	0.07	0.08	96.07
MFT_Mount 2 grain 10 - 5	74.32	2.96	0.48	5.20	1.23	11.67	0.00	0.15	0.00	0.00	0.00	96.01
MFT_Mount 2 grain 11 - 1	74.79	2.80	0.42	5.65	1.09	11.90	0.08	0.10	0.07	0.02	0.00	96.92
MFT_Mount 2 grain 11 - 2	74.36	3.21	0.45	5.16	1.36	11.47	0.01	0.10	0.05	0.00	0.00	96.17
MFT_Mount 2 grain 12 - 1	74.52	2.74	0.39	5.21	1.25	11.90	0.00	0.11	0.10	0.08	0.00	96.30
MFT_Mount 2 grain 12 - 2	74.15	3.10	0.54	4.97	1.24	11.57	0.00	0.15	0.04	0.02	0.02	95.79
MFT_Mount 2 grain 12 - 5	73.88	2.72	0.45	5.09	1.16	11.78	0.01	0.13	0.02	0.01	0.02	95.26
MFT_Mount 2 grain 15 - 2	74.78	3.31	0.48	5.05	1.21	11.82	0.02	0.10	0.00	0.05	0.00	96.81
MFT_Mount 2 grain 15 - 3	74.71	2.52	0.33	5.74	0.94	12.10	0.00	0.18	0.04	0.04	0.00	96.59
MFT_Mount 2 grain 15 - 5	74.03	3.22	0.53	4.99	1.12	11.56	0.02	0.09	0.00	0.03	0.01	95.62
MFT_Mount 2 grain 15 - 6	74.87	2.61	0.53	5.68	0.97	11.54	0.09	0.12	0.05	0.06	0.00	96.53

Table A1.2: Trace elements - groundmass glass

Sample#-grain#	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
MFT_Mount 1 grain 2 - 1	50.3	46.9	23793	370	69514	359948	46.3	59500	3919	3.1	719	0.4	243	13338	245.6	9.7	75.2	176.3	56.7	5.9	91.0	80.0	152.5	16.6	58.4	12.2	0.4	11.3	2.0	13.0	2.6	8.0	1.1	7.2	1.1	6.9	4.1	38.5	32.0	7.6
MFT_Mount 1 grain 2 - 5	46.4	45.1	20009	560	79026	359948	44.7	69620	3543	2.8	801	1.0	232	12119	258.6	20.9	87.9	189.5	63.1	8.5	143.5	83.8	156.0	17.0	62.9	13.0	0.4	12.9	2.1	14.8	3.1	8.5	1.2	8.5	1.1	7.1	4.3	44.2	34.0	7.2
MFT_Mount 1 grain 5 - 1	45.8	41.2	23610	509	72990	359948	34.9	63731	3965	2.6	772	1.5	241	12358	250.7	13.9	77.1	195.7	62.7	7.2	131.7	81.5	157.3	17.0	60.0	12.0	0.4	11.1	2.0	13.4	2.7	8.0	1.1	7.3	1.0	7.9	4.3	37.5	32.7	7.7
MFT_Mount 1 grain 6 - 4	52.8	46.6	22736	387	74308	359948	45.3	63188	4107	2.8	754	0.4	238	12017	253.0	13.1	75.1	175.5	58.1	6.8	122.7	81.1	151.4	16.9	59.9	12.2	0.4	11.6	1.9	13.1	2.7	7.7	1.1	7.6	1.0	7.2	4.0	38.9	32.2	7.8
MFT_Mount 1 grain 6 - 5	47.4	40.0	22782	288	70731	359948	39.6	67433	3868	2.4	731	0.2	236	11220	252.6	10.3	71.6	176.2	56.9	5.8	108.0	80.8	153.5	16.3	57.6	11.5	0.3	11.1	1.9	11.9	2.5	7.4	1.1	7.2	1.0	6.9	3.9	34.1	31.6	7.4
MFT_Mount 1 grain 8 - 7	36.6	38.2	21669	365	65440	359948	33.8	63413	3492	2.9	655	0.3	222	10303	256.0	12.2	68.5	157.7	52.8	7.4	113.7	73.6	137.8	15.0	54.7	11.3	0.4	9.9	1.8	10.9	2.2	6.6	0.9	6.3	0.9	6.3	3.7	41.5	29.3	7.2
MFT_Mount 1 grain 9 - 1	36.9	39.1	22119	246	62359	359948	31.9	59369	3823	2.6	647	0.3	224	10428	236.3	9.8	64.1	155.1	52.8	5.3	119.4	72.3	140.4	15.2	51.1	10.5	0.3	9.6	1.6	11.1	2.3	6.3	0.9	6.2	0.9	6.5	3.7	36.8	28.6	7.3
MFT_Mount 1 grain 9 - 3	45.1	38.8	22439	290	64156	359948	42.2	64461	2757	2.4	665	0.2	232	10075	250.2	9.8	64.6	155.7	52.7	5.9	121.9	72.6	139.0	15.0	52.5	11.6	0.3	9.1	1.7	10.8	2.3	6.9	1.0	6.7	0.9	6.7	3.9	42.7	30.0	7.4
MFT_Mount 1 grain 10 - 1	39.6	39.5	22245	578	76694	359948	30.5	66538	3693	3.4	787	1.0	235	10941	253.7	15.4	77.7	188.9	61.6	7.6	120.1	82.2	156.0	17.7	56.7	12.3	0.3	11.0	2.0	13.3	2.8	7.6	1.1	8.0	1.1	7.1	4.1	39.2	32.7	7.4
MFT_Mount 1 grain 13 - 1	49.5	51.0	21596	686	82851	359948	44.7	58130	3475	3.4	852	0.8	217	12215	251.5	30.3	84.8	189.8	62.7	8.1	217.6	83.9	156.1	17.3	65.0	12.8	0.4	12.6	2.1	14.1	2.8	8.2	1.3	7.8	1.1	7.3	4.3	43.8	32.8	7.5
MFT_Mount 1 grain 14 - 1	39.3	45.1	23630	455	69221	359948	50.1	55513	3840	2.8	756	1.3	249	12828	255.8	11.1	74.0	178.5	60.3	6.6	108.8	82.0	156.8	16.7	58.2	12.9	0.3	10.7	2.0	12.3	2.7	7.4	1.1	7.6	1.0	7.3	3.9	40.4	32.4	7.8
MFT_Mount 1 grain 15 - 2	44.2	44.4	23656	448	70306	359948	42.4	53125	3741	2.8	761	0.4	239	12255	244.8	11.9	74.9	181.0	57.4	5.2	114.1	82.9	157.2	17.0	57.9	11.9	0.4	10.6	2.0	13.1	2.7	7.5	1.2	7.6	1.0	7.1	4.1	36.2	33.2	7.6
MFT_Mount 1 grain 15 - 3	47.5	47.4	23017	377	70842	359948	34.0	55232	3683	2.8	751	0.3	241	12425	257.1	13.8	73.7	174.3	57.2	6.3	118.2	80.6	149.5	16.5	55.6	11.0	0.3	10.8	1.9	11.9	2.5	7.4	1.1	7.5	1.0	6.5	3.9	39.9	31.5	7.5
MFT_Mount 1 grain 15 - 4	48.8	49.7	23893	419	74543	359948	61.5	56822	3367	3.1	764	0.4	243	12324	257.3	14.7	77.3	181.0	58.9	5.7	121.1	85.1	155.6	17.4	60.4	12.4	0.4	11.9	2.0	12.9	2.6	7.8	1.1	7.5	1.0	7.2	4.2	37.8	33.9	7.9
MFT_Mount 1 grain 17 - 3	44.9	45.2	26397	242	68414	359948	43.3	50727	3616	3.0	733	0.2	243	12742	241.2	8.8	71.7	172.2	55.9	4.7	115.8	80.8	154.1	16.6	55.7	11.4	0.3	10.7	1.9	12.4	2.5	7.5	1.0	7.1	1.0	6.9	3.9	40.2	32.3	7.8
MFT_Mount 1 grain 17 - 4	41.9	44.8	25152	777	77144	359948	55.2	54000	3727	3.1	850	2.3	235	14307	240.8	21.9	99.3	193.2	63.8	7.5	167.1	93.0	161.6	19.5	67.6	14.9	0.4	14.3	2.4	15.1	3.2	8.8	1.4	9.3	1.2	7.1	4.2	49.9	35.3	7.1
MFT_Mount 1 grain 17 - 5	47.1	45.5	28358	354	75566	359948	47.1	53785	3963	3.1	744	0.6	244	12635	242.4	13.9	77.9	181.0	56.7	5.5	131.0	85.5	159.6	17.2	61.2	13.0	0.4	11.5	2.1	13.4	2.8	7.7	1.2	7.6	1.1	7.0	4.0	43.0	32.7	7.3
MFT_Mount 1 grain 19 - 3	32.7	39.1	22168	371	72658	359948	39.6	60328	3471	2.9	767	0.4	241	11408	266.6	14.5	81.7	183.5	62.0	6.9	128.2	85.9	159.9	17.6	61.2	12.8	0.3	12.8	2.1	14.3	2.8	8.0	1.2	8.1	1.2	7.1	4.1	39.9	34.0	7.8
MFT_Mount 1 grain 19 - 4	45.0	46.4	22821	444	73113	359948	51.1	60657	3074	2.9	782	0.5	239	12674	260.5	14.1	75.5	176.8	59.3	7.0	121.5	80.6	152.0	16.7	57.5	11.9	0.3	11.2	1.9	13.2	2.6	7.8	1.1	7.6	1.0	7.0	4.0	39.7	31.9	7.7
MFT_Mount 1 grain 19 - 6	42.7	45.1	23962	317	68989	359948	36.3	53018	3526	2.7	707	0.2	243	11954	245.7	10.0	73.1	175.1	56.9	6.2	106.7	80.2	153.2	16.5	57.4	12.1	0.3	11.1	1.9	12.4	2.6	7.6	1.1	7.4	1.0	7.1	4.1	37.6	32.2	7.8
MFT_Mount 1 grain 20 - 3	38.5	42.2	22123	374	67749	359948	48.8	58754	2639	2.7	714	0.5	242	11240	265.9	13.8	64.6	158.9	55.3	7.4	112.3	75.7	142.2	14.8	52.9	10.5	0.3	10.2	1.6	10.8	2.3	6.6	1.0	6.7	0.9	5.8	3.7	46.2	28.7	7.1
MFT_Mount 1 grain 21 - 3	35.1	44.9	25486	287	71340	359948	29.4	54447	4295	2.7	766	0.3	251	11454	248.2	9.7	75.6	180.0	57.4	5.1	99.8	85.4	159.0	17.5	59.4	12.7	0.4	11.6	2.0	12.8	2.7	7.7	1.1	7.3	1.1	6.8	3.9	35.7	32.4	7.6
MFT_Mount 1 grain 22 - 3	50.7	44.8	22247	510	74778	359948	50.5	58016	3929	2.6	802	0.5	248	11578	250.6	16.3	77.0	180.8	60.6	6.4	149.2	83.4	155.6	16.9	61.4	12.2	0.4	11.8	2.0	13.1	2.7	7.6	1.1	7.6	1.0	7.4	4.4	41.7	32.6	7.6
MFT_Mount 1 grain 22 - 5	46.8	36.4	22845	254	62913	359948	20.9	52027	3782	2.5	689	0.3	226	10774	230.4	10.5	64.0	155.3	54.0	5.0	122.4	73.3	142.5	15.3	52.1	11.1	0.4	10.2	1.8	11.2	2.3	7.0	1.0	6.4	0.9	6.3	3.7	37.1	29.6	7.4
MFT_Mount 1 grain 23 - 2	39.9	43.1	23449	497	75126	359948	44.9	56035	3530	2.6	811	1.9	236	11022	248.1	15.4	75.4	179.1	58.6	6.1	138.2	83.5	153.8	16.9	59.0	12.3	0.5	11.0	2.0	12.5	2.6	7.5	1.1	7.6	1.0	7.1	3.9	35.2	31.4	7.3
MFT_Mount 1 grain 24 - 4	35.7	41.7	20692	535	73386	359948	59.9	60333	2767	3.1	747	0.7	212	9736	253.2	15.7	74.8	175.0	57.3	7.2	125.2	80.5	144.6	16.7	57.4	13.0	0.3	11.0	2.0	12.3	2.5	7.5	1.1	7.4	1.1	6.6	4.1	44.9	32.0	7.3
MFT_Mount 1 grain 24 - 5	38.4	44.0	22012	483	74184	359948	57.2	58488	3630	2.8	733	0.6	240	11173	251.3	14.4	80.6	170.3	60.9	7.9	115.1	77.4	146.9	16.2	76.0	12.6	0.3	10.9	1.9	11.9	2.9	7.0	1.0	7.3	1.0	6.4	4.1	39.1	30.6	8.2
MFT_Mount 1 grain 25 - 1	43.5	46.3	22952	526	74567	359948	76.4	54830	3501	2.9	820	1.1	219	11857	239.0	15.3	83.1	186.9	62.4	6.8	122.3	86.3	153.2	18.6	65.2	13.2	0.3	13.0	2.2	14.6	2.9	8.3	1.2	8.0	1.2	7.3	4.3	41.3	34.3	7.4
MFT_Mount 1 grain 25 - 2	45.3	43.6	22321	428	71775	359948	55.7	58977	3448	2.9	774	0.5	222	11153	247.2	14.1	75.1	168.3	57.9	7.7	149.6	83.2	144.7	16.7	58.6	11.8	0.3	11.0	2.0	12.7	2.7	7.7	1.1	7.4	1.0	6.7	4.0	39.4	31.4	7.2
MFT_Mount 1 grain 25 - 6	41.4	43.5	21538	371	72713	359948	29.5	58138	2725	3.0	792	0.4	213	10547	247.4	12.5	76.6	176.9	58.3	5.4	137.7	82.4	151.0	16.9	58.7	12.6	0.3	12.0	1.9	12.7	2.6	8.4	1.1	7.8	1.1	7.1	4.1	38.5	32.2	7.5
MFT_Mount 1 grain 26 - 1	50.0	47.5	24697	386	71525	359948	37.7	52864	3924	2.8	747	0.3	247	11127	235.7	12.0	73.3	175.3	55.9	5.0	141.7	80.8	152.3	16.8	57.3	12.0	0.4	11.0	1.9	12.0	2.6	7.4	1.1	6.9	1.0	6.9	3.8	35.5	31.9	7.4
MFT_Mount 1 grain 26 - 2	40.0	40.4	22128	357	67960	359948	63.9	53520	3524	2.3	700	0.5	230	11732	233.6	14.8	74.7	166.3	56.6	5.5	148.3	80.2	146.7	16.4	57.7	12.6	0.4	10.1	2.0	12.7	2.6	8.1	1.1	7.7	1.0	6.7	3.8	39.5	31.4	7.1
MFT_Mount 1 grain 26 - 5	42.3	44.5	20295	598	74366	359948	76.2	60714	3230	2.8	738	1.2	219	11011	249.7	25.8	83.9	161.6	55.8	8.1	182.2	81.1	130.7	16.8	59.0	11.7	0.4	12.1	2.2	12.7	2.6	7.2	1.0	6.6	1.0	6.3	3.7	45.6	29.2	6.1
MFT_Mount 1 grain 29 - 1	48.3	42.2	21445	377	70696	359948	46.0	62381	3384	2.7	703	0.5	224	10172	263.2	15.0	72.3	170.7	56.6	6.9	126.3	79.8	149.3	16.0	58.2	11.7	0.3	10.9	1.9	11.5	2.7	7.3	1.0	6.8	1.0	6.9	4.1	40.4	30.5	7.2
MFT_Mount 1 grain 30 - 1	47.1	43.8	22932	298	70594	359948	30.9	61425	3678	2.7	750	0.2	236	10185	252.0	11.0	73.1	176.5	58.2	6.0	116.2	79.6	153.5	16.0	57.3	11.8	0.3	10.9	1.8	11.9	2.5	7.5	1.0	6.8	1.0	6.9	4.2	40.0	32.0	7.6
MFT_Mount 1 grain 30 - 4	42.5	38.4	21672	286	62444	359948	45.9	62502	2869	2.2	660	0.2	226	9662	256.6	11.1	63.7	157.3	53.3	7.1	111.1	71.2	136.5	14.4	50.2	10.5	0.3	9.1	1.7	10.2	2.3	6.8	0.9	6.0	0.9	6.1	3.8	43.0	28.2	7.1
MFT_Mount 1 grain 30 - 6	43.4	44.3	21066	388	75614	359948	33.8	65053	3114	2.9	785	0.5	226	11148	257.9	16.4	74.3	181.8	60.4	7.0	148.8	80.7	151.5	16.6	56.5	11.8	0.3	11.3	1.8	11.9	2.6	7.4	1.1	7.5	1.0	7.3	4.2	40.2	31.7	7.4
MFT_Mount 1 grain 30 - 7	36.2	36.1	21180	274	63959	359948	25.7	59484	3459	3.0	668	0.3	229	10071	242.5	10.7	66.6	162.5	53.3	5.6	116.2	76.5	146.8	15.7	55.3	11.7	0.3	10.2	1.8	11.6	2.4	7.2	1.0	7.0	1.0	6.6	3.8	40.2	30.4	7.6
MFT_Mount 1 grain 32 - 2	40.6	42.5	21685	539	70724	359948	38.8	62603	3085	3.1	750	0.6	227	13220	252.6	16.3	82.8	182.1	58.3	7.0	144.5	81.6	152.8	17.0	59.9	12.7	0.4	12.1	2.1	13.5	2.8	8.1	1.3	8.3	1.1	7.6	4.1	40.8	34.5	7.8
MFT_Mount 2 grain 1 - 1	39.9	39.4	21243	303	67550	359948	23.5	63322	3425	2.5	711	0.2	230	10403	257.1	12.8	70.3	171.2	55.0	6.8	118.6	80.4	149.7	15.8	54.7	11.0	0.3	10.4	2.0	11.3	2.5	7.0	1.1	6.9	0.9	6.7	3.9	37.7	31.1	7.6
MFT_Mount 2 grain 1 - 3	39.2	44.4	19920	443	71035	359948	40.9	63343	3086	2.7	753	0.6	222	10064	248.1	16.3	67.5	169.2	59.9	7.6	139.2	75.2	139.6	15.0	53.3	10.6	0.3	10.5	1.7	11.6	2.5	7.6	1.1	6.7	0.9	6.9	4.0	48.5	29.3	7.2
MFT_Mount 2 grain 2 - 1	40.2	44.0	22360	341	70270	359948	36.5	63829	3219	2.9	750	0.1	238	10068	256.3	10.7	74.6	178.0	57.5	6.2	99.4	83.2	151.9	16.7	59.2	12.4	0.3	11.0	2.0	11.9	2.6	7.6	1.1	7.3	1.0	7.5	4.0	39.6	32.6	7.6
MFT_Mount 2 grain 2 - 2	40.4	43.7	22711	307	71452	359948	42.1	62447	3597	2.8	748	0.2	234	10613	248.0	11.9	74.7	180.1	59.8	6.2	109.0	88.3	155.6	16.3	58.9	16.2	0.4	11.2	2.0	12.7	2.8	7.9	1.1	7.4	1.1	7.2	4.2	35.6	33.3	7.8
MFT_Mount 2 grain 3 - 1	38.2	37.3	19595	301	67567	359948	24.8	64444	2832	2.7	699	0.3	202	9032	253.2	13.4	64.4	162.4	55.2	7.0	121.3	71.8	138.9	14.7	50.3	10.4	0.3	9.6	1.7	11.4	2.4	6.4	1.0	6.8	0.9	6.4	3.8	45.8	28.8	7.1
MFT_Mount 2 grain 3 - 3	37.4	36.5	18066	624	81027	359948	68.7	67078	3183	3.0	813	0.8	206	10474	281.0	27.1	83.9	185.8	64.6	11.1	183.0	83.2	138.8	18.0	62.4	13.8	0.3	12.3	2.1	13.2	2.7	8.1	1.2	7.7	1.1	7.4	4.4	52.3	31.3	7.0
MFT_Mount 2 grain 3 - 5	32.7	38.9	21588	351	68049	359948	25.7	60871	3273	2.6	709	0.4	225	10809	255.7	13.3	72.1	167.5	57.7	7.5	111.3	76.4	147.1	15.7	55.5	11.9	0.3	10.7	1.9	12.6	2.6	7.3	1.0	7.5	1.1	6.9	4.1	36.9	31.5	7.7

Table A1.2: continued

	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
MFT_Mount 2 grain 5 - 1	44.3	41.4	22726	294	71118	359948	35.6	58068	3728	3.0	748	0.3	234	10268	250.2	10.7	75.3	180.5	57.3	5.7	114.0	83.3	157.4	16.8	59.4	12.8	0.4	11.7	2.0	12.6	2.6	8.2	1.2	7.4	1.1	7.3	4.1	34.0	33.5	7.8
MFT_Mount 2 grain 5 - 2	45.4	42.4	21971	321	69543	359948	43.7	58652	3796	2.8	701	0.2	248	11168	254.0	11.6	74.3	171.0	58.6	6.1	118.3	81.5	151.8	16.1	57.5	12.2	0.4	10.6	1.8	12.5	2.7	7.6	1.0	7.0	1.0	6.7	4.1	42.0	32.0	7.5
MFT_Mount 2 grain 5 - 3	40.2	43.8	23910	266	70054	359948	34.3	56328	3291	2.4	746	0.2	238	10010	250.2	9.6	74.8	179.8	57.3	5.4	109.9	84.2	159.3	17.1	61.5	12.6	0.4	11.3	2.0	13.3	2.7	8.0	1.1	7.4	1.1	7.1	4.1	35.0	33.7	8.0
MFT_Mount 2 grain 7 - 1	37.9	37.1	19113	757	77728	359948	37.1	61288	3334	2.8	784	0.5	201	9934	267.9	23.6	79.5	182.2	60.2	9.3	162.3	81.1	148.4	16.5	58.7	12.5	0.3	11.7	1.9	13.1	2.9	8.2	1.1	8.0	1.1	7.1	4.0	46.6	32.1	7.2
MFT_Mount 2 grain 7 - 3	43.5	43.0	20973	583	74798	359948	38.1	57201	3434	3.1	764	0.4	216	12164	249.7	14.3	76.9	180.0	58.8	6.4	147.6	81.8	151.3	17.0	60.1	12.8	0.4	11.7	2.0	12.6	2.8	7.9	1.2	7.7	1.0	7.3	4.1	39.1	33.3	7.7
MFT_Mount 2 grain 8 - 3	35.1	42.3	21651	378	72164	359948	38.4	56522	2849	2.8	751	0.5	214	11291	252.2	13.6	72.0	176.5	58.4	7.1	130.2	78.1	150.9	15.9	56.1	11.6	0.3	10.1	1.9	12.6	2.6	7.7	1.2	7.0	1.1	7.2	4.0	38.7	31.4	7.7
MFT_Mount 2 grain 8 - 4	38.8	37.5	20628	298	67978	359948	39.5	62052	3093	2.6	697	0.2	219	9995	263.9	12.5	68.6	165.5	55.5	7.1	123.2	78.4	147.9	15.7	56.1	11.4	0.3	10.7	1.7	11.9	2.4	7.1	1.0	7.1	0.9	6.5	3.6	37.7	30.2	7.1
MFT_Mount 2 grain 9 - 7	36.9	41.3	22585	269	70812	359948	30.9	55660	3887	2.6	711	0.3	233	10814	241.8	10.5	71.1	173.4	55.2	5.4	101.4	80.8	152.8	16.6	59.1	12.0	0.3	11.4	2.1	12.5	2.6	7.5	1.2	7.3	1.0	6.9	4.0	35.7	32.0	7.6
MFT_Mount 2 grain 9 - 9	42.7	41.9	21316	602	70913	359948	25.4	59224	3021	2.6	738	0.6	218	11685	251.8	19.1	72.1	170.5	59.1	7.6	144.1	78.9	142.7	16.3	58.1	11.6	0.3	11.2	1.9	11.8	2.5	7.3	1.1	7.1	1.0	6.6	3.8	37.6	30.3	7.0
MFT_Mount 2 grain 10 - 2	42.9	44.2	22869	275	69953	359948	30.4	59773	3214	2.6	729	0.2	241	10389	254.8	11.1	70.4	175.7	57.4	5.7	106.6	80.7	155.3	16.7	58.9	12.4	0.3	11.0	1.8	12.5	2.6	7.4	1.1	7.5	1.1	6.9	4.2	37.3	32.3	7.8
MFT_Mount 2 grain 11 - 2	47.6	47.6	24128	280	71056	359948	45.7	55041	3939	2.8	739	0.2	241	11952	249.9	9.5	75.4	179.7	59.8	5.9	104.4	84.0	158.5	17.5	61.9	12.7	0.4	11.8	2.0	13.1	2.6	8.0	1.2	7.9	1.1	7.5	3.9	40.9	33.7	8.0
MFT_Mount 2 grain 11 - 3	46.1	45.5	23501	331	72735	359948	35.5	58667	3539	3.2	756	0.3	242	11874	256.4	11.3	79.1	192.8	60.3	5.9	124.3	88.5	168.4	18.4	62.4	13.5	0.4	12.0	2.1	13.8	3.0	8.1	1.2	7.8	1.2	7.5	4.2	40.3	35.7	8.2
MFT_Mount 2 grain 12 - 3	33.3	36.6	19825	583	72066	359948	41.9	63381	3208	3.2	741	0.6	230	12594	261.0	17.6	76.5	171.4	57.5	8.4	154.1	83.5	142.8	16.9	61.1	12.6	0.4	11.6	2.0	12.5	2.5	7.5	1.1	7.2	1.0	6.8	4.1	41.7	31.8	7.3
mtf-16 - 3	50.6	46.5	19052	786	78138	359948	59.9	55261	3580	2.8	769	0.8	230	13531	260.8	23.9	75.9	169.2	62.0	15.3	179.7	73.9	132.0	15.8	54.0	13.0	0.4	11.5	2.1	12.3	2.5	7.3	1.1	6.4	1.0	6.7	4.7	52.7	28.0	6.3
mtf-16 - 4	50.3	48.7	20563	645	83955	359948	55.5	60288	3555	3.1	792	0.6	259	14614	258.9	18.8	78.6	181.8	61.6	9.1	160.0	82.7	141.3	17.1	59.9	13.5	0.4	13.1	2.0	12.8	2.7	7.4	1.1	7.4	1.0	6.8	4.3	44.3	30.9	6.7
mtf-13 - 2	44.8	40.1	22623	463	80575	359948	53.5	61039	3900	3.0	761	0.8	286	10452	259.8	24.0	83.1	181.8	60.7	7.3	220.7	83.6	164.6	17.2	62.0	12.6	0.4	12.5	2.0	12.6	2.7	7.8	1.1	8.0	0.9	6.5	3.9	45.1	31.7	6.6
mtf-11 - 1	42.0	42.4	22694	325	76196	359948	35.1	61591	3906	3.0	772	0.5	226	9413	267.7	14.1	81.6	186.4	58.0	6.9	125.6	87.1	153.1	17.4	63.8	12.0	0.3	12.1	1.9	13.5	2.9	7.5	1.0	7.2	1.2	6.7	3.9	37.0	31.4	7.1
mtf-11 - 3	51.8	49.9	21475	461	81641	359948	51.6	59431	3781	3.3	820	0.6	241	11353	263.3	17.7	92.5	195.9	63.3	10.8	156.0	94.6	163.3	20.8	71.0	14.3	0.5	14.4	2.4	15.5	3.1	9.0	1.3	8.5	1.2	7.0	4.3	42.6	35.1	7.1
mtf-10 - 1	46.4	43.2	21283	456	76016	359948	35.8	62417	3225	3.1	751	0.7	216	11572	269.9	20.6	81.2	185.1	59.1	8.4	211.2	81.5	151.4	16.5	58.4	12.9	0.4	11.9	2.0	12.9	2.7	8.1	1.1	7.8	1.1	6.9	4.2	44.3	31.9	7.4
mtf-10 - 3	44.5	42.6	22059	438	73549	359948	43.8	60876	3196	3.4	776	0.7	233	10673	272.1	19.4	85.9	186.4	61.3	8.2	169.3	85.8	158.5	17.7	62.4	12.9	0.4	11.7	2.1	13.9	3.1	8.4	1.2	8.2	1.1	7.3	4.5	46.5	34.1	7.6
mtf-10 - 5	51.0	48.3	22703	375	73773	359948	39.8	56452	3976	2.9	757	0.4	255	11921	261.3	12.3	74.9	180.8	58.1	9.2	119.7	81.5	154.6	16.7	58.6	12.4	0.4	11.2	2.0	12.3	2.7	8.0	1.0	7.6	1.0	7.3	4.1	39.8	32.9	7.8
mtf-9 - 1	54.5	51.9	21696	644	80735	359948	50.1	59663	3908	3.0	796	0.6	244	13639	254.1	18.9	80.7	185.6	60.8	8.2	177.0	85.2	153.9	18.0	61.6	14.0	0.4	12.2	2.0	13.3	2.7	8.3	1.1	7.5	1.0	6.8	4.1	42.1	32.6	7.3
mtf-8 - 1	48.7	45.2	23755	339	74426	359948	34.0	59370	3424	2.8	806	0.4	252	9916	263.8	13.0	85.7	198.2	59.8	5.8	146.0	92.5	171.5	18.4	67.6	14.2	0.4	12.6	2.3	14.3	3.0	8.8	1.4	8.7	1.2	8.6	4.3	41.4	35.9	8.2
mtf-8 - 2	41.6	40.8	20719	339	64393	359948	34.7	56642	2660	2.5	703	0.3	225	9011	260.3	12.6	64.6	160.4	54.8	8.6	111.1	71.8	136.3	15.0	49.1	10.3	0.3	10.0	1.7	10.8	2.1	6.4	0.9	6.5	0.9	6.1	3.6	48.7	27.6	7.1
mtf-8 - 6	45.6	41.6	21728	334	74960	359948	44.6	61658	2940	3.0	789	0.4	242	9111	269.2	13.3	81.3	186.3	59.6	7.1	138.8	86.4	165.6	18.1	61.5	12.6	0.4	11.8	2.1	13.2	2.8	8.2	1.2	8.2	1.2	7.4	4.1	40.6	34.6	8.0

Table A1.3.3: Trace elements - quartz

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	Mn	Fe	Ge	Rb	Sr	Sn	Cs	Pb	Ba
16de20b12.xl	Core	18.2	16.1	b.d.l.	0.7	93.2	466998	57.6	b.d.l.	b.d.l.		80.9	b.d.l.	6.3	0.6	b.d.l.	b.d.l.	1.9	b.d.l.	b.d.l.	b.d.l.
16de20b13.xl	Core	16.5	15.9	b.d.l.	0.7	90.1	466998	54.9	b.d.l.	b.d.l.		76.4	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	1.6	b.d.l.	b.d.l.	b.d.l.
16de20b14.xl	Core	18.4	16.8	b.d.l.	0.8	97.0	466998	55.2	b.d.l.	b.d.l.		79.8	0.2	10.0	b.d.l.	b.d.l.	b.d.l.	1.5	b.d.l.	b.d.l.	b.d.l.
16de20b15.xl	Core	17.7	16.9	b.d.l.	0.6	96.5	466998	53.8	b.d.l.	b.d.l.		79.5	b.d.l.	7.5	b.d.l.	b.d.l.	b.d.l.	1.4	b.d.l.	b.d.l.	b.d.l.
16de20b16.xl	Core	14.1	16.5	b.d.l.	0.8	94.4	466998	54.1	b.d.l.	b.d.l.		76.3	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	1.6	b.d.l.	b.d.l.	b.d.l.
16de20b18.xl	Rim	21.9	20.6	b.d.l.	0.7	102.5	466998	54.1	b.d.l.	b.d.l.		87.2	0.2	9.1	0.6	b.d.l.	b.d.l.	1.1	b.d.l.	b.d.l.	b.d.l.
17ja16a68.xl	Core	14.6	13.7	b.d.l.	0.7	95.5	466998	45.2	b.d.l.	b.d.l.		89.8	b.d.l.	6.9	b.d.l.	b.d.l.	0.0	0.5	b.d.l.	0.1	b.d.l.
17ja16a69.xl	Core	13.6	14.4	b.d.l.	0.8	93.9	466998	44.4	b.d.l.	b.d.l.		83.9	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a70.xl	Core	16.7	15.5	0.3	0.7	93.3	466998	46.1	b.d.l.	b.d.l.		88.5	b.d.l.	6.9	b.d.l.	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a71.xl	Core	18.7	16.5	0.4	0.7	90.9	466998	45.1	b.d.l.	b.d.l.		92.0	0.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	0.0
17ja16a72.xl	Core	17.9	18.1	b.d.l.	0.7	98.7	466998	42.5	b.d.l.	b.d.l.		99.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.8	b.d.l.	0.0	b.d.l.
17ja16a73.xl	Core	18.1	17.0	b.d.l.	0.7	98.3	466998	43.7	b.d.l.	b.d.l.		97.5	b.d.l.	7.2	b.d.l.	b.d.l.	0.0	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a74.xl	Rim	20.3	18.7	b.d.l.	0.7	100.6	466998	44.5	b.d.l.	b.d.l.		104.8	b.d.l.	11.3	b.d.l.	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
16de20b46.xl	Rim	20.7	20.4	0.2	0.6	88.7	466998	57.1	b.d.l.	b.d.l.		83.0	0.2	b.d.l.	0.5	b.d.l.	0.0	1.3	b.d.l.	0.0	b.d.l.
16de20b47.xl	Core	19.2	19.6	0.2	0.8	89.8	466998	55.7	b.d.l.	b.d.l.		84.7	0.2	6.7	0.8	b.d.l.	b.d.l.	1.3	b.d.l.	0.0	b.d.l.
16de20b48.xl	Core	19.0	17.9	0.2	0.6	86.5	466998	57.7	b.d.l.	b.d.l.		78.7	0.2	7.2	0.6	b.d.l.	0.0	1.3	b.d.l.	b.d.l.	b.d.l.
16de20b49.xl	Core	19.0	19.0	b.d.l.	0.4	86.3	466998	57.0	b.d.l.	b.d.l.		75.6	b.d.l.	4.9	b.d.l.	b.d.l.	b.d.l.	1.3	b.d.l.	0.0	b.d.l.
16de20b50.xl	Core	22.8	21.2	0.1	0.7	90.4	466998	55.8	b.d.l.	b.d.l.		74.0	0.2	6.9	0.4	b.d.l.	b.d.l.	1.3	b.d.l.	b.d.l.	b.d.l.
16de20b51.xl	Core	21.4	20.8	0.2	0.5	88.7	466998	55.2	b.d.l.	b.d.l.		71.9	0.2	6.7	0.4	b.d.l.	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.
16de20b52.xl	Core	22.6	21.9	0.3	0.7	90.8	466998	55.1	b.d.l.	b.d.l.		68.0	0.2	6.7	0.6	b.d.l.	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.
16de20b54.xl	Core	18.4	17.6	b.d.l.	0.7	95.9	466998	53.1	b.d.l.	b.d.l.		90.2	b.d.l.	8.4	b.d.l.	b.d.l.	b.d.l.	1.2	b.d.l.	0.0	b.d.l.
16de20b55.xl	Core	19.3	18.8	0.2	0.5	94.5	466998	52.8	b.d.l.	b.d.l.		91.0	0.2	8.2	0.4	b.d.l.	b.d.l.	1.1	b.d.l.	0.0	b.d.l.
16de20b56.xl	Core	19.1	19.4	0.3	0.7	91.4	466998	51.6	b.d.l.	b.d.l.		90.6	0.2	6.8	0.7	b.d.l.	0.0	1.1	0.0	0.0	b.d.l.
16de20b57.xl	Core	19.4	19.8	0.4	0.5	90.6	466998	49.7	b.d.l.	b.d.l.		92.1	0.1	9.1	0.7	b.d.l.	0.0	1.2	b.d.l.	b.d.l.	b.d.l.
16de20b58.xl	Core	22.2	21.2	0.4	0.6	95.3	466998	51.3	b.d.l.	b.d.l.		101.0	0.2	7.2	0.4	b.d.l.	0.0	1.1	b.d.l.	0.0	b.d.l.
17ja10a25.xl	Rim	19.8	20.7	b.d.l.	0.6	94.5	466998	66.4	b.d.l.	b.d.l.		71.6	b.d.l.	7.0	0.7	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a26.xl	Rim	19.9	20.0	0.2	0.5	95.8	466998	64.2	b.d.l.	b.d.l.		77.6	b.d.l.	5.7	0.9	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
17ja10a27.xl	Core	18.2	19.1	b.d.l.	0.8	92.3	466998	64.9	b.d.l.	b.d.l.		79.0	b.d.l.	5.7	1.1	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
17ja10a28.xl	Core	20.3	19.7	0.1	0.4	90.4	466998	63.6	b.d.l.	b.d.l.		67.5	0.2	4.4	0.8	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
17ja10a29.xl	Core	18.2	18.1	0.2	0.6	91.6	466998	65.3	b.d.l.	b.d.l.		77.5	b.d.l.	5.7	b.d.l.	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a30.xl	Core	19.3	18.8	b.d.l.	0.6	95.9	466998	65.5	b.d.l.	b.d.l.		89.0	b.d.l.	8.2	b.d.l.	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a33.xl	Core	19.4	18.7	0.2	0.9	101.3	466998	67.4	b.d.l.	b.d.l.		97.5	b.d.l.	7.4	b.d.l.	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a34.xl	Core	18.5	17.9	0.2	0.6	96.5	466998	67.6	b.d.l.	b.d.l.		90.9	b.d.l.	8.7	0.7	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a35.xl	Core	19.2	17.6	0.2	0.5	91.1	466998	69.3	b.d.l.	b.d.l.		78.9	b.d.l.	5.4	0.6	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a36.xl	Core	17.5	17.8	0.2	0.7	91.6	466998	69.8	b.d.l.	b.d.l.		77.7	b.d.l.	7.6	0.6	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a37.xl	Core	18.8	18.5	b.d.l.	0.5	92.4	466998	72.0	b.d.l.	b.d.l.		77.3	0.2	6.1	b.d.l.	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a38.xl	Core	19.2	18.6	0.2	0.7	90.8	466998	72.5	b.d.l.	b.d.l.		72.1	b.d.l.	5.4	b.d.l.	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a39.xl	Rim	19.9	19.5	0.2	0.5	91.7	466998	72.5	b.d.l.	b.d.l.		76.0	b.d.l.	6.0	b.d.l.	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a12.xl	Rim	19.8	19.5	b.d.l.	0.4	90.0	466998	71.9	b.d.l.	b.d.l.		64.6	b.d.l.	5.3	b.d.l.	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a13.xl	Rim	15.5	15.8	b.d.l.	0.7	97.0	466998	72.2	b.d.l.	b.d.l.		69.1	0.2	8.4	0.6	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a14.xl	Core	16.2	15.6	b.d.l.	0.8	97.1	466998	73.8	b.d.l.	b.d.l.		67.8	0.2	6.5	0.7	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
17ja10a16.xl	Core	20.7	18.9	1.0	0.8	99.1	466998	75.8	b.d.l.	b.d.l.		73.0	b.d.l.	5.8	0.7	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a17.xl	Core	19.1	19.2	0.7	0.8	95.5	466998	72.8	b.d.l.	b.d.l.		67.8	0.2	5.8	0.7	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a18.xl	Core	20.7	18.8	0.5	0.6	90.0	466998	72.0	b.d.l.	b.d.l.		66.4	b.d.l.	6.1	b.d.l.	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c26.xl	Core	14.7	14.9	b.d.l.	0.7	90.2	466998	62.3	b.d.l.	b.d.l.		79.3	0.2	4.8	0.6	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
16de20c29.xl	Core	18.9	17.2	0.4	0.6	95.4	466998	62.3	b.d.l.	b.d.l.		80.3	0.2	9.3	0.4	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c30.xl	Core	19.6	18.0	0.3	0.6	99.4	466998	62.0	b.d.l.	b.d.l.		94.4	0.2	7.6	0.5	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
16de20c31.xl	Core	18.3	17.8	0.1	0.6	102.4	466998	64.9	b.d.l.	b.d.l.		89.8	0.2	7.2	0.4	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c32.xl	Rim	19.5	19.3	0.3	0.9	120.4	466998	67.2	b.d.l.	b.d.l.		91.2	0.2	7.2	0.5	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.

Table A1.3: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	Mn	Fe	Ge	Rb	Sr	Sn	Cs	Pb	Ba
16de20c16.xl	Core	20.5	20.0	0.1	0.6	95.8	466998	61.1	b.d.l.	b.d.l.		63.7	0.1	5.5	0.6	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
16de20c17.xl	Core	16.8	18.8	b.d.l.	0.6	92.4	466998	60.4	b.d.l.	b.d.l.		59.6	0.2	5.4	0.6	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
16de20c18.xl	Core	17.0	16.1	b.d.l.	0.6	91.3	466998	60.6	b.d.l.	b.d.l.		62.3	0.2	4.7	0.5	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
16de20c19.xl	Core	14.0	14.2	0.1	0.5	88.0	466998	60.4	b.d.l.	b.d.l.		61.7	b.d.l.	5.9	0.5	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
16de20c20.xl	Rim	14.2	16.1	b.d.l.	0.8	93.8	466998	59.2	b.d.l.	b.d.l.		88.3	b.d.l.	7.2	0.7	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
16de20c21.xl	Rim	13.9	14.9	0.1	0.7	91.0	466998	60.6	b.d.l.	b.d.l.		82.6	b.d.l.	6.7	0.6	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
16de20c22.xl	Rim	17.3	16.8	0.2	0.8	93.1	466998	58.4	b.d.l.	b.d.l.		82.5	b.d.l.	5.1	0.5	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
17ja16a77.xl	Rim	18.7	16.3	b.d.l.	0.5	94.9	466998	57.1	b.d.l.	b.d.l.		80.4	b.d.l.	6.9	b.d.l.	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
17ja16a79.xl	Core	16.1	16.5	b.d.l.	0.8	94.9	466998	58.0	b.d.l.	b.d.l.		80.7	b.d.l.	6.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
17ja16a80.xl	Core	16.9	16.9	1.3	0.7	94.5	466998	56.4	b.d.l.	b.d.l.		81.0	b.d.l.	7.5	b.d.l.	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a81.xl	Core	17.8	16.5	1.0	0.5	96.4	466998	58.2	b.d.l.	b.d.l.		82.2	b.d.l.	8.9	0.9	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja16a82.xl	Core	20.9	18.9	b.d.l.	0.7	103.2	466998	55.3	b.d.l.	b.d.l.		79.0	b.d.l.	6.4	b.d.l.	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a83.xl	Rim	19.1	18.6	b.d.l.	0.9	99.1	466998	55.9	b.d.l.	b.d.l.		78.5	b.d.l.	6.5	b.d.l.	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
17ja16a84.xl	Rim	19.5	18.7	b.d.l.	0.5	96.6	466998	54.9	b.d.l.	b.d.l.		86.8	b.d.l.	7.6	b.d.l.	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
16de20c06.xl	Core	24.4	23.0	0.9	1.0	107.8	466998	62.2	b.d.l.	b.d.l.		101.8	0.2	9.4	0.7	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
16de20c07.xl	Core	23.2	22.5	0.5	0.8	105.3	466998	60.9	b.d.l.	b.d.l.		104.3	0.2	7.0	0.6	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
16de20c08.xl	Core	23.9	22.2	0.2	0.8	107.1	466998	61.4	b.d.l.	b.d.l.		107.4	0.2	7.1	0.4	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
16de20c10.xl	Core	20.4	19.8	0.3	0.6	106.0	466998	61.6	b.d.l.	b.d.l.		107.9	0.2	7.0	0.5	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
16de20c11.xl	Core	19.3	18.5	0.4	0.8	100.3	466998	60.6	b.d.l.	b.d.l.		102.5	0.2	6.1	0.4	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
16de20c12.xl	Rim	18.7	19.6	0.3	0.6	92.9	466998	61.5	b.d.l.	b.d.l.		79.2	0.2	6.8	0.4	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
16de20c13.xl	Rim	20.0	19.4	0.7	0.6	94.1	466998	62.4	b.d.l.	b.d.l.		76.3	b.d.l.	6.3	0.8	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
16de20c14.xl	Rim	20.4	20.3	1.1	0.8	97.8	466998	62.6	b.d.l.	b.d.l.		63.9	0.1	5.3	0.5	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
16de20c15.xl	Rim	20.8	20.2	0.6	0.6	91.9	466998	60.2	b.d.l.	b.d.l.		67.1	0.1	5.0	0.5	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
16de20b30.xl	Rim	19.2	19.1	0.3	0.6	93.5	466998	60.4	b.d.l.	b.d.l.		87.8	0.2	6.3	0.5	b.d.l.	b.d.l.	1.4	b.d.l.	b.d.l.	b.d.l.
16de20b31.xl	Rim	19.4	18.0	0.9	0.6	99.0	466998	61.5	b.d.l.	b.d.l.		88.0	0.2	5.3	0.7	b.d.l.	b.d.l.	1.1	b.d.l.	b.d.l.	b.d.l.
16de20b32.xl	Rim	16.7	16.8	0.3	0.6	89.0	466998	56.7	b.d.l.	b.d.l.		78.8	0.2	6.5	0.4	b.d.l.	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.
16de20b33.xl	Core	17.3	16.3	0.4	0.6	91.4	466998	55.7	b.d.l.	b.d.l.		88.2	0.1	8.1	0.6	b.d.l.	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.
16de20b34.xl	Core	17.1	16.3	0.3	0.7	98.8	466998	57.0	b.d.l.	b.d.l.		105.0	0.3	7.8	0.5	b.d.l.	b.d.l.	1.1	b.d.l.	b.d.l.	b.d.l.
16de20b35.xl	Core	16.3	16.1	0.2	0.7	100.9	466998	58.4	b.d.l.	b.d.l.		107.9	0.2	8.1	0.5	b.d.l.	b.d.l.	1.4	b.d.l.	b.d.l.	b.d.l.
16de20b36.xl	Core	17.0	15.8	0.2	0.7	98.9	466998	57.9	b.d.l.	b.d.l.		110.1	0.2	8.3	0.4	b.d.l.	b.d.l.	1.4	b.d.l.	b.d.l.	b.d.l.
16de20b37.xl	Core	18.5	16.8	0.2	0.8	99.9	466998	56.4	b.d.l.	b.d.l.		110.0	0.2	9.7	0.5	b.d.l.	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.
16de20b39.xl	Rim	17.6	16.9	0.3	0.6	98.2	466998	57.2	b.d.l.	b.d.l.		104.3	0.2	7.9	0.4	b.d.l.	b.d.l.	1.3	b.d.l.	b.d.l.	b.d.l.
16de20b40.xl	Rim	18.3	17.5	0.2	0.7	96.0	466998	57.7	b.d.l.	b.d.l.		99.2	0.2	7.4	0.5	b.d.l.	b.d.l.	1.3	b.d.l.	b.d.l.	b.d.l.
16de20b41.xl	Rim	23.3	21.9	0.2	0.8	91.3	466998	57.1	b.d.l.	b.d.l.		71.3	0.2	7.4	0.6	b.d.l.	b.d.l.	1.3	b.d.l.	b.d.l.	b.d.l.
16de20c58.xl	Rim	19.8	20.5	b.d.l.	0.5	94.1	466998	74.2	b.d.l.	b.d.l.		70.1	0.2	5.6	0.6	b.d.l.	b.d.l.	1.1	b.d.l.	b.d.l.	b.d.l.
16de20c59.xl	Rim	22.0	21.3	0.1	0.7	98.1	466998	71.9	b.d.l.	b.d.l.		80.3	0.2	7.2	0.5	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c60.xl	Core	23.1	21.5	0.2	0.7	98.3	466998	72.6	b.d.l.	b.d.l.		86.3	0.1	6.4	0.5	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c61.xl	Core	22.0	21.7	0.3	0.6	98.8	466998	71.5	b.d.l.	b.d.l.		87.3	0.2	8.5	0.7	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c62.xl	Core	20.1	19.6	0.2	0.8	92.6	466998	71.4	b.d.l.	b.d.l.		75.6	0.2	6.1	0.4	b.d.l.	b.d.l.	1.1	b.d.l.	b.d.l.	b.d.l.
16de20c63.xl	Core	18.8	19.0	0.2	0.6	92.4	466998	71.4	b.d.l.	b.d.l.		81.4	0.2	6.0	0.4	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c64.xl	Core	19.6	18.0	0.3	0.5	92.0	466998	71.8	b.d.l.	b.d.l.		85.9	0.2	5.6	0.8	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c65.xl	Core	19.2	17.8	0.1	0.8	93.4	466998	74.1	b.d.l.	b.d.l.		87.2	b.d.l.	6.1	0.5	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c70.xl	Rim	18.0	18.3	0.2	0.8	92.7	466998	71.4	b.d.l.	b.d.l.		85.4	0.2	6.1	0.4	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c71.xl	Rim	19.4	18.0	0.2	0.7	92.4	466998	72.1	b.d.l.	b.d.l.		86.8	0.1	6.6	0.5	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
16de20c72.xl	Rim	17.8	18.1	0.2	0.7	94.3	466998	71.9	b.d.l.	b.d.l.		88.9	0.2	6.3	0.6	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c73.xl	Core	20.5	19.1	b.d.l.	0.6	92.3	466998	73.9	b.d.l.	b.d.l.		66.7	0.2	5.6	0.6	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c74.xl	Core	19.0	19.4	0.1	0.7	94.9	466998	73.3	b.d.l.	b.d.l.		70.5	0.2	6.9	0.4	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c75.xl	Rim	18.3	17.3	0.2	0.6	92.3	466998	71.9	b.d.l.	b.d.l.		84.0	0.2	6.5	0.7	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.

Table A1.3: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	Mn	Fe	Ge	Rb	Sr	Sn	Cs	Pb	Ba
17ja10a04.xl	Rim	22.0	19.9	b.d.l.	0.6	94.5	466998	67.0	b.d.l.	b.d.l.		65.1	b.d.l.	6.5	b.d.l.	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a05.xl	Rim	19.7	19.6	0.1	0.8	92.1	466998	67.3	b.d.l.	b.d.l.		66.1	0.3	b.d.l.	0.7	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a06.xl	Core	21.0	20.7	0.2	0.8	103.8	466998	67.5	b.d.l.	b.d.l.		105.0	0.2	5.0	0.6	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a07.xl	Core	21.4	20.5	0.2	0.7	103.3	466998	63.2	b.d.l.	b.d.l.		107.5	b.d.l.	7.9	0.5	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a08.xl	Core	22.3	21.2	0.3	0.7	103.0	466998	63.5	b.d.l.	b.d.l.		106.4	0.2	8.8	0.7	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a09.xl	Core	24.5	22.0	0.2	0.8	104.2	466998	64.3	b.d.l.	b.d.l.		106.3	0.4	7.3	b.d.l.	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a10.xl	Core	28.1	24.5	0.4	1.0	108.4	466998	64.3	b.d.l.	b.d.l.		102.2	0.3	8.3	0.5	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a11.xl	Rim	23.3	22.5	0.2	0.5	95.5	466998	65.8	b.d.l.	b.d.l.		77.3	0.2	6.1	0.7	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a110.xl	Core	13.8	13.2	b.d.l.	0.8	102.3	466998	76.4	b.d.l.	b.d.l.		104.8	b.d.l.	8.2	b.d.l.	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a111.xl	Core	14.4	14.0	b.d.l.	0.7	102.3	466998	66.6	b.d.l.	b.d.l.		106.0	0.2	8.1	0.5	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a112.xl	Core	15.6	14.5	0.3	0.8	101.8	466998	65.0	b.d.l.	b.d.l.		110.8	0.2	7.5	0.6	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a113.xl	Core	15.7	15.7	b.d.l.	1.0	105.1	466998	63.7	b.d.l.	b.d.l.		111.1	0.3	7.4	0.8	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
17ja10a115.xl	Core	19.8	17.7	b.d.l.	0.6	100.0	466998	64.6	b.d.l.	b.d.l.		96.0	0.3	6.4	0.5	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a116.xl	Core	15.7	15.1	b.d.l.	0.6	104.0	466998	66.6	b.d.l.	b.d.l.		104.3	0.2	8.6	0.7	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a117.xl	Core	15.8	15.6	0.1	0.7	98.5	466998	64.5	b.d.l.	b.d.l.		99.2	0.2	5.2	0.5	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
17ja10a95.xl	Rim	20.7	20.5	0.1	0.6	97.2	466998	67.0	b.d.l.	b.d.l.		83.5	b.d.l.	7.6	0.8	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a96.xl	Rim	19.2	19.7	b.d.l.	0.7	92.6	466998	66.3	b.d.l.	b.d.l.		72.5	b.d.l.	5.4	0.8	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a97.xl	Core	20.1	19.9	0.2	0.6	93.1	466998	64.1	b.d.l.	b.d.l.		82.0	b.d.l.	5.8	0.8	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a98.xl	Core	20.2	20.3	0.2	0.9	97.0	466998	64.3	b.d.l.	b.d.l.		87.8	0.2	7.5	1.0	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
17ja10a99.xl	Core	19.7	19.7	0.2	0.5	95.4	466998	63.0	b.d.l.	b.d.l.		88.9	b.d.l.	8.3	0.8	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
17ja10a100.xl	Core	20.0	19.5	0.2	0.6	95.8	466998	61.7	b.d.l.	b.d.l.		88.7	b.d.l.	7.2	0.6	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a101.xl	Core	20.8	19.0	0.2	0.6	94.0	466998	64.6	b.d.l.	b.d.l.		87.8	b.d.l.	6.8	0.9	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a102.xl	Core	18.1	18.5	0.2	0.5	92.5	466998	63.9	b.d.l.	b.d.l.		86.1	b.d.l.	6.0	0.7	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a103.xl	Core	20.0	18.8	0.2	0.6	93.7	466998	65.7	b.d.l.	b.d.l.		84.1	0.2	7.6	b.d.l.	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a104.xl	Core	20.6	18.5	0.2	0.6	91.2	466998	64.1	b.d.l.	b.d.l.		78.2	b.d.l.	6.4	0.6	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
16de20c34.xl	Rim	19.7	19.8	b.d.l.	0.8	108.8	466998	75.5	b.d.l.	b.d.l.		89.2	0.2	8.9	0.5	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c35.xl	Rim	19.2	18.4	b.d.l.	0.8	100.9	466998	74.4	b.d.l.	b.d.l.		84.1	0.2	6.8	0.7	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c36.xl	Core	17.4	17.5	b.d.l.	0.6	93.1	466998	74.2	b.d.l.	b.d.l.		79.6	b.d.l.	6.5	0.5	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c37.xl	Core	18.7	17.9	b.d.l.	0.7	94.7	466998	74.4	b.d.l.	b.d.l.		80.4	0.2	6.8	0.6	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c38.xl	Core	19.4	19.1	0.1	0.6	98.0	466998	74.5	b.d.l.	b.d.l.		84.0	0.2	8.1	0.6	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c39.xl	Core	21.0	20.0	b.d.l.	0.8	102.5	466998	74.6	b.d.l.	b.d.l.		84.1	0.2	7.9	0.4	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c40.xl	Core	21.2	21.0	0.1	0.6	106.6	466998	73.5	b.d.l.	b.d.l.		83.1	0.2	7.5	0.6	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c41.xl	Core	19.4	19.8	0.1	0.6	98.5	466998	75.8	b.d.l.	b.d.l.		77.8	0.2	5.6	0.6	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c42.xl	Core	20.0	19.5	0.1	0.6	94.1	466998	73.1	b.d.l.	b.d.l.		70.4	b.d.l.	5.4	0.4	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c43.xl	Core	18.8	18.7	0.1	0.7	90.1	466998	73.9	b.d.l.	b.d.l.		68.5	b.d.l.	4.9	0.5	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c44.xl	Core	18.4	19.0	0.2	0.7	92.8	466998	73.0	b.d.l.	b.d.l.		68.8	0.2	6.7	0.4	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c48.xl	Core	17.7	17.7	0.2	0.6	90.5	466998	73.9	b.d.l.	b.d.l.		70.0	0.1	5.8	0.5	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c49.xl	Core	17.7	17.8	0.1	0.5	91.4	466998	75.3	b.d.l.	b.d.l.		74.6	b.d.l.	6.2	0.5	b.d.l.	b.d.l.	1.1	b.d.l.	b.d.l.	b.d.l.
16de20c50.xl	Core	17.2	16.6	0.2	0.5	90.9	466998	73.6	b.d.l.	b.d.l.		79.1	b.d.l.	6.5	0.5	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c51.xl	Core	17.9	16.7	0.3	0.8	94.0	466998	72.8	b.d.l.	b.d.l.		84.8	0.2	5.2	0.5	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c52.xl	Core	16.4	15.7	0.2	0.5	92.0	466998	73.7	b.d.l.	b.d.l.		86.8	b.d.l.	5.3	0.5	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c53.xl	Core	16.6	16.3	0.2	0.7	91.5	466998	73.3	b.d.l.	b.d.l.		83.3	0.2	5.6	0.4	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c54.xl	Core	16.6	16.1	0.3	0.6	89.9	466998	73.6	b.d.l.	b.d.l.		78.8	0.2	7.8	0.4	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
16de20c55.xl	Core	17.3	15.7	0.2	0.5	87.9	466998	73.5	b.d.l.	b.d.l.		69.2	b.d.l.	5.4	0.4	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c56.xl	Core	20.3	17.8	0.1	0.7	91.5	466998	72.7	b.d.l.	b.d.l.		74.4	0.2	7.1	0.4	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
16de20c57.xl	Rim	19.9	18.2	b.d.l.	0.6	88.0	466998	73.1	b.d.l.	b.d.l.		71.1	b.d.l.	6.7	0.5	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
17ja10a73.xl	Rim	18.1	18.0	b.d.l.	0.7	96.3	466998	74.1	b.d.l.	b.d.l.		74.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.
17ja10a74.xl	Core	16.1	17.3	b.d.l.	0.5	95.5	466998	74.5	b.d.l.	b.d.l.		b.d.l.	b.d.l.	6.6	b.d.l.	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a76.xl	Core	16.0	15.8	b.d.l.	0.8	95.9	466998	75.6	b.d.l.	b.d.l.		73.4	0.3	6.9	0.8	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a77.xl	Core	17.5	15.7	b.d.l.	0.6	93.0	466998	75.2	b.d.l.	b.d.l.		72.4	b.d.l.	8.1	b.d.l.	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a78.xl	Core	17.4	16.1	b.d.l.	0.5	90.9	466998	75.4	b.d.l.	b.d.l.		71.9	b.d.l.	5.1	0.8	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a79.xl	Core	18.4	17.6	b.d.l.	0.5	89.0	466998	74.4	b.d.l.	b.d.l.		67.8	b.d.l.	5.0	b.d.l.	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.

Table A1.3: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	Mn	Fe	Ge	Rb	Sr	Sn	Cs	Pb	Ba
17ja10a83.xl	Rim	21.3	19.7	b.d.l.	0.7	91.0	466998	72.1	b.d.l.	b.d.l.		71.6	b.d.l.	5.6	b.d.l.	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a84.xl	Core	18.4	18.9	b.d.l.	0.6	88.4	466998	72.9	b.d.l.	b.d.l.		61.4	b.d.l.	6.6	0.9	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a85.xl	Core	18.5	19.3	b.d.l.	0.7	97.3	466998	75.1	b.d.l.	b.d.l.		80.5	b.d.l.	6.8	0.8	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a86.xl	Core	18.8	18.5	b.d.l.	0.7	94.1	466998	74.9	b.d.l.	b.d.l.		77.3	b.d.l.	6.8	b.d.l.	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a90.xl	Core	17.0	17.6	b.d.l.	0.7	97.5	466998	75.9	b.d.l.	b.d.l.		89.8	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a91.xl	Rim	20.1	19.6	b.d.l.	0.7	94.0	466998	73.0	b.d.l.	b.d.l.		75.9	b.d.l.	5.7	0.9	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a92.xl	Core	18.3	18.5	0.2	0.6	100.0	466998	71.3	b.d.l.	b.d.l.		98.4	b.d.l.	7.7	0.6	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a93.xl	Core	15.9	16.0	b.d.l.	0.6	92.6	466998	75.8	b.d.l.	b.d.l.		86.5	0.3	5.9	b.d.l.	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
17ja10a94.xl	Core	15.7	16.3	b.d.l.	0.5	93.1	466998	78.1	b.d.l.	b.d.l.		83.9	b.d.l.	5.5	b.d.l.	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
17ja10a140.xl	Rim	18.6	18.5	b.d.l.	0.4	97.4	466998	75.5	b.d.l.	b.d.l.		95.0	b.d.l.	5.7	0.9	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a141.xl	Rim	18.4	17.6	0.2	0.7	102.7	466998	75.8	b.d.l.	b.d.l.		101.1	b.d.l.	8.5	0.7	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a144.xl	Core	15.5	15.8	0.6	0.6	101.2	466998	74.4	b.d.l.	b.d.l.		99.0	0.3	8.1	b.d.l.	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a146.xl	Core	16.6	15.3	b.d.l.	0.6	103.0	466998	75.5	b.d.l.	b.d.l.		96.5	b.d.l.	8.0	b.d.l.	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a147.xl	Core	17.0	15.4	b.d.l.	0.8	99.0	466998	74.3	b.d.l.	b.d.l.		89.1	0.3	7.0	b.d.l.	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a148.xl	Core	19.8	19.0	b.d.l.	0.5	91.8	466998	72.3	b.d.l.	b.d.l.		79.1	b.d.l.	4.6	b.d.l.	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a149.xl	Core	18.6	17.8	b.d.l.	0.4	89.6	466998	73.3	b.d.l.	b.d.l.		75.3	b.d.l.	5.3	0.6	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a150.xl	Rim	21.5	19.3	0.2	0.6	90.9	466998	70.3	b.d.l.	b.d.l.		80.9	0.3	6.2	b.d.l.	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
17ja10a151.xl	Rim	21.9	20.3	b.d.l.	0.7	95.6	466998	72.7	b.d.l.	b.d.l.		109.6	b.d.l.	6.5	0.8	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a152.xl	Rim	19.5	19.8	0.2	0.7	89.3	466998	70.7	b.d.l.	b.d.l.		78.7	b.d.l.	4.8	b.d.l.	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja16a07.xl	Rim	22.8	21.8	0.5	0.6	97.4	466998	39.2	b.d.l.	b.d.l.		81.6	b.d.l.	9.0	1.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
17ja16a08.xl	Core	20.4	19.8	b.d.l.	0.6	87.3	466998	42.6	b.d.l.	b.d.l.		70.1	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	0.3	b.d.l.	b.d.l.	b.d.l.
17ja16a09.xl	Core	20.3	20.2	b.d.l.	0.7	91.1	466998	41.7	b.d.l.	b.d.l.		81.2	b.d.l.	7.3	b.d.l.	b.d.l.	b.d.l.	0.3	b.d.l.	b.d.l.	b.d.l.
17ja16a10.xl	Core	23.0	21.1	0.3	0.6	100.1	466998	42.3	b.d.l.	b.d.l.		99.0	b.d.l.	8.2	0.8	b.d.l.	b.d.l.	0.3	b.d.l.	b.d.l.	b.d.l.
17ja16a11.xl	Core	22.7	20.4	0.5	0.9	105.6	466998	42.9	b.d.l.	b.d.l.		122.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
17ja16a12.xl	Core	22.2	20.9	0.3	0.6	103.0	466998	42.5	b.d.l.	b.d.l.		107.6	0.3	9.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
17ja16a14.xl	Core	20.9	20.6	0.8	0.6	101.4	466998	43.9	b.d.l.	b.d.l.		106.7	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a16.xl	Core	19.7	19.5	0.2	0.5	90.6	466998	41.0	b.d.l.	b.d.l.		82.8	b.d.l.	7.4	b.d.l.	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a17.xl	Core	20.7	19.7	0.2	0.7	91.2	466998	43.1	b.d.l.	b.d.l.		74.2	b.d.l.	6.2	0.6	b.d.l.	b.d.l.	0.3	b.d.l.	b.d.l.	b.d.l.
17ja16a18.xl	Core	19.5	18.7	0.3	0.4	86.4	466998	43.7	b.d.l.	b.d.l.		73.0	b.d.l.	6.1	0.9	b.d.l.	b.d.l.	0.3	b.d.l.	b.d.l.	b.d.l.
17ja16a19.xl	Rim	21.9	20.0	b.d.l.	0.8	95.0	466998	42.6	b.d.l.	b.d.l.		76.7	b.d.l.	6.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
17ja16a24.xl	Rim	19.9	20.3	b.d.l.	0.4	93.3	466998	48.8	b.d.l.	b.d.l.		66.1	0.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a25.xl	Core	21.0	20.3	b.d.l.	0.7	96.5	466998	46.3	b.d.l.	b.d.l.		76.3	b.d.l.	7.9	b.d.l.	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a26.xl	Core	22.3	20.1	b.d.l.	0.5	94.4	466998	46.5	b.d.l.	b.d.l.		68.7	b.d.l.	7.2	0.9	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a27.xl	Core	20.0	19.9	b.d.l.	0.4	96.0	466998	47.7	b.d.l.	b.d.l.		77.0	b.d.l.	7.0	b.d.l.	b.d.l.	b.d.l.	0.3	b.d.l.	b.d.l.	b.d.l.
17ja16a28.xl	Core	22.6	19.8	0.2	0.8	95.2	466998	45.5	b.d.l.	b.d.l.		78.8	b.d.l.	5.8	0.7	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
17ja16a29.xl	Core	19.6	19.5	b.d.l.	0.7	95.2	466998	48.4	b.d.l.	b.d.l.		79.5	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a31.xl	Core	19.9	19.2	0.2	0.7	94.8	466998	46.8	b.d.l.	b.d.l.		78.1	b.d.l.	6.4	0.8	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
17ja16a32.xl	Core	18.7	18.4	0.3	0.4	92.9	466998	48.1	b.d.l.	b.d.l.		77.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a33.xl	Core	18.2	17.7	b.d.l.	0.7	92.7	466998	48.7	b.d.l.	b.d.l.		77.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
17ja16a34.xl	Core	18.0	18.2	b.d.l.	0.6	91.7	466998	45.5	b.d.l.	b.d.l.		81.4	0.4	b.d.l.	0.9	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
17ja16a35.xl	Core	19.0	19.2	0.3	0.4	92.0	466998	46.3	b.d.l.	b.d.l.		82.3	b.d.l.	5.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
17ja16a36.xl	Rim	21.5	20.1	b.d.l.	0.7	93.6	466998	45.7	b.d.l.	b.d.l.		82.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
17ja10a61.xl	Core	16.5	16.2	b.d.l.	0.8	108.9	466998	79.8	b.d.l.	b.d.l.		115.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a64.xl	Core	16.2	16.0	b.d.l.	0.6	100.6	466998	69.2	b.d.l.	b.d.l.		101.1	0.2	7.2	0.9	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a65.xl	Core	16.2	16.1	0.2	0.5	99.9	466998	69.5	b.d.l.	b.d.l.		105.2	b.d.l.	6.6	0.6	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a66.xl	Core	17.1	16.4	0.3	0.7	103.8	466998	67.9	b.d.l.	b.d.l.		107.7	0.2	8.1	0.7	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a67.xl	Core	13.9	14.6	0.2	0.6	90.6	466998	68.3	b.d.l.	b.d.l.		80.6	b.d.l.	6.4	0.8	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a68.xl	Core	17.1	16.0	0.1	0.5	93.9	466998	69.5	b.d.l.	b.d.l.		88.6	b.d.l.	5.9	0.7	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a69.xl	Rim	16.9	16.4	b.d.l.	0.5	97.8	466998	69.3	b.d.l.	b.d.l.		95.4	0.2	8.0	b.d.l.	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a70.xl	Rim	18.8	17.0	b.d.l.	0.5	94.3	466998	66.6	b.d.l.	b.d.l.		83.2	b.d.l.	7.8	0.6	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.

Table A1.3: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	Mn	Fe	Ge	Rb	Sr	Sn	Cs	Pb	Ba
17ja10a118.xl	Rim	19.5	19.7	b.d.l.	0.5	93.5	466998	64.8	b.d.l.	b.d.l.		76.9	b.d.l.	6.9	b.d.l.	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a119.xl	Rim	18.1	18.8	b.d.l.	0.6	93.6	466998	63.9	b.d.l.	b.d.l.		78.9	b.d.l.	6.7	b.d.l.	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a121.xl	Core	18.1	18.3	0.2	0.7	93.2	466998	67.4	b.d.l.	b.d.l.		88.6	b.d.l.	7.3	0.7	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a122.xl	Core	20.7	20.5	0.2	0.6	91.2	466998	69.2	b.d.l.	b.d.l.		89.2	b.d.l.	6.4	0.5	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a123.xl	Core	20.3	18.7	0.2	0.7	90.8	466998	67.8	b.d.l.	b.d.l.		89.0	b.d.l.	4.5	0.6	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a124.xl	Core	21.8	19.7	b.d.l.	0.6	90.3	466998	70.2	b.d.l.	b.d.l.		87.7	b.d.l.	6.0	0.5	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a125.xl	Core	21.8	21.1	0.1	0.7	95.9	466998	71.9	b.d.l.	b.d.l.		92.8	0.2	7.9	0.7	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a126.xl	Core	22.9	21.9	0.2	0.7	97.7	466998	72.1	b.d.l.	b.d.l.		74.8	0.2	6.4	0.7	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a130.xl	Rim	20.4	18.8	b.d.l.	0.6	86.9	466998	72.8	b.d.l.	b.d.l.		61.2	b.d.l.	5.8	b.d.l.	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a131.xl	Rim	21.0	19.6	0.3	0.6	88.8	466998	71.7	b.d.l.	b.d.l.		66.1	b.d.l.	6.4	0.8	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a132.xl	Core	20.4	19.0	0.2	0.7	89.0	466998	69.8	b.d.l.	b.d.l.		65.2	b.d.l.	6.1	0.6	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a133.xl	Core	17.4	17.7	b.d.l.	0.5	90.0	466998	71.4	b.d.l.	b.d.l.		65.8	0.2	5.9	0.5	b.d.l.	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.
17ja10a134.xl	Core	19.4	18.5	0.1	0.6	91.5	466998	70.4	b.d.l.	b.d.l.		69.0	0.2	6.2	0.6	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a135.xl	Core	17.3	16.9	0.2	0.7	94.2	466998	71.6	b.d.l.	b.d.l.		76.4	b.d.l.	7.0	b.d.l.	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a136.xl	Core	17.6	18.5	0.2	0.8	94.3	466998	74.2	b.d.l.	b.d.l.		86.3	b.d.l.	6.7	0.6	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a137.xl	Core	17.5	17.6	0.1	0.6	88.9	466998	70.7	b.d.l.	b.d.l.		74.2	0.2	5.7	0.8	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a138.xl	Core	18.3	17.1	b.d.l.	0.6	87.1	466998	72.2	b.d.l.	b.d.l.		69.8	b.d.l.	5.2	0.7	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a139.xl	Rim	20.6	19.1	b.d.l.	0.6	91.0	466998	73.0	b.d.l.	b.d.l.		66.9	b.d.l.	4.7	b.d.l.	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a43.xl	Core	22.6	21.7	b.d.l.	0.8	114.9	466998	66.3	b.d.l.	b.d.l.		151.8	0.3	9.4	b.d.l.	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a44.xl	Core	19.9	20.8	0.2	0.6	118.2	466998	63.3	b.d.l.	b.d.l.		156.2	0.3	9.2	b.d.l.	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a46.xl	Core	19.3	19.1	b.d.l.	0.9	125.0	466998	66.4	b.d.l.	b.d.l.		160.0	0.3	9.6	b.d.l.	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a48.xl	Rim	21.2	20.2	b.d.l.	0.6	97.0	466998	63.1	b.d.l.	b.d.l.		82.9	b.d.l.	6.4	0.6	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a50.xl	Core	16.8	16.3	b.d.l.	0.7	118.5	466998	61.6	b.d.l.	b.d.l.		164.6	0.3	9.8	0.6	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a51.xl	Core	16.2	14.5	0.2	0.8	121.5	466998	61.2	b.d.l.	b.d.l.		178.8	0.4	11.1	b.d.l.	b.d.l.	b.d.l.	0.8	b.d.l.	b.d.l.	b.d.l.
17ja10a52.xl	Rim	17.4	16.6	b.d.l.	0.7	100.0	466998	62.5	b.d.l.	b.d.l.		91.0	0.3	6.4	b.d.l.	b.d.l.	b.d.l.	0.7	b.d.l.	b.d.l.	b.d.l.
17ja10a53.xl	Rim	17.7	18.1	b.d.l.	0.6	97.2	466998	62.4	b.d.l.	b.d.l.		85.5	0.2	6.6	b.d.l.	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja10a54.xl	Rim	21.9	20.5	b.d.l.	0.9	102.8	466998	63.4	b.d.l.	b.d.l.		103.5	b.d.l.	6.3	b.d.l.	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja10a55.xl	Rim	22.3	21.7	0.2	0.6	101.9	466998	62.0	b.d.l.	b.d.l.		86.7	0.2	7.1	0.7	b.d.l.	b.d.l.	0.9	b.d.l.	b.d.l.	b.d.l.
17ja16a44.xl	Core	21.9	20.6	b.d.l.	0.8	91.8	466998	50.6	b.d.l.	b.d.l.		37.4	b.d.l.	6.4	1.0	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
17ja16a45.xl	Core	20.2	20.2	0.2	0.3	91.9	466998	52.2	b.d.l.	b.d.l.		38.0	b.d.l.	7.0	b.d.l.	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja16a46.xl	Core	18.9	18.5	b.d.l.	0.6	91.7	466998	51.1	b.d.l.	b.d.l.		39.7	b.d.l.	5.4	0.7	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a48.xl	Core	20.6	19.6	b.d.l.	0.5	93.4	466998	51.9	b.d.l.	b.d.l.		40.6	b.d.l.	5.7	b.d.l.	b.d.l.	b.d.l.	0.4	b.d.l.	b.d.l.	b.d.l.
17ja16a49.xl	Core	20.3	19.5	b.d.l.	0.5	93.9	466998	50.3	b.d.l.	b.d.l.		43.2	b.d.l.	7.8	0.7	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.
17ja16a50.xl	Core	20.0	18.5	b.d.l.	0.6	92.3	466998	53.6	b.d.l.	b.d.l.		43.2	b.d.l.	5.4	b.d.l.	b.d.l.	b.d.l.	0.3	b.d.l.	b.d.l.	b.d.l.
17ja16a51.xl	Rim	20.6	18.8	0.2	0.6	98.8	466998	52.2	b.d.l.	b.d.l.		46.8	b.d.l.	7.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
17ja16a52.xl	Rim	21.0	19.5	b.d.l.	0.7	94.5	466998	53.5	b.d.l.	b.d.l.		45.3	b.d.l.	5.6	b.d.l.	b.d.l.	b.d.l.	0.6	b.d.l.	b.d.l.	b.d.l.
17ja16a53.xl	Rim	18.4	18.9	b.d.l.	0.6	89.0	466998	55.1	b.d.l.	b.d.l.		37.5	b.d.l.	6.4	b.d.l.	b.d.l.	b.d.l.	0.5	b.d.l.	b.d.l.	b.d.l.

Table A1.3: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	Sc	Ti	Ge
Qz-1 - 1	Rim	20.0	19.2	b.d.l.	0.6	88.5	466998	22.7	1.2	87.0	b.d.l.
Qz-1 - 2	Rim	19.5	18.9	b.d.l.	0.5	89.2	466998	21.9	1.2	97.2	b.d.l.
Qz-1 - 3	Rim	20.3	19.8	b.d.l.	0.9	94.4	466998	28.7	1.2	107.5	b.d.l.
Qz-1 - 4	Core	19.7	19.6	b.d.l.	0.8	96.9	466998	26.2	1.2	110.1	0.7
Qz-1 - 5	Core	18.8	18.2	b.d.l.	0.7	91.9	466998	19.5	1.2	103.4	b.d.l.
Qz-1 - 6	Core	18.4	18.0	b.d.l.	0.9	94.4	466998	22.7	1.2	111.9	b.d.l.
Qz-1 - 7	Core	18.2	17.9	b.d.l.	0.8	97.5	466998	25.3	1.2	122.8	b.d.l.
Qz-1 - 8	Core	17.4	17.4	b.d.l.	0.8	96.8	466998	20.8	1.2	117.8	b.d.l.
Qz-1 - 9	Core	17.7	17.5	b.d.l.	0.9	98.5	466998	26.3	1.1	122.6	b.d.l.
Qz-1 - 10	Core	18.2	17.7	b.d.l.	0.7	99.8	466998	22.6	1.1	127.7	b.d.l.
Qz-1 - 11	Core	18.1	17.6	b.d.l.	0.9	98.6	466998	27.9	1.2	128.8	b.d.l.
Qz-1 - 12	Core	19.2	18.4	b.d.l.	0.9	101.0	466998	25.4	1.2	139.8	b.d.l.
Qz-1 - 13	Core	20.0	19.7	b.d.l.	0.9	109.3	466998	21.6	1.1	145.9	b.d.l.
Qz-1 - 14	Core	23.4	22.3	b.d.l.	1.0	125.0	466998	17.1	1.1	163.5	b.d.l.
Qz-1 - 15	Core	20.5	20.4	b.d.l.	1.1	113.9	466998	29.5	1.2	157.0	b.d.l.
Qz-1 - 16	Core	18.4	18.3	b.d.l.	1.1	107.9	466998	25.5	1.1	150.5	b.d.l.
Qz-1 - 17	Core	16.6	16.5	b.d.l.	0.9	107.6	466998	26.6	1.1	152.7	b.d.l.
Qz-1 - 18	Core	17.8	17.3	b.d.l.	0.9	106.3	466998	22.8	1.2	154.7	b.d.l.
Qz-1 - 19	Core	19.2	18.5	b.d.l.	0.9	111.3	466998	21.5	1.2	171.4	b.d.l.
Qz-1 - 20	Core	21.1	20.8	b.d.l.	1.2	116.2	466998	24.0	1.1	176.3	0.7
Qz-1 - 21	Core	22.3	21.9	b.d.l.	1.2	116.7	466998	22.2	1.1	180.0	0.9
Qz-1 - 22	Core	23.3	22.9	0.6	1.0	119.8	466998	24.7	1.1	179.5	b.d.l.
Qz-1 - 23	Core	24.2	23.5	b.d.l.	1.0	117.6	466998	23.3	1.1	181.8	0.9
Qz-2 - 1	Rim	19.7	19.6	b.d.l.	0.6	90.2	466998	23.4	1.1	94.7	b.d.l.
Qz-2 - 2	Core	21.1	20.9	b.d.l.	0.7	95.8	466998	23.7	1.1	103.3	b.d.l.
Qz-2 - 3	Core	20.7	20.7	b.d.l.	0.6	95.1	466998	25.9	1.2	104.4	b.d.l.
Qz-2 - 4	Core	20.9	20.9	b.d.l.	0.7	97.9	466998	24.6	1.1	109.5	b.d.l.
Qz-2 - 5	Core	20.2	20.4	b.d.l.	0.8	96.6	466998	25.9	1.1	107.0	b.d.l.
Qz-2 - 6	Core	20.2	19.9	b.d.l.	0.6	95.8	466998	23.4	1.1	106.8	b.d.l.
Qz-2 - 7	Core	18.9	18.4	b.d.l.	0.7	90.2	466998	26.3	1.1	92.9	b.d.l.
Qz-2 - 8	Core	17.8	17.8	b.d.l.	0.6	89.3	466998	25.6	1.1	85.8	0.9
Qz-2 - 9	Core	17.6	17.6	b.d.l.	0.8	91.6	466998	21.9	1.1	84.8	b.d.l.
Qz-2 - 10	Core	18.0	17.5	b.d.l.	0.7	91.2	466998	25.8	1.1	90.9	0.9
Qz-2 - 11	Core	17.5	17.2	b.d.l.	0.7	89.7	466998	20.9	1.1	88.1	b.d.l.
Qz-2 - 12	Core	17.4	17.5	b.d.l.	0.6	91.9	466998	25.7	1.1	102.4	b.d.l.
Qz-2 - 13	Core	17.9	17.4	b.d.l.	0.6	93.5	466998	20.0	1.1	97.8	b.d.l.
Qz-2 - 14	Core	17.4	17.3	b.d.l.	0.8	91.6	466998	26.3	1.1	100.3	b.d.l.
Qz-2 - 15	Core	17.2	17.2	b.d.l.	0.7	90.6	466998	23.8	1.0	99.9	0.9
Qz-2 - 16	Core	17.6	17.4	b.d.l.	0.7	89.7	466998	17.3	1.0	98.7	0.7
Qz-2 - 17	Core	18.0	17.4	b.d.l.	0.8	90.7	466998	22.6	1.0	97.6	0.9
Qz-2 - 18	Core	17.5	17.3	b.d.l.	0.7	91.2	466998	28.9	1.1	96.6	b.d.l.
Qz-2 - 19	Core	17.8	17.4	0.3	0.9	89.4	466998	26.2	1.1	95.2	0.9
Qz-2 - 20	Core	17.8	17.6	b.d.l.	0.6	90.5	466998	28.0	1.1	94.7	b.d.l.
Qz-2 - 21	Core	17.7	17.8	b.d.l.	0.7	91.2	466998	24.4	1.1	94.4	b.d.l.
Qz-2 - 22	Core	17.5	17.6	b.d.l.	0.9	89.8	466998	21.2	1.1	91.6	0.8
Qz-2 - 23	Core	18.0	18.0	b.d.l.	0.6	90.4	466998	20.8	1.0	90.4	b.d.l.
Qz-2 - 24	Core	18.5	18.2	b.d.l.	0.6	90.3	466998	21.3	1.0	91.7	b.d.l.
Qz-2 - 25	Core	18.5	18.4	b.d.l.	0.5	92.0	466998	26.4	1.1	91.1	b.d.l.
Qz-2 - 26	Core	19.2	18.6	b.d.l.	0.7	92.5	466998	20.2	1.1	90.1	0.9
Qz-2 - 27	Core	19.1	18.6	b.d.l.	0.8	90.6	466998	25.3	1.0	86.0	b.d.l.
Qz-2 - 28	Core	19.3	18.9	b.d.l.	0.6	91.5	466998	25.3	1.0	87.2	0.8
Qz-2 - 29	Core	19.2	18.8	b.d.l.	0.8	92.3	466998	16.7	1.1	88.7	b.d.l.
Qz-2 - 30	Core	19.1	18.8	b.d.l.	0.7	91.5	466998	22.4	1.0	83.3	b.d.l.
Qz-2 - 31	Core	19.5	19.0	b.d.l.	0.6	91.2	466998	21.4	1.1	79.4	b.d.l.
Qz-2 - 32	Core	20.0	19.4	b.d.l.	0.9	93.3	466998	21.1	1.0	80.1	0.8
Qz-2 - 33	Core	20.0	19.9	b.d.l.	0.8	94.5	466998	23.2	1.1	99.4	0.9
Qz-2 - 34	Core	19.9	20.0	b.d.l.	0.7	95.9	466998	21.4	1.1	104.7	b.d.l.
Qz-2 - 35	Core	20.7	20.2	b.d.l.	0.8	95.7	466998	21.9	1.0	101.4	b.d.l.
Qz-2 - 36	Rim	20.1	20.3	b.d.l.	0.6	95.1	466998	24.2	1.1	98.4	b.d.l.
Qz-2 - 37	Rim	20.6	20.3	b.d.l.	0.8	94.4	466998	20.0	1.0	95.3	0.9
Qz-2 - 38	Rim	20.7	20.0	b.d.l.	0.6	91.5	466998	18.0	1.0	86.2	b.d.l.
Qz-2 - 39	Rim	20.3	20.0	b.d.l.	0.7	89.5	466998	16.9	1.0	85.2	b.d.l.
Qz-2 - 40	Rim	21.4	21.1	b.d.l.	0.7	94.0	466998	19.3	1.0	86.1	b.d.l.
Qz-2 - 41	Rim	21.7	21.2	b.d.l.	0.8	94.4	466998	22.3	1.0	95.1	b.d.l.
Qz-3 - 1	Rim	20.4	20.0	b.d.l.	0.5	91.7	466998	24.2	0.9	87.1	b.d.l.
Qz-3 - 2	Rim	20.5	20.2	b.d.l.	0.8	93.0	466998	21.7	1.0	75.0	1.0
Qz-3 - 3	Core	19.0	18.9	b.d.l.	0.6	87.1	466998	15.8	1.0	73.6	b.d.l.
Qz-3 - 4	Core	19.5	19.5	b.d.l.	0.8	91.5	466998	21.2	0.9	90.8	b.d.l.
Qz-3 - 5	Core	20.0	19.8	b.d.l.	0.7	95.1	466998	21.1	1.0	98.1	b.d.l.
Qz-3 - 6	Core	20.4	20.1	b.d.l.	0.8	99.2	466998	21.7	1.0	105.6	b.d.l.
Qz-3 - 7	Core	21.1	20.3	b.d.l.	0.9	106.1	466998	22.8	1.1	121.7	b.d.l.
Qz-3 - 8	Core	20.2	20.4	b.d.l.	0.9	100.1	466998	24.8	1.1	125.0	b.d.l.
Qz-3 - 9	Core	19.7	19.0	b.d.l.	0.9	101.9	466998	20.9	1.1	125.9	b.d.l.
Qz-3 - 10	Core	19.3	19.0	b.d.l.	1.1	111.5	466998	19.9	1.0	129.8	0.9
Qz-3 - 11	Core	18.6	18.2	b.d.l.	1.0	103.1	466998	20.0	1.0	127.8	b.d.l.
Qz-3 - 12	Core	18.2	18.0	b.d.l.	0.9	104.1	466998	19.8	1.0	129.2	b.d.l.
Qz-3 - 13	Core	17.8	17.5	b.d.l.	0.9	102.7	466998	19.5	1.0	128.6	b.d.l.
Qz-3 - 14	Core	17.6	17.3	b.d.l.	1.1	101.7	466998	16.4	1.0	127.5	b.d.l.
Qz-3 - 15	Core	17.6	17.1	b.d.l.	1.2	107.4	466998	19.9	1.0	135.3	b.d.l.
Qz-3 - 16	Core	17.4	17.4	b.d.l.	0.9	96.0	466998	17.7	1.0	131.0	b.d.l.
Qz-3 - 17	Core	17.4	17.0	b.d.l.	1.0	103.4	466998	20.5	1.1	132.1	b.d.l.
Qz-3 - 18	Core	18.3	18.0	b.d.l.	0.9	100.5	466998	18.6	1.0	130.7	b.d.l.
Qz-3 - 20	Core	18.4	18.1	b.d.l.	1.1	101.5	466998	20.5	0.9	122.3	b.d.l.
Qz-3 - 21	Core	19.0	18.4	b.d.l.	1.0	105.8	466998	19.1	1.0	124.1	b.d.l.
Qz-3 - 22	Core	19.3	19.1	b.d.l.	0.7	102.0	466998	22.1	1.0	123.5	b.d.l.
Qz-3 - 23	Core	19.8	19.5	b.d.l.	1.0	102.6	466998	16.7	0.9	123.6	b.d.l.
Qz-3 - 24	Core	20.6	20.1	b.d.l.	1.1	104.8	466998	17.3	0.9	123.2	b.d.l.

Table A1.3: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	Sc	Ti	Ge
Qz-4 - 1	Rim	19.4	19.1	b.d.l.	0.6	89.6	466998	18.2	1.0	80.3	b.d.l.
Qz-4 - 3	Rim	18.6	18.2	b.d.l.	0.7	87.6	466998	18.1	1.0	79.8	b.d.l.
Qz-4 - 4	Core	19.2	18.5	b.d.l.	0.8	90.7	466998	15.7	0.9	79.6	b.d.l.
Qz-4 - 5	Core	18.3	18.0	b.d.l.	0.8	89.5	466998	23.5	0.9	86.2	b.d.l.
Qz-4 - 6	Core	18.0	17.2	b.d.l.	0.6	86.9	466998	16.3	0.9	88.4	b.d.l.
Qz-4 - 7	Core	17.9	17.1	b.d.l.	0.8	87.7	466998	17.1	0.9	94.5	b.d.l.
Qz-4 - 8	Core	17.6	17.4	b.d.l.	0.8	90.3	466998	18.1	0.9	101.6	b.d.l.
Qz-4 - 9	Core	17.5	17.4	b.d.l.	0.7	93.1	466998	18.0	0.9	106.8	b.d.l.
Qz-4 - 10	Core	17.5	17.2	b.d.l.	0.8	93.5	466998	19.2	1.0	106.9	0.8
Qz-4 - 11	Core	17.3	17.1	b.d.l.	0.7	94.9	466998	21.1	0.9	108.5	0.9
Qz-4 - 12	Core	17.1	16.8	b.d.l.	0.6	95.3	466998	21.6	1.0	110.3	b.d.l.
Qz-4 - 13	Core	17.1	16.7	b.d.l.	1.0	96.1	466998	15.7	0.9	111.2	b.d.l.
Qz-4 - 14	Core	17.3	16.9	b.d.l.	0.8	96.7	466998	13.5	0.9	114.5	b.d.l.
Qz-4 - 15	Core	17.4	17.1	b.d.l.	0.8	99.9	466998	17.7	0.9	116.6	0.8
Qz-4 - 16	Core	17.7	17.1	0.2	1.0	101.5	466998	17.9	0.9	115.6	b.d.l.
Qz-4 - 17	Core	17.7	17.0	b.d.l.	0.9	102.9	466998	18.7	0.9	112.1	b.d.l.
Qz-4 - 18	Core	16.9	16.7	b.d.l.	0.9	102.4	466998	19.0	1.0	111.6	b.d.l.
Qz-4 - 19	Core	16.8	16.5	b.d.l.	0.9	101.2	466998	15.7	0.9	112.1	b.d.l.
Qz-4 - 20	Core	16.4	16.2	b.d.l.	0.8	99.2	466998	18.9	1.0	117.0	0.8
Qz-4 - 21	Core	16.2	15.5	b.d.l.	0.8	96.2	466998	21.2	0.9	108.3	0.8
Qz-4 - 22	Core	16.3	15.4	b.d.l.	0.9	93.3	466998	18.5	0.9	110.7	b.d.l.
Qz-4 - 23	Core	16.3	15.9	b.d.l.	0.7	95.6	466998	22.3	1.0	107.6	b.d.l.
Qz-4 - 24	Core	16.7	16.4	b.d.l.	0.9	94.1	466998	20.3	0.9	111.4	b.d.l.
Qz-4 - 25	Core	17.7	17.8	b.d.l.	0.7	94.5	466998	17.2	0.9	112.7	0.8
Qz-4 - 26	Core	19.6	19.0	b.d.l.	0.8	92.7	466998	15.7	0.9	105.6	0.9
Qz-6 - 1	Rim	19.8	19.4	b.d.l.	0.7	87.6	466998	18.4	0.9	72.1	b.d.l.
Qz-6 - 2	Core	20.1	19.5	b.d.l.	0.6	90.0	466998	18.4	0.9	76.0	b.d.l.
Qz-6 - 3	Core	20.6	19.7	b.d.l.	0.6	89.2	466998	23.2	0.9	81.0	0.8
Qz-6 - 4	Core	19.8	19.6	b.d.l.	0.7	90.1	466998	19.0	0.9	79.5	b.d.l.
Qz-6 - 5	Core	21.2	20.5	b.d.l.	0.8	97.3	466998	20.5	0.9	81.4	0.8
Qz-6 - 6	Core	18.8	18.6	b.d.l.	0.7	89.4	466998	16.5	0.9	80.7	b.d.l.
Qz-6 - 7	Core	18.7	18.5	b.d.l.	0.5	90.0	466998	15.8	0.9	84.8	b.d.l.
Qz-6 - 8	Core	18.3	18.2	b.d.l.	0.7	91.1	466998	18.6	0.9	84.4	b.d.l.
Qz-6 - 9	Core	17.5	17.0	b.d.l.	0.5	87.1	466998	18.5	0.9	83.2	b.d.l.
Qz-6 - 10	Core	17.1	17.1	b.d.l.	0.6	88.4	466998	15.6	0.9	84.3	b.d.l.
Qz-6 - 11	Core	16.0	16.0	b.d.l.	0.7	87.1	466998	15.1	0.9	82.6	b.d.l.
Qz-6 - 12	Core	16.4	16.0	b.d.l.	0.5	87.2	466998	25.7	0.9	86.6	0.7
Qz-6 - 13	Core	16.4	16.0	b.d.l.	0.6	90.2	466998	17.0	1.0	88.7	b.d.l.
Qz-6 - 14	Core	16.4	15.3	b.d.l.	0.7	88.2	466998	16.8	0.8	87.3	b.d.l.
Qz-6 - 15	Core	15.5	15.2	b.d.l.	0.7	87.7	466998	19.1	0.9	89.7	b.d.l.
Qz-6 - 16	Core	16.3	15.4	b.d.l.	0.7	86.9	466998	16.0	0.9	90.6	b.d.l.
Qz-6 - 17	Core	15.2	14.8	b.d.l.	0.9	89.3	466998	23.1	0.9	95.3	b.d.l.
Qz-6 - 18	Core	15.0	14.8	b.d.l.	0.7	91.2	466998	18.4	0.9	95.9	b.d.l.
Qz-6 - 19	Core	15.3	14.8	b.d.l.	0.8	90.6	466998	19.2	0.8	98.2	b.d.l.
Qz-6 - 20	Core	15.3	15.0	b.d.l.	0.7	91.6	466998	17.1	0.9	98.3	b.d.l.
Qz-6 - 21	Core	16.0	15.2	b.d.l.	0.7	91.2	466998	17.9	0.9	96.1	b.d.l.
Qz-6 - 22	Core	16.7	16.3	b.d.l.	0.6	90.0	466998	18.5	0.9	98.0	b.d.l.
Qz-6 - 23	Core	18.4	18.5	b.d.l.	0.5	90.3	466998	18.8	0.9	98.7	b.d.l.
Qz-6 - 24	Core	20.6	19.7	b.d.l.	0.7	90.7	466998	24.6	0.9	101.0	b.d.l.
Qz-6 - 25	Core	21.1	20.4	b.d.l.	0.9	92.5	466998	15.6	0.9	102.3	b.d.l.
Qz-7 - 1	Rim	18.4	18.1	b.d.l.	0.6	91.5	466998	21.1	0.9	83.5	b.d.l.
Qz-7 - 2	Rim	17.9	17.5	b.d.l.	0.8	92.4	466998	19.5	0.9	88.8	b.d.l.
Qz-7 - 3	Rim	16.4	16.0	b.d.l.	0.7	86.5	466998	19.8	0.9	79.1	b.d.l.
Qz-7 - 4	Core	16.2	15.6	b.d.l.	0.7	87.0	466998	18.7	0.9	80.1	b.d.l.
Qz-7 - 5	Core	14.8	14.4	b.d.l.	0.7	85.5	466998	21.9	0.9	76.6	b.d.l.
Qz-7 - 6	Core	14.9	14.4	b.d.l.	0.9	93.1	466998	16.2	0.9	88.0	b.d.l.
Qz-7 - 7	Core	14.6	14.4	b.d.l.	0.9	95.0	466998	15.8	0.8	94.6	b.d.l.
Qz-7 - 8	Core	14.0	13.8	b.d.l.	0.6	90.8	466998	14.9	0.9	91.6	b.d.l.
Qz-7 - 9	Core	13.9	13.9	b.d.l.	0.9	91.2	466998	17.9	0.9	96.7	0.9
Qz-7 - 10	Core	14.9	14.4	b.d.l.	0.7	92.5	466998	18.6	0.8	100.5	b.d.l.
Qz-7 - 11	Core	15.1	14.8	b.d.l.	0.9	94.8	466998	17.3	0.9	101.3	0.8
Qz-7 - 12	Core	15.6	15.0	b.d.l.	0.8	94.4	466998	14.3	1.0	100.0	0.9
Qz-7 - 13	Core	14.4	14.0	b.d.l.	1.1	100.5	466998	18.6	1.0	104.2	b.d.l.
Qz-7 - 14	Core	14.7	14.4	b.d.l.	0.9	96.3	466998	16.8	0.9	107.6	b.d.l.
Qz-7 - 16	Core	14.7	14.9	b.d.l.	1.2	107.5	466998	13.9	0.9	132.2	b.d.l.
Qz-7 - 17	Core	15.8	15.4	b.d.l.	0.9	106.4	466998	13.5	0.9	133.1	b.d.l.
Qz-7 - 18	Core	16.0	15.3	b.d.l.	1.1	101.9	466998	18.1	0.9	140.8	b.d.l.
Qz-7 - 19	Core	15.5	14.8	b.d.l.	0.8	104.7	466998	18.8	1.0	131.5	1.0
Qz-7 - 20	Core	15.2	14.7	b.d.l.	0.9	101.7	466998	17.9	0.9	124.5	b.d.l.
Qz-7 - 21	Core	14.9	14.9	0.3	0.9	106.2	466998	20.1	0.9	122.5	b.d.l.
Qz-7 - 22	Core	15.8	15.6	b.d.l.	0.7	100.1	466998	18.6	0.9	117.9	b.d.l.
Qz-7 - 23	Core	16.0	15.8	b.d.l.	1.0	108.7	466998	17.6	0.9	124.2	b.d.l.
Qz-7 - 24	Core	16.7	16.9	b.d.l.	1.2	109.5	466998	17.4	1.0	140.2	b.d.l.
Qz-7 - 25	Core	18.6	18.3	b.d.l.	1.2	106.6	466998	15.3	0.8	140.7	b.d.l.
Qz-7 - 26	Core	19.9	19.5	0.3	0.9	108.5	466998	15.7	0.9	134.5	b.d.l.
Qz-7 - 27	Core	20.3	19.5	b.d.l.	1.2	99.6	466998	17.5	0.9	124.4	b.d.l.
Qz-7 - 28	Core	19.2	19.0	b.d.l.	0.9	101.9	466998	21.6	0.9	114.7	b.d.l.
Qz-7 - 29	Core	19.9	19.3	b.d.l.	0.8	104.5	466998	15.8	0.8	109.1	1.0
Qz-7 - 30	Core	19.7	19.4	b.d.l.	0.8	99.5	466998	17.2	0.8	111.5	b.d.l.
Qz-7 - 31	Core	19.3	18.6	b.d.l.	0.8	95.8	466998	20.7	0.8	102.2	b.d.l.
Qz-7 - 32	Core	19.5	19.4	b.d.l.	0.8	97.1	466998	17.0	0.9	100.5	b.d.l.
Qz-7 - 33	Rim	19.9	19.2	b.d.l.	0.9	94.4	466998	17.7	0.9	91.5	b.d.l.
Qz-7 - 34	Rim	18.5	18.2	b.d.l.	0.7	87.7	466998	17.2	0.8	74.9	b.d.l.
Qz-7 - 35	Rim	18.6	18.5	b.d.l.	0.6	86.8	466998	15.0	0.9	76.0	b.d.l.
Qz-7 - 36	Rim	19.8	19.2	b.d.l.	0.7	90.1	466998	20.2	0.9	83.6	b.d.l.
Qz-7 - 37	Rim	19.3	19.1	b.d.l.	0.7	88.0	466998	15.4	0.9	84.2	b.d.l.

Table A1.3: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	Sc	Ti	Ge
Qz-8 - 1	Core	21.1	20.4	b.d.l.	0.6	96.7	466998	19.7	0.8	106.9	1.1
Qz-8 - 2	Core	20.5	20.2	b.d.l.	0.7	95.6	466998	18.0	0.8	105.4	b.d.l.
Qz-8 - 3	Core	18.9	19.0	b.d.l.	0.7	95.5	466998	20.6	0.8	106.0	1.1
Qz-8 - 4	Core	18.0	17.7	b.d.l.	0.8	96.2	466998	17.4	0.9	106.7	b.d.l.
Qz-8 - 5	Core	17.3	17.3	b.d.l.	0.8	98.1	466998	15.2	0.8	109.1	b.d.l.
Qz-8 - 6	Core	17.2	16.9	b.d.l.	0.8	98.2	466998	14.4	0.8	107.1	b.d.l.
Qz-8 - 7	Core	17.7	17.9	b.d.l.	0.8	99.5	466998	15.7	0.8	112.2	1.0
Qz-8 - 8	Core	17.9	17.4	b.d.l.	0.8	99.1	466998	20.1	0.8	109.1	b.d.l.
Qz-8 - 9	Core	16.8	16.5	b.d.l.	0.9	95.9	466998	18.0	0.8	113.8	1.0
Qz-8 - 11	Core	14.9	14.8	0.5	0.8	99.4	466998	15.1	0.8	114.8	1.3
Qz-8 - 24	Core	16.5	16.4	0.3	0.9	97.4	466998	16.3	0.8	102.7	b.d.l.
Qz-8 - 25	Core	16.4	16.2	b.d.l.	0.7	93.9	466998	15.5	0.8	95.2	0.8
Qz-8 - 26	Core	16.6	16.4	b.d.l.	0.8	91.2	466998	17.3	0.8	91.5	b.d.l.
Qz-8 - 27	Core	17.3	16.9	b.d.l.	0.7	90.6	466998	16.9	0.8	92.1	b.d.l.
Qz-8 - 28	Core	18.5	18.5	b.d.l.	0.7	93.6	466998	12.2	0.8	90.7	0.7
Qz-8 - 29	Core	19.0	18.6	b.d.l.	0.6	88.7	466998	15.2	0.8	84.3	b.d.l.
Qz-8 - 30	Rim	19.7	18.9	b.d.l.	0.7	88.1	466998	12.7	0.8	85.5	b.d.l.
Qz-8 - 31	Rim	19.9	19.6	b.d.l.	0.7	89.7	466998	16.5	0.9	91.1	b.d.l.
Qz-8 - 32	Rim	19.5	19.4	b.d.l.	0.7	88.0	466998	17.4	0.8	90.0	b.d.l.
Qz-8 - 33	Rim	20.6	20.1	b.d.l.	0.6	90.9	466998	15.1	0.8	88.6	1.0
Qz-9 - 1	Rim	20.4	20.4	b.d.l.	0.8	92.5	466998	12.4	0.8	70.5	b.d.l.
Qz-9 - 2	Rim	19.7	18.9	b.d.l.	0.7	84.1	466998	11.2	0.8	66.2	b.d.l.
Qz-9 - 3	Rim	19.4	18.9	b.d.l.	0.5	84.3	466998	17.6	0.8	67.1	b.d.l.
Qz-9 - 4	Rim	20.8	20.8	b.d.l.	0.6	94.4	466998	10.8	0.8	69.1	b.d.l.
Qz-9 - 5	Rim	20.4	19.5	b.d.l.	0.6	88.6	466998	13.3	0.8	68.9	0.8
Qz-9 - 6	Rim	19.5	19.4	b.d.l.	0.7	87.1	466998	16.3	0.9	71.8	b.d.l.
Qz-9 - 7	Rim	20.0	19.8	b.d.l.	0.6	89.8	466998	13.9	0.8	77.5	b.d.l.
Qz-9 - 8	Rim	20.8	20.5	b.d.l.	0.8	94.4	466998	14.7	0.8	106.6	0.9
Qz-9 - 9	Core	21.0	20.8	b.d.l.	0.9	96.2	466998	17.6	0.8	114.9	b.d.l.
Qz-9 - 10	Core	21.1	20.5	b.d.l.	0.9	96.2	466998	14.6	0.8	115.7	b.d.l.
Qz-9 - 11	Core	21.3	20.5	b.d.l.	0.8	97.9	466998	13.6	0.8	118.2	b.d.l.
Qz-9 - 12	Core	20.2	20.1	b.d.l.	0.7	98.0	466998	17.1	0.8	124.2	b.d.l.
Qz-9 - 13	Core	20.3	19.8	b.d.l.	0.7	98.1	466998	12.5	0.8	119.6	b.d.l.
Qz-9 - 14	Core	19.2	18.5	b.d.l.	1.1	96.6	466998	13.8	0.8	115.7	b.d.l.
Qz-9 - 15	Core	18.1	17.6	b.d.l.	1.0	95.6	466998	14.0	0.7	113.9	b.d.l.
Qz-9 - 16	Core	18.3	17.7	b.d.l.	1.1	95.9	466998	11.9	0.8	114.4	0.8
Qz-9 - 17	Core	18.1	17.8	b.d.l.	1.1	94.9	466998	14.5	0.8	117.9	b.d.l.
Qz-9 - 18	Core	18.4	17.7	b.d.l.	1.1	102.3	466998	17.1	0.8	131.4	b.d.l.
Qz-9 - 19	Core	17.9	17.0	b.d.l.	0.8	94.7	466998	13.8	0.9	129.7	b.d.l.
Qz-9 - 20	Core	17.3	16.6	b.d.l.	0.7	103.3	466998	17.1	0.8	132.4	0.9
Qz-9 - 21	Core	17.0	16.6	b.d.l.	0.8	97.7	466998	15.6	0.8	132.7	b.d.l.
Qz-9 - 22	Core	17.1	17.0	b.d.l.	1.0	100.3	466998	16.8	0.8	119.9	1.0
Qz-9 - 23	Core	17.0	17.0	b.d.l.	1.3	110.1	466998	11.2	0.9	135.1	b.d.l.
Qz-9 - 24	Core	16.6	16.2	b.d.l.	1.0	101.7	466998	20.8	0.8	128.5	b.d.l.
Qz-9 - 25	Core	17.9	16.7	0.6	1.6	107.8	466998	16.0	0.9	130.5	b.d.l.
Qz-9 - 26	Core	19.0	18.4	b.d.l.	1.6	107.1	466998	14.7	0.9	125.7	b.d.l.
Qz-9 - 27	Core	17.1	16.9	b.d.l.	1.1	104.0	466998	17.7	0.9	120.1	b.d.l.
Qz-9 - 28	Core	16.5	16.3	b.d.l.	0.9	96.7	466998	13.3	0.9	123.4	b.d.l.
Qz-9 - 29	Core	16.0	15.8	b.d.l.	0.8	97.6	466998	19.5	0.9	122.1	b.d.l.
Qz-9 - 30	Core	15.8	15.5	b.d.l.	1.0	99.0	466998	b.d.l.	0.8	118.9	b.d.l.
Qz-9 - 31	Rim	16.9	17.3	b.d.l.	1.1	96.8	466998	b.d.l.	0.8	117.0	b.d.l.
Qz-9 - 32	Rim	17.3	17.0	b.d.l.	1.1	94.3	466998	11.1	0.8	87.4	b.d.l.
Qz-9 - 33	Rim	17.3	16.9	b.d.l.	0.9	92.8	466998	10.7	0.8	84.6	b.d.l.
Qz-9 - 34	Rim	16.3	16.1	b.d.l.	0.7	87.1	466998	12.0	0.8	79.6	b.d.l.
Qz-9 - 35	Rim	15.7	15.7	b.d.l.	0.6	82.0	466998	10.9	0.8	74.7	b.d.l.
Qz-10 - 1	Rim	20.7	20.4	b.d.l.	0.8	93.3	466998	11.1	0.8	87.3	b.d.l.
Qz-10 - 2	Rim	21.0	20.6	b.d.l.	0.8	93.5	466998	14.7	0.7	90.1	b.d.l.
Qz-10 - 3	Rim	20.3	19.8	b.d.l.	0.7	91.5	466998	15.0	0.7	89.7	b.d.l.
Qz-10 - 4	Rim	20.9	20.3	b.d.l.	0.7	95.4	466998	14.6	0.8	95.5	b.d.l.
Qz-10 - 5	Rim	20.2	20.1	b.d.l.	0.8	93.7	466998	14.2	0.7	91.9	1.1
Qz-10 - 6	Core	19.8	19.5	b.d.l.	0.7	92.3	466998	16.5	0.8	83.7	b.d.l.
Qz-10 - 7	Core	18.9	18.5	b.d.l.	0.7	88.9	466998	14.9	0.8	84.7	b.d.l.
Qz-10 - 8	Core	18.7	18.4	b.d.l.	1.0	90.4	466998	12.6	0.8	84.2	b.d.l.
Qz-10 - 9	Core	18.5	18.5	b.d.l.	0.6	91.4	466998	10.1	0.8	79.4	b.d.l.
Qz-10 - 10	Core	19.2	18.2	b.d.l.	0.7	91.7	466998	13.8	0.8	77.1	b.d.l.
Qz-10 - 11	Core	18.2	17.9	b.d.l.	0.7	91.7	466998	14.8	0.8	81.0	b.d.l.
Qz-10 - 12	Core	17.9	17.8	b.d.l.	1.1	92.3	466998	12.9	0.8	82.2	b.d.l.
Qz-10 - 13	Core	18.2	17.8	b.d.l.	0.8	94.6	466998	14.9	0.8	85.9	b.d.l.
Qz-10 - 14	Core	17.7	17.5	b.d.l.	0.7	92.7	466998	16.0	0.8	86.5	b.d.l.
Qz-10 - 15	Core	17.9	17.0	b.d.l.	0.7	93.2	466998	19.5	0.8	86.0	b.d.l.
Qz-10 - 16	Core	17.1	16.7	b.d.l.	0.7	91.8	466998	17.3	0.8	84.2	0.8
Qz-10 - 17	Core	16.6	16.3	b.d.l.	0.8	90.0	466998	12.1	0.8	85.3	b.d.l.
Qz-10 - 18	Core	16.7	16.2	b.d.l.	0.7	91.4	466998	16.6	0.8	86.6	b.d.l.
Qz-10 - 19	Core	16.9	16.2	b.d.l.	0.6	91.5	466998	16.4	0.8	84.1	b.d.l.
Qz-10 - 20	Core	17.0	16.0	b.d.l.	0.9	91.3	466998	16.5	0.7	85.5	b.d.l.
Qz-10 - 21	Core	16.8	16.1	b.d.l.	0.8	90.7	466998	11.3	0.8	85.0	b.d.l.
Qz-10 - 22	Core	16.3	16.2	b.d.l.	0.8	89.7	466998	15.9	0.8	86.7	b.d.l.
Qz-10 - 23	Core	16.5	16.1	b.d.l.	0.7	89.1	466998	15.2	0.7	83.7	1.1
Qz-10 - 24	Core	16.9	16.3	b.d.l.	0.4	89.8	466998	16.4	0.7	83.1	b.d.l.
Qz-10 - 25	Core	16.8	17.1	b.d.l.	0.9	90.0	466998	12.0	0.7	84.6	b.d.l.
Qz-10 - 26	Core	18.0	17.7	b.d.l.	0.8	91.2	466998	13.7	0.7	83.6	b.d.l.

Table A1.3: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	Sc	Ti	Ge
Qz-13 - 1	Rim	21.1	20.7	b.d.l.	0.7	95.9	466998	9.4	0.8	92.3	1.1
Qz-13 - 2	Rim	20.2	19.8	b.d.l.	0.7	90.2	466998	15.2	0.8	81.0	b.d.l.
Qz-13 - 3	Core	20.1	19.4	b.d.l.	0.7	88.4	466998	14.9	0.8	79.3	b.d.l.
Qz-13 - 4	Core	20.3	19.6	b.d.l.	0.7	90.2	466998	14.1	0.7	88.9	b.d.l.
Qz-13 - 5	Core	19.8	19.5	b.d.l.	0.5	90.3	466998	11.4	0.8	89.0	0.9
Qz-13 - 6	Core	20.1	19.5	b.d.l.	1.1	92.0	466998	12.8	0.8	87.2	b.d.l.
Qz-13 - 7	Core	19.8	19.4	b.d.l.	0.9	94.1	466998	12.5	0.8	92.4	b.d.l.
Qz-13 - 8	Core	18.8	18.6	b.d.l.	0.7	90.1	466998	10.1	0.8	90.1	b.d.l.
Qz-13 - 9	Core	19.0	18.5	b.d.l.	0.6	89.8	466998	10.3	0.7	90.8	1.0
Qz-13 - 10	Core	18.2	17.9	b.d.l.	0.7	89.4	466998	14.4	0.8	89.6	0.8
Qz-13 - 11	Core	17.1	17.1	b.d.l.	0.6	89.9	466998	11.6	0.7	95.3	b.d.l.
Qz-13 - 12	Core	17.3	16.9	b.d.l.	0.7	90.9	466998	14.5	0.7	96.1	b.d.l.
Qz-13 - 13	Core	18.0	17.8	b.d.l.	0.6	90.3	466998	13.8	0.8	89.5	b.d.l.
Qz-13 - 14	Core	18.7	18.3	b.d.l.	0.8	89.4	466998	13.7	0.8	92.6	b.d.l.
Qz-13 - 15	Core	18.9	18.5	b.d.l.	0.6	89.4	466998	10.7	0.8	89.6	b.d.l.
Qz-13 - 16	Core	19.7	18.7	b.d.l.	0.8	88.4	466998	14.4	0.8	89.3	1.0
Qz-13 - 17	Core	20.0	19.5	b.d.l.	0.6	91.9	466998	15.7	0.8	91.4	b.d.l.
Qz-13 - 18	Core	19.8	19.2	b.d.l.	0.5	90.1	466998	10.7	0.8	92.9	b.d.l.
Qz-13 - 19	Core	19.3	19.2	b.d.l.	0.8	88.8	466998	b.d.l.	0.7	86.2	b.d.l.
Qz-13 - 20	Core	20.7	19.9	b.d.l.	0.7	91.3	466998	13.2	0.8	91.8	0.9
Qz-14 - 1	Rim	18.9	18.1	b.d.l.	0.5	83.5	466998	14.8	0.7	73.5	0.9
Qz-14 - 2	Rim	18.3	18.2	b.d.l.	0.7	87.0	466998	13.9	0.8	74.4	1.2
Qz-14 - 3	Rim	17.8	17.0	b.d.l.	0.6	83.9	466998	9.8	0.7	70.9	1.0
Qz-14 - 4	Rim	17.9	17.4	b.d.l.	0.4	87.2	466998	9.9	0.8	79.8	b.d.l.
Qz-14 - 5	Core	18.2	17.7	b.d.l.	0.7	90.1	466998	10.8	0.8	88.7	b.d.l.
Qz-14 - 6	Core	17.7	17.5	b.d.l.	0.8	89.3	466998	11.7	0.7	90.5	0.8
Qz-14 - 7	Core	18.1	17.6	b.d.l.	0.6	90.4	466998	8.7	0.8	94.1	b.d.l.
Qz-14 - 8	Core	17.0	16.6	b.d.l.	0.7	88.6	466998	10.3	0.8	84.4	b.d.l.
Qz-14 - 9	Core	16.5	16.2	b.d.l.	0.8	88.7	466998	11.7	0.7	82.5	b.d.l.
Qz-14 - 10	Core	16.6	16.3	b.d.l.	0.6	88.2	466998	11.1	0.7	85.1	b.d.l.
Qz-14 - 11	Core	16.7	16.4	b.d.l.	0.7	92.7	466998	b.d.l.	0.8	102.7	b.d.l.
Qz-14 - 12	Core	17.2	16.3	b.d.l.	1.0	96.6	466998	b.d.l.	0.8	104.1	b.d.l.
Qz-14 - 13	Core	17.0	16.5	b.d.l.	0.5	94.8	466998	9.6	0.8	102.2	b.d.l.
Qz-14 - 14	Core	17.2	16.5	b.d.l.	0.8	96.0	466998	14.2	0.7	105.6	b.d.l.
Qz-14 - 15	Core	16.6	16.5	b.d.l.	0.7	97.8	466998	12.3	0.7	109.3	b.d.l.
Qz-14 - 16	Core	16.9	16.4	b.d.l.	0.7	97.7	466998	11.2	0.8	106.8	1.1
Qz-14 - 17	Core	15.6	15.9	b.d.l.	0.7	95.5	466998	10.6	0.8	104.7	1.0
Qz-14 - 19	Core	15.8	15.5	0.4	0.9	92.1	466998	12.3	0.8	103.1	b.d.l.
Qz-14 - 20	Core	15.0	15.0	b.d.l.	0.7	93.6	466998	10.1	0.8	97.7	b.d.l.
Qz-14 - 22	Core	15.6	14.9	0.4	0.8	91.4	466998	17.3	0.8	96.7	b.d.l.
Qz-14 - 23	Core	15.4	15.2	b.d.l.	0.7	96.5	466998	b.d.l.	0.8	107.0	b.d.l.
Qz-14 - 24	Core	14.5	14.2	b.d.l.	0.8	93.7	466998	14.9	0.8	95.0	b.d.l.
Qz-14 - 25	Core	14.1	14.1	b.d.l.	0.9	96.0	466998	14.4	0.8	97.3	b.d.l.
Qz-14 - 26	Core	15.4	15.0	b.d.l.	0.8	95.8	466998	11.8	0.8	101.3	b.d.l.
Qz-14 - 27	Core	15.7	14.9	b.d.l.	1.1	93.8	466998	15.3	0.8	96.3	b.d.l.
Qz-14 - 28	Core	16.0	16.0	b.d.l.	1.0	92.4	466998	12.7	0.8	96.1	b.d.l.
Qz-14 - 29	Core	16.4	15.8	b.d.l.	0.7	90.6	466998	b.d.l.	0.8	92.2	0.9
Qz-14 - 30	Core	16.4	16.5	b.d.l.	0.8	92.3	466998	12.7	0.8	93.7	b.d.l.
Qz-14 - 31	Core	16.7	16.4	0.4	0.6	92.3	466998	14.1	0.7	94.8	b.d.l.
Qz-14 - 32	Core	16.8	16.4	b.d.l.	0.7	88.4	466998	10.5	0.7	88.6	b.d.l.
Qz-14 - 33	Core	18.1	17.2	b.d.l.	0.7	90.8	466998	9.7	0.8	84.8	b.d.l.
Qz-14 - 34	Rim	18.1	17.4	b.d.l.	0.7	89.9	466998	9.0	0.8	81.2	b.d.l.
Qz-14 - 35	Rim	17.8	17.4	b.d.l.	0.8	86.6	466998	15.0	0.8	78.5	b.d.l.
Qz-14 - 36	Rim	18.1	17.5	b.d.l.	0.5	84.2	466998	15.5	0.8	71.4	b.d.l.
Qz-15 - 1	Rim	19.7	19.7	b.d.l.	0.4	87.5	466998	b.d.l.	0.8	87.3	b.d.l.
Qz-15 - 2	Rim	19.0	18.2	b.d.l.	0.6	82.0	466998	11.8	0.7	73.6	0.9
Qz-15 - 3	Rim	18.1	18.1	b.d.l.	0.8	81.7	466998	b.d.l.	0.7	74.9	b.d.l.
Qz-15 - 4	Core	19.8	19.5	b.d.l.	0.5	89.3	466998	10.6	0.8	83.6	b.d.l.
Qz-15 - 5	Core	18.2	18.6	b.d.l.	0.8	87.5	466998	13.5	0.8	78.1	1.1
Qz-15 - 6	Core	18.2	17.7	b.d.l.	0.6	84.7	466998	b.d.l.	0.7	77.0	0.8
Qz-15 - 7	Core	17.4	17.0	b.d.l.	0.6	84.2	466998	15.8	0.8	75.0	b.d.l.
Qz-15 - 8	Core	16.9	16.7	b.d.l.	0.5	83.9	466998	10.3	0.8	76.1	b.d.l.
Qz-15 - 9	Core	16.7	16.6	b.d.l.	0.6	85.1	466998	8.9	0.8	78.8	b.d.l.
Qz-15 - 10	Core	17.2	16.5	b.d.l.	0.6	88.0	466998	12.8	0.8	80.0	b.d.l.
Qz-15 - 11	Core	16.2	16.1	b.d.l.	0.5	87.6	466998	12.5	0.8	83.9	b.d.l.
Qz-15 - 12	Core	16.1	15.7	b.d.l.	0.7	88.1	466998	11.6	0.8	92.2	1.0
Qz-15 - 13	Core	15.9	15.7	b.d.l.	0.6	90.5	466998	13.8	0.7	107.6	b.d.l.
Qz-15 - 14	Core	15.9	15.7	b.d.l.	0.6	91.7	466998	12.7	0.8	107.9	0.8
Qz-15 - 15	Core	16.0	15.5	b.d.l.	0.6	90.9	466998	10.3	0.9	109.8	b.d.l.
Qz-15 - 16	Core	15.6	15.1	b.d.l.	0.8	90.6	466998	9.0	0.8	110.6	b.d.l.
Qz-15 - 17	Core	14.7	14.5	b.d.l.	0.7	91.4	466998	11.0	0.8	109.7	b.d.l.
Qz-15 - 18	Core	15.4	14.7	b.d.l.	0.7	89.8	466998	13.0	0.8	107.9	0.9
Qz-15 - 19	Core	15.3	14.8	b.d.l.	0.7	89.6	466998	14.9	0.8	109.3	b.d.l.
Qz-15 - 20	Core	15.7	15.4	b.d.l.	0.7	91.8	466998	10.9	0.8	112.6	b.d.l.
Qz-15 - 21	Core	15.2	15.3	b.d.l.	0.7	91.2	466998	12.8	0.7	108.9	b.d.l.
Qz-15 - 22	Core	16.5	16.5	b.d.l.	0.7	92.5	466998	13.4	0.7	110.6	b.d.l.
Qz-15 - 23	Core	17.5	17.0	b.d.l.	0.6	92.6	466998	b.d.l.	0.8	109.2	b.d.l.
Qz-15 - 24	Core	18.0	17.8	b.d.l.	0.6	92.6	466998	9.2	0.8	107.0	b.d.l.
Qz-15 - 25	Core	19.1	18.9	b.d.l.	0.7	92.2	466998	13.9	0.7	98.7	b.d.l.
Qz-15 - 26	Core	19.3	19.1	b.d.l.	0.6	90.3	466998	10.9	0.7	89.8	b.d.l.
Qz-15 - 27	Core	19.9	19.4	b.d.l.	0.6	89.1	466998	14.7	0.8	90.7	b.d.l.

Table A1.3: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	Sc	Ti	Ge
Qz-16 - 1	Rim	17.7	17.2	b.d.l.	0.7	91.0	466998	11.1	0.8	98.8	b.d.l.
Qz-16 - 2	Rim	16.7	16.1	b.d.l.	0.7	90.9	466998	13.9	0.8	100.6	b.d.l.
Qz-16 - 3	Rim	16.2	15.8	b.d.l.	0.7	89.9	466998	12.0	0.8	104.3	b.d.l.
Qz-16 - 4	Rim	16.3	16.2	b.d.l.	0.8	91.6	466998	10.5	0.8	103.8	b.d.l.
Qz-16 - 5	Rim	16.0	16.1	b.d.l.	0.8	95.6	466998	12.4	0.8	108.7	b.d.l.
Qz-16 - 6	Core	15.7	15.4	b.d.l.	0.7	94.4	466998	8.9	0.7	110.5	0.9
Qz-16 - 13	Core	14.0	14.2	b.d.l.	0.8	95.6	466998	11.3	0.8	109.9	b.d.l.
Qz-16 - 14	Core	14.4	14.1	b.d.l.	0.7	94.7	466998	11.2	0.8	120.2	b.d.l.
Qz-16 - 15	Core	14.1	13.7	b.d.l.	0.5	92.6	466998	8.9	0.8	115.6	b.d.l.
Qz-16 - 16	Core	14.0	13.6	b.d.l.	0.6	92.3	466998	9.5	0.8	106.6	b.d.l.
Qz-16 - 17	Core	14.4	14.0	b.d.l.	0.8	94.1	466998	12.3	0.8	112.7	b.d.l.
Qz-16 - 18	Core	16.1	15.5	b.d.l.	0.8	98.9	466998	9.5	0.8	125.7	b.d.l.
Qz-16 - 19	Core	16.2	15.4	b.d.l.	1.0	104.5	466998	12.3	0.8	155.1	b.d.l.
Qz-16 - 20	Core	16.8	16.6	b.d.l.	0.8	106.5	466998	b.d.l.	0.7	142.4	b.d.l.
Qz-16 - 21	Core	16.6	16.4	b.d.l.	0.8	105.0	466998	10.2	0.8	147.0	b.d.l.
Qz-16 - 22	Core	17.2	16.6	b.d.l.	0.8	105.5	466998	9.1	0.8	144.1	1.1
Qz-16 - 23	Core	16.8	16.3	b.d.l.	0.9	100.7	466998	11.7	0.8	116.6	b.d.l.
Qz-16 - 24	Core	17.4	16.9	b.d.l.	0.6	99.0	466998	10.6	0.8	124.1	1.0
Qz-16 - 25	Core	17.8	17.0	b.d.l.	0.9	96.8	466998	12.2	0.7	108.4	b.d.l.
Qz-16 - 26	Core	18.0	17.8	b.d.l.	0.7	98.4	466998	11.8	0.7	102.3	b.d.l.
Qz-17 - 1	Rim	19.6	19.1	b.d.l.	0.7	91.8	466998	13.9	0.7	91.4	b.d.l.
Qz-17 - 2	Rim	19.4	18.7	b.d.l.	0.7	91.8	466998	14.6	0.8	92.5	b.d.l.
Qz-17 - 3	Rim	17.0	16.6	b.d.l.	0.7	82.8	466998	b.d.l.	0.8	71.8	0.9
Qz-17 - 4	Core	16.1	16.2	b.d.l.	0.6	82.6	466998	14.6	0.7	74.6	b.d.l.
Qz-17 - 5	Core	17.7	17.2	b.d.l.	0.7	88.1	466998	12.9	0.8	84.9	1.0
Qz-17 - 6	Core	16.7	16.3	b.d.l.	0.6	86.2	466998	13.0	0.8	80.8	b.d.l.
Qz-17 - 7	Core	16.8	16.6	b.d.l.	0.9	90.2	466998	10.1	0.8	91.3	b.d.l.
Qz-17 - 8	Core	17.2	16.4	b.d.l.	0.7	90.7	466998	12.8	0.8	87.0	b.d.l.
Qz-17 - 9	Core	17.1	16.3	b.d.l.	0.8	89.4	466998	10.2	0.8	83.0	1.1
Qz-17 - 10	Core	16.6	15.5	b.d.l.	0.6	88.1	466998	11.9	0.8	83.2	b.d.l.
Qz-17 - 11	Core	15.1	15.2	b.d.l.	0.7	86.5	466998	12.1	0.7	80.4	b.d.l.
Qz-17 - 12	Core	16.0	15.5	b.d.l.	0.8	89.1	466998	b.d.l.	0.8	91.8	0.9
Qz-17 - 13	Core	16.2	15.7	0.3	0.9	93.4	466998	11.6	0.8	102.7	b.d.l.
Qz-17 - 14	Core	16.1	15.5	b.d.l.	0.9	92.1	466998	13.0	0.8	98.2	0.9
Qz-17 - 15	Core	15.9	15.5	b.d.l.	0.8	91.5	466998	10.7	0.7	102.0	b.d.l.
Qz-17 - 16	Core	16.2	15.5	b.d.l.	1.2	93.1	466998	18.5	0.7	108.5	b.d.l.
Qz-17 - 18	Core	16.3	15.7	b.d.l.	1.0	99.4	466998	11.9	0.7	116.6	b.d.l.
Qz-17 - 19	Core	16.8	16.7	b.d.l.	1.0	97.4	466998	b.d.l.	0.8	120.3	b.d.l.
Qz-17 - 20	Core	16.9	16.8	b.d.l.	1.2	104.7	466998	b.d.l.	0.8	120.2	b.d.l.
Qz-17 - 22	Core	16.1	16.2	0.8	0.9	98.3	466998	14.1	0.7	120.0	b.d.l.
Qz-17 - 23	Core	16.9	16.4	b.d.l.	0.8	99.0	466998	9.6	0.8	116.1	b.d.l.
Qz-17 - 24	Core	17.1	16.5	b.d.l.	0.8	95.9	466998	12.9	0.8	109.8	b.d.l.
Qz-17 - 25	Core	16.1	15.4	b.d.l.	0.8	92.7	466998	14.4	0.8	102.8	b.d.l.
Qz-17 - 26	Core	16.7	16.3	b.d.l.	0.7	92.0	466998	13.9	0.8	108.5	b.d.l.
Qz-17 - 27	Core	16.4	16.1	b.d.l.	0.9	92.7	466998	b.d.l.	0.8	101.7	b.d.l.
Qz-17 - 28	Core	16.2	15.8	b.d.l.	0.6	87.6	466998	13.1	0.7	95.2	b.d.l.
Qz-17 - 29	Core	16.2	15.6	b.d.l.	0.6	87.1	466998	b.d.l.	0.7	87.5	b.d.l.
Qz-17 - 30	Core	16.9	16.3	b.d.l.	0.7	85.2	466998	12.1	0.8	87.0	0.8
Qz-17 - 31	Core	16.6	16.2	0.6	0.9	85.3	466998	9.5	0.7	83.4	b.d.l.
Qz-17 - 32	Core	18.5	18.1	b.d.l.	0.8	90.5	466998	10.9	0.8	83.0	b.d.l.
Qz-17 - 33	Core	18.2	17.9	b.d.l.	0.7	91.7	466998	b.d.l.	0.7	80.0	b.d.l.
Qz-17 - 34	Core	17.6	17.4	b.d.l.	0.6	86.9	466998	12.7	0.7	74.8	b.d.l.
Qz-17 - 35	Rim	17.8	17.5	b.d.l.	0.7	84.4	466998	11.3	0.7	68.2	0.9
Qz-17 - 36	Rim	18.2	17.4	b.d.l.	0.8	82.5	466998	13.3	0.7	74.3	0.8
Qz-19 - 1	Rim	18.9	18.2	b.d.l.	0.7	87.0	466998	11.2	0.7	78.0	b.d.l.
Qz-19 - 2	Rim	19.1	18.7	b.d.l.	0.8	89.6	466998	11.7	0.7	75.5	0.8
Qz-19 - 3	Rim	17.0	16.3	b.d.l.	0.7	82.5	466998	14.1	0.8	72.7	1.1
Qz-19 - 4	Rim	17.6	17.2	b.d.l.	0.6	87.8	466998	b.d.l.	0.7	73.5	b.d.l.
Qz-19 - 5	Rim	17.9	17.4	b.d.l.	0.6	89.5	466998	11.7	0.7	77.7	b.d.l.
Qz-19 - 6	Core	18.1	17.2	b.d.l.	0.8	91.5	466998	9.0	0.8	87.5	1.1
Qz-19 - 7	Core	19.9	19.2	b.d.l.	1.0	103.2	466998	9.5	0.8	117.6	b.d.l.
Qz-19 - 8	Core	19.5	18.4	b.d.l.	0.7	98.7	466998	9.8	0.7	114.9	b.d.l.
Qz-19 - 9	Core	18.2	17.9	b.d.l.	0.7	98.0	466998	10.1	0.7	114.4	b.d.l.
Qz-19 - 10	Core	18.0	17.5	b.d.l.	0.8	98.4	466998	8.5	0.7	115.2	b.d.l.
Qz-19 - 11	Core	18.6	17.8	b.d.l.	0.9	98.8	466998	10.8	0.7	120.3	b.d.l.
Qz-19 - 12	Core	18.8	18.5	b.d.l.	0.9	99.7	466998	12.1	0.8	122.6	b.d.l.
Qz-19 - 13	Core	18.1	17.9	b.d.l.	0.8	96.7	466998	12.0	0.8	127.1	b.d.l.
Qz-19 - 14	Core	18.2	17.9	b.d.l.	1.1	100.2	466998	8.3	0.8	126.9	b.d.l.
Qz-19 - 15	Core	18.5	17.9	b.d.l.	1.0	107.3	466998	10.2	0.8	139.9	b.d.l.
Qz-19 - 16	Core	19.2	17.7	b.d.l.	1.0	104.9	466998	13.1	0.7	147.1	b.d.l.
Qz-19 - 17	Core	18.5	17.8	0.4	1.0	103.3	466998	11.7	0.7	139.4	b.d.l.
Qz-19 - 18	Core	18.0	17.4	b.d.l.	0.9	100.3	466998	12.3	0.8	126.1	b.d.l.
Qz-19 - 19	Core	18.1	18.3	b.d.l.	0.8	101.1	466998	10.3	0.8	121.5	b.d.l.
Qz-19 - 20	Core	19.1	18.6	b.d.l.	0.7	100.7	466998	14.6	0.7	120.6	b.d.l.
Qz-19 - 21	Core	19.7	19.1	b.d.l.	0.9	101.4	466998	10.2	0.7	120.9	b.d.l.
Qz-19 - 22	Core	20.2	19.6	b.d.l.	0.8	101.3	466998	12.3	0.8	117.6	b.d.l.
Qz-19 - 23	Core	21.7	20.5	b.d.l.	0.8	101.2	466998	12.7	0.8	117.8	b.d.l.
Qz-19 - 24	Core	20.7	20.4	b.d.l.	0.9	99.0	466998	11.2	0.7	115.3	b.d.l.
Qz-19 - 25	Core	21.6	21.1	b.d.l.	0.8	100.7	466998	9.1	0.8	117.3	b.d.l.
Qz-19 - 26	Core	21.9	21.7	b.d.l.	1.0	101.7	466998	10.9	0.8	120.0	b.d.l.
Qz-19 - 27	Core	22.7	22.4	0.3	1.0	101.1	466998	12.7	0.7	120.9	b.d.l.
Qz-19 - 28	Rim	22.4	22.0	b.d.l.	0.8	103.4	466998	10.6	0.8	118.3	b.d.l.
Qz-19 - 29	Rim	22.3	21.7	b.d.l.	0.9	96.7	466998	14.6	0.8	104.4	b.d.l.
Qz-19 - 30	Rim	20.4	20.1	b.d.l.	0.7	90.6	466998	13.9	0.7	75.7	b.d.l.
Qz-19 - 31	Rim	20.8	20.3	b.d.l.	0.7	90.0	466998	b.d.l.	0.7	74.4	0.9
Qz-19 - 32	Rim	20.5	19.8	b.d.l.	0.6	86.9	466998	10.2	0.8	70.7	b.d.l.

Table A1.3: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	Sc	Ti	Ge
Qz-20 - 1	Rim	22.0	21.6	b.d.l.	0.9	97.3	466998	9.5	0.8	86.3	b.d.l.
Qz-20 - 2	Rim	21.8	21.2	b.d.l.	0.5	93.2	466998	11.0	0.7	80.2	b.d.l.
Qz-20 - 3	Core	20.1	19.9	b.d.l.	0.6	86.7	466998	9.9	0.8	74.0	1.0
Qz-20 - 4	Core	19.1	18.7	b.d.l.	0.7	83.5	466998	b.d.l.	0.7	73.1	1.0
Qz-20 - 5	Core	20.7	20.0	b.d.l.	0.8	89.0	466998	b.d.l.	0.8	81.9	b.d.l.
Qz-20 - 6	Core	20.8	20.7	b.d.l.	0.7	92.1	466998	12.2	0.8	88.5	b.d.l.
Qz-20 - 7	Core	21.0	20.6	b.d.l.	0.8	92.6	466998	11.2	0.8	93.2	0.8
Qz-20 - 8	Core	20.0	19.6	b.d.l.	0.6	88.7	466998	9.9	0.7	95.5	b.d.l.
Qz-20 - 9	Core	20.0	19.6	b.d.l.	0.7	92.3	466998	11.6	0.7	100.4	b.d.l.
Qz-20 - 10	Core	20.0	19.4	b.d.l.	0.8	93.1	466998	b.d.l.	0.8	101.4	b.d.l.
Qz-20 - 11	Core	19.7	18.9	b.d.l.	0.6	93.9	466998	9.8	0.8	105.1	b.d.l.
Qz-20 - 12	Core	18.9	18.5	b.d.l.	0.8	91.9	466998	8.4	0.8	90.4	b.d.l.
Qz-20 - 13	Core	18.8	18.2	b.d.l.	0.8	93.5	466998	11.7	0.7	95.3	b.d.l.
Qz-20 - 14	Core	19.0	17.8	b.d.l.	0.7	93.6	466998	13.2	0.8	102.5	b.d.l.
Qz-20 - 15	Core	17.5	17.0	b.d.l.	0.7	90.3	466998	11.0	0.8	97.0	b.d.l.
Qz-20 - 16	Core	17.2	16.4	b.d.l.	0.7	88.5	466998	8.8	0.7	93.6	1.0
Qz-20 - 17	Core	16.4	16.1	b.d.l.	0.7	88.1	466998	b.d.l.	0.7	95.0	b.d.l.
Qz-20 - 18	Core	15.8	15.7	b.d.l.	0.8	87.6	466998	13.6	0.8	97.3	0.9
Qz-20 - 19	Core	16.1	16.1	b.d.l.	0.8	89.9	466998	8.7	0.8	103.1	b.d.l.
Qz-20 - 20	Core	17.0	16.6	b.d.l.	0.8	91.6	466998	8.7	0.7	105.8	b.d.l.
Qz-20 - 21	Core	18.0	16.9	b.d.l.	0.9	95.3	466998	13.2	0.9	106.3	b.d.l.
Qz-20 - 22	Core	16.1	15.8	b.d.l.	0.8	93.4	466998	13.7	0.8	104.1	b.d.l.
Qz-20 - 27	Core	16.4	16.1	b.d.l.	0.9	90.4	466998	14.7	0.9	107.6	b.d.l.
Qz-20 - 28	Core	16.5	15.7	b.d.l.	0.8	92.3	466998	10.3	0.8	107.3	b.d.l.
Qz-20 - 29	Core	15.6	15.8	b.d.l.	0.7	95.5	466998	b.d.l.	0.7	111.7	1.2
Qz-20 - 30	Core	16.2	15.6	b.d.l.	0.8	92.2	466998	11.7	0.7	104.3	b.d.l.
Qz-20 - 31	Core	17.3	16.7	b.d.l.	0.9	94.4	466998	11.3	0.8	107.2	b.d.l.
Qz-21 - 1	Rim	16.4	16.6	b.d.l.	0.5	76.5	466998	11.7	0.7	65.7	b.d.l.
Qz-21 - 2	Core	19.2	18.5	0.2	0.6	88.9	466998	9.6	0.8	74.3	0.9
Qz-21 - 3	Core	18.5	18.1	b.d.l.	0.6	88.9	466998	10.8	0.8	81.1	b.d.l.
Qz-21 - 4	Core	17.9	17.3	b.d.l.	0.6	87.0	466998	11.2	0.7	77.8	b.d.l.
Qz-21 - 5	Core	17.2	17.2	b.d.l.	0.6	87.2	466998	9.2	0.9	85.1	b.d.l.
Qz-21 - 6	Core	17.6	17.4	b.d.l.	0.7	88.7	466998	b.d.l.	0.8	85.2	b.d.l.
Qz-21 - 7	Core	18.0	17.3	b.d.l.	0.6	90.5	466998	12.1	0.9	91.2	b.d.l.
Qz-21 - 8	Core	15.9	15.8	b.d.l.	0.8	90.6	466998	10.3	0.7	92.4	b.d.l.
Qz-21 - 9	Core	16.8	15.9	b.d.l.	0.7	86.1	466998	10.8	0.8	96.8	b.d.l.
Qz-21 - 10	Core	15.9	15.4	b.d.l.	0.6	87.0	466998	11.0	0.8	98.1	b.d.l.
Qz-21 - 11	Core	15.7	15.4	b.d.l.	0.8	92.8	466998	10.4	0.8	104.1	b.d.l.
Qz-21 - 12	Core	15.2	15.0	b.d.l.	0.8	98.3	466998	10.5	0.8	107.3	0.9
Qz-21 - 13	Core	15.7	15.4	0.3	0.9	96.3	466998	9.6	0.8	106.9	0.9
Qz-21 - 14	Core	16.4	15.7	0.6	1.4	103.6	466998	12.3	0.8	115.6	1.1
Qz-21 - 15	Core	15.7	14.7	b.d.l.	0.8	97.7	466998	b.d.l.	0.8	102.4	b.d.l.
Qz-21 - 16	Core	15.3	14.6	b.d.l.	0.9	94.9	466998	11.8	0.8	102.0	0.9
Qz-21 - 17	Core	15.3	14.9	b.d.l.	0.7	96.9	466998	9.1	0.8	102.7	b.d.l.
Qz-21 - 18	Core	15.4	14.6	b.d.l.	0.8	95.8	466998	10.2	0.7	104.0	b.d.l.
Qz-21 - 19	Core	15.7	15.1	b.d.l.	0.8	98.5	466998	b.d.l.	0.8	109.7	b.d.l.
Qz-21 - 20	Core	15.7	15.2	b.d.l.	0.8	97.1	466998	11.0	0.8	112.1	0.9
Qz-21 - 21	Core	15.1	15.1	b.d.l.	0.8	94.5	466998	10.4	0.8	107.6	b.d.l.
Qz-21 - 22	Core	14.7	14.5	b.d.l.	0.6	92.3	466998	b.d.l.	0.8	104.8	1.1
Qz-21 - 23	Core	14.8	14.4	b.d.l.	0.8	88.6	466998	8.9	0.8	96.8	b.d.l.
Qz-21 - 24	Core	15.0	14.3	b.d.l.	0.7	88.1	466998	10.9	0.8	91.6	b.d.l.
Qz-21 - 25	Core	15.0	14.5	b.d.l.	0.7	87.5	466998	13.1	0.7	95.9	b.d.l.
Qz-21 - 26	Core	14.6	14.1	b.d.l.	0.7	89.7	466998	10.4	0.8	88.9	b.d.l.
Qz-21 - 27	Core	15.5	14.7	b.d.l.	0.6	89.7	466998	9.5	0.8	92.7	b.d.l.
Qz-21 - 28	Core	15.8	15.2	b.d.l.	0.7	88.9	466998	14.4	0.7	88.8	b.d.l.
Qz-21 - 29	Core	16.2	15.7	b.d.l.	0.7	87.5	466998	12.2	0.7	86.5	b.d.l.
Qz-21 - 30	Core	16.6	15.9	b.d.l.	0.6	86.1	466998	13.5	0.8	81.8	1.0
Qz-21 - 31	Core	17.0	16.3	b.d.l.	0.5	86.6	466998	17.0	0.7	82.3	b.d.l.
Qz-21 - 32	Core	17.9	17.5	b.d.l.	0.6	90.7	466998	11.8	0.7	82.0	0.9
Qz-21 - 33	Rim	19.0	18.3	b.d.l.	0.8	90.5	466998	12.8	0.8	79.4	b.d.l.
Qz-21 - 34	Rim	20.0	19.1	b.d.l.	0.7	91.6	466998	10.6	0.7	81.7	b.d.l.

Table A1.4: Major elements - sanidine

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
MFT-grain1-1	Rim	65.5	0.0	19.4	0.1	0.0	0.3	4.2	10.2	0.0	0.4	100.1	2	38	60
MFT-grain1-2	Rim	65.4	0.1	19.4	0.1	0.0	0.5	4.4	9.6	0.0	0.6	100.2	3	40	57
MFT-grain1-3	Rim	65.3	0.1	19.5	0.1	0.0	0.5	4.4	9.7	0.0	0.6	100.2	2	40	58
MFT-grain1-4	Rim	65.8	0.0	19.6	0.1	0.0	0.6	4.5	9.5	0.0	0.6	100.9	3	41	56
MFT-grain1-5	Rim	65.5	0.1	19.5	0.1	0.0	0.5	4.5	9.6	0.0	0.5	100.4	3	40	57
MFT-grain1-6	Rim	65.4	0.1	19.4	0.1	0.0	0.4	4.2	10.0	0.0	0.5	100.1	2	38	60
MFT-grain1-7	Rim	65.3	0.1	19.1	0.1	0.0	0.3	4.2	10.2	0.0	0.5	99.7	2	38	60
MFT-grain1-8	Rim	65.7	0.1	19.3	0.1	0.0	0.4	4.2	10.3	0.1	0.5	100.5	2	38	60
MFT-grain1-9	Rim	65.7	0.1	19.3	0.1	0.0	0.3	4.2	10.3	0.0	0.5	100.4	2	38	60
MFT-grain1-10	Rim	65.7	0.1	19.3	0.1	0.0	0.3	4.1	10.4	0.0	0.5	100.4	2	37	61
MFT-grain1-11	Rim	65.7	0.1	19.3	0.1	0.0	0.3	4.2	10.3	0.0	0.6	100.5	2	37	61
MFT-grain1-12	Rim	65.7	0.1	19.4	0.1	0.0	0.3	4.1	10.3	0.0	0.5	100.5	2	37	61
MFT-grain1-13	Rim	65.6	0.1	19.0	0.1	0.0	0.3	4.1	10.3	0.0	0.6	100.1	2	37	61
MFT-grain1-14	Rim	65.6	0.0	19.2	0.1	0.0	0.3	4.2	10.4	0.0	0.6	100.5	2	37	61
MFT-grain1-15	Rim	64.7	0.1	19.2	0.1	0.0	0.3	4.3	10.3	0.0	0.5	99.5	2	38	60
MFT-grain1-16	Core	65.1	0.1	19.3	0.1	0.0	0.4	4.2	10.4	0.0	0.5	100.0	2	38	61
MFT-grain1-17	Core	64.7	0.1	19.3	0.1	0.0	0.4	4.2	10.4	0.0	0.5	99.6	2	37	61
MFT-grain1-18	Core	64.9	0.1	19.4	0.1	0.0	0.3	4.2	10.3	0.0	0.5	99.8	2	37	61
MFT-grain1-19	Core	65.2	0.1	19.1	0.1	0.0	0.3	4.2	10.4	0.0	0.7	100.0	1	37	61
MFT-grain1-20	Core	65.1	0.1	19.3	0.1	0.0	0.3	4.1	10.6	0.0	0.7	100.2	1	37	62
MFT-grain1-21	Core	65.4	0.1	19.0	0.1	0.0	0.2	4.0	10.5	0.0	0.9	100.2	1	36	62
MFT-grain1-22	Core	65.1	0.1	19.4	0.1	0.0	0.3	4.1	10.1	0.0	1.0	100.2	2	37	61
MFT-grain1-23	Core	64.9	0.1	19.3	0.1	0.0	0.3	4.2	10.2	0.0	1.0	100.2	2	38	61
MFT-grain1-24	Core	65.2	0.1	19.4	0.1	0.0	0.3	4.2	10.2	0.0	0.9	100.4	2	38	60
MFT-grain1-25	Core	65.5	0.1	19.4	0.1	0.0	0.3	4.1	10.2	0.0	1.1	100.8	2	37	61
MFT-grain1-26	Core	65.2	0.1	19.5	0.1	0.0	0.4	4.1	10.3	0.0	1.0	100.7	2	37	61
MFT-grain1-27	Core	65.2	0.1	19.5	0.1	0.0	0.3	4.1	10.3	0.0	1.0	100.6	2	37	61
MFT-grain1-28	Core	65.4	0.1	19.4	0.1	0.0	0.3	4.1	10.3	0.0	1.0	100.8	2	37	61
MFT-grain1-29	Core	65.3	0.1	19.4	0.1	0.0	0.3	4.2	10.3	0.0	1.0	100.8	2	38	61
MFT-grain1-30	Core	65.0	0.1	19.4	0.1	0.0	0.3	4.2	10.1	0.0	1.0	100.2	2	38	61
MFT-grain1-31	Core	65.1	0.1	19.4	0.1	0.0	0.3	4.2	10.3	0.0	1.0	100.4	2	37	61
MFT-grain1-32	Core	65.1	0.1	19.6	0.1	0.0	0.4	4.2	10.1	0.0	1.2	100.7	2	38	60
MFT-grain1-33	Core	65.3	0.1	19.7	0.1	0.0	0.4	4.3	9.9	0.0	1.3	101.1	2	39	59
MFT-grain1-34	Core	65.8	0.1	19.4	0.2	0.0	0.3	4.1	10.4	0.0	0.7	100.9	1	37	62
MFT-grain1-35	Core	65.2	0.1	19.7	0.1	0.0	0.4	4.1	10.3	0.0	0.9	100.8	2	37	61
MFT-grain1-36	Core	65.3	0.0	19.6	0.1	0.0	0.3	4.2	10.2	0.0	0.9	100.6	2	38	60
MFT-grain1-37	Core	65.1	0.1	19.6	0.1	0.0	0.4	4.1	10.1	0.0	0.8	100.3	2	37	61
MFT-grain1-38	Core	64.9	0.1	19.4	0.1	0.0	0.4	4.1	10.2	0.0	0.9	100.0	2	37	61
MFT-grain1-39	Core	65.0	0.1	19.5	0.1	0.0	0.4	4.3	10.1	0.0	0.9	100.3	2	38	60
MFT-grain1-40	Core	65.1	0.1	19.5	0.1	0.0	0.4	4.3	10.0	0.0	0.8	100.5	2	39	59
MFT-grain1-41	Core	65.2	0.1	19.6	0.1	0.0	0.4	4.2	10.2	0.0	0.9	100.6	2	38	60
MFT-grain1-42	Core	64.9	0.1	19.5	0.1	0.0	0.4	4.3	10.0	0.0	0.9	100.2	2	38	59
MFT-grain1-43	Core	65.0	0.1	19.6	0.1	0.0	0.4	4.4	10.1	0.1	0.9	100.6	2	39	59
MFT-grain1-44	Core	65.2	0.1	19.6	0.1	0.0	0.4	4.2	10.0	0.1	1.3	100.9	2	38	60
MFT-grain1-45	Core	64.8	0.1	19.4	0.1	0.0	0.4	4.3	10.0	0.0	0.9	100.0	2	38	59
MFT-grain1-46	Core	64.9	0.1	19.5	0.1	0.0	0.4	4.2	10.2	0.0	1.0	100.2	2	38	61
MFT-grain1-47	Core	65.1	0.1	19.5	0.1	0.0	0.4	4.1	10.2	0.0	1.1	100.7	2	37	61
MFT-grain1-48	Core	64.9	0.1	19.4	0.1	0.0	0.3	4.1	10.2	0.0	0.9	100.0	2	37	61
MFT-grain1-49	Core	65.4	0.1	19.5	0.1	0.0	0.3	4.2	10.2	0.0	1.1	100.8	2	38	61
MFT-grain1-50	Core	65.2	0.1	19.4	0.1	0.0	0.3	4.1	10.2	0.0	1.0	100.4	2	37	61
MFT-grain1-51	Core	65.1	0.1	19.6	0.1	0.0	0.3	4.1	10.1	0.0	1.1	100.5	2	38	61
MFT-grain1-52	Core	64.7	0.1	19.8	0.1	0.0	0.4	4.2	9.9	0.0	1.4	100.5	2	38	60
MFT-grain1-53	Core	65.1	0.1	19.9	0.1	0.0	0.4	4.2	9.9	0.0	1.4	101.1	2	38	60
MFT-grain1-54	Core	64.5	0.1	19.6	0.1	0.0	0.4	4.2	9.9	0.0	1.3	100.1	2	38	60
MFT-grain1-55	Core	64.1	0.1	19.8	0.1	0.0	0.6	4.2	9.5	0.0	1.5	100.0	3	39	58
MFT-grain1-56	Core	64.5	0.1	19.9	0.1	0.0	0.6	4.2	9.5	0.0	1.6	100.4	3	39	58
MFT-grain1-57	Core	64.1	0.1	20.0	0.1	0.0	0.8	4.4	9.1	0.0	1.8	100.3	4	40	56
MFT-grain1-58	Core	64.2	0.1	20.1	0.1	0.0	0.7	4.4	9.1	0.0	1.8	100.7	4	41	55
MFT-grain1-59	Core	63.8	0.1	19.8	0.1	0.0	0.8	4.3	9.1	0.0	1.7	99.9	4	40	56
MFT-grain1-60	Core	64.7	0.1	20.1	0.1	0.0	0.6	4.3	9.2	0.0	1.7	100.8	3	40	57
MFT-San1 - 1	Rim	64.8	0.1	19.6	0.1	0.0	0.4	4.2	10.7	0.4	0.0	100.2	2	37	62
MFT-San1 - 2	Rim	64.8	0.1	19.6	0.1	0.0	0.4	4.2	10.6	0.4	0.0	100.2	2	37	61
MFT-San1 - 3	Rim	65.3	0.0	19.5	0.1	0.0	0.3	4.2	10.6	0.5	0.0	100.6	2	37	62
MFT-San1 - 4	Rim	65.1	0.1	19.5	0.1	0.0	0.3	4.2	10.5	0.5	0.0	100.3	2	37	61
MFT-San1 - 5	Rim	65.2	0.1	19.5	0.1	0.0	0.3	4.2	10.5	0.6	0.0	100.6	2	37	61
MFT-San1 - 6	Core	65.1	0.0	19.4	0.1	0.0	0.4	4.1	10.5	0.5	0.0	100.3	2	36	62
MFT-San1 - 7	Core	65.0	0.1	19.4	0.1	0.0	0.4	4.1	10.5	0.6	0.0	100.1	2	37	62
MFT-San1 - 8	Core	65.3	0.1	19.7	0.1	0.0	0.4	4.2	10.3	0.7	0.0	100.8	2	37	61
MFT-San1 - 9	Core	64.7	0.1	19.8	0.1	0.0	0.4	4.4	10.3	1.0	0.0	100.8	2	39	59
MFT-San1 - 10	Core	64.5	0.0	19.6	0.1	0.0	0.4	4.2	10.2	1.0	0.0	100.1	2	38	60
MFT-San1 - 11	Core	64.4	0.1	19.8	0.1	0.0	0.5	4.3	10.0	1.1	0.0	100.2	3	38	59
MFT-San1 - 12	Core	64.5	0.1	19.5	0.1	0.0	0.4	4.2	10.3	1.0	0.0	100.1	2	38	60
MFT-San1 - 13	Core	64.5	0.1	19.7	0.1	0.0	0.5	4.2	10.1	1.1	0.0	100.3	2	38	60
MFT-San1 - 14	Core	64.9	0.1	19.7	0.1	0.0	0.4	4.0	10.3	1.0	0.0	100.4	2	36	62
MFT-San1 - 15	Core	64.3	0.1	19.8	0.1	0.0	0.4	4.1	10.2	1.3	0.0	100.2	2	37	61
MFT-San1 - 16	Core	64.3	0.1	19.8	0.1	0.0	0.5	4.1	10.0	1.4	0.0	100.3	2	37	60
MFT-San1 - 17	Core	64.2	0.1	19.6	0.1	0.0	0.4	4.0	10.3	1.4	0.0	100.1	2	36	61
MFT-San1 - 18	Core	64.2	0.1	19.9	0.1	0.0	0.4	4.1	10.0	1.2	0.0	100.0	2	37	61
MFT-San1 - 19	Core	64.1	0.1	20.1	0.1	0.0	0.5	4.3	9.9	1.5	0.0	100.5	3	38	59
MFT-San1 - 20	Core	64.1	0.1	20.0	0.1	0.0	0.5	4.2	9.9	1.6	0.0	100.5	3	38	59
MFT-San1 - 21	Core	63.8	0.1	20.0	0.1	0.0	0.6	4.3	9.5	1.7	0.0	100.1	3	39	57
MFT-San1 - 22	Core	63.8	0.1	20.2	0.1	0.0	0.8	4.5	9.3	1.6	0.0	100.3	4	41	55
MFT-San1 - 23	Core	63.9	0.1	20.1	0.1	0.0	0.8	4.4	9.5	1.7	0.0	100.5	4	40	56
MFT-San1 - 24	Core	64.2	0.1	20.0	0.1	0.0	0.6	4.2	9.7	1.8	0.0	100.8	3	39	58
MFT-San1 - 25	Core	64.6	0.1	20.1	0.1	0.0	0.5	4.2	9.9	1.6	0.0	101.1	3	38	59
MFT-San1 - 26	Core	64.4	0.1	20.2	0.1	0.0	0.5	4.3	9.7	1.7	0.0	101.0	3	39	58

Table A1.4: continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
MFT-San1 - 27	Core	64.6	0.1	20.2	0.1	0.0	0.6	4.3	9.6	1.6	0.0	101.2	3	39	58
MFT-San1 - 28	Core	65.0	0.1	19.8	0.1	0.0	0.5	4.2	9.9	1.5	0.0	101.2	3	38	59
MFT-San1 - 29	Core	64.8	0.1	19.4	0.1	0.0	0.3	4.1	10.5	1.1	0.0	100.4	2	36	62
MFT-San1 - 30	Core	64.8	0.1	19.4	0.1	0.0	0.3	4.1	10.5	0.9	0.0	100.3	2	37	62
MFT-San1 - 31	Core	65.1	0.1	19.7	0.1	0.0	0.4	4.2	10.3	0.9	0.0	100.7	2	37	61
MFT-San1 - 32	Core	64.7	0.1	19.4	0.1	0.0	0.5	4.1	10.3	0.9	0.0	100.2	2	37	61
MFT-San1 - 33	Core	65.6	0.1	19.4	0.1	0.0	0.3	4.1	10.6	0.6	0.0	100.8	1	37	62
MFT-San1 - 34	Core	65.6	0.1	19.5	0.1	0.0	0.3	4.1	10.6	0.6	0.0	100.9	1	37	62
MFT-San1 - 35	Core	65.3	0.1	19.3	0.1	0.0	0.3	4.2	10.5	0.4	0.0	100.3	2	37	61
MFT-San1 - 36	Core	65.3	0.1	19.6	0.1	0.0	0.3	4.2	10.4	0.5	0.0	100.4	2	37	61
MFT-San1 - 37	Core	65.6	0.0	19.3	0.1	0.0	0.4	4.2	10.5	0.4	0.0	100.5	2	37	61
MFT-San1 - 38	Core	65.2	0.1	19.4	0.1	0.0	0.3	4.2	10.5	0.4	0.0	100.2	2	37	61
MFT-San1 - 39	Core	65.1	0.1	19.5	0.1	0.0	0.4	4.3	10.5	0.5	0.0	100.5	2	38	61
MFT-San1 - 40	Core	65.2	0.0	19.6	0.1	0.0	0.3	4.3	10.4	0.5	0.0	100.6	2	38	60
MFT-San1 - 41	Core	65.3	0.0	19.4	0.1	0.0	0.4	4.2	10.4	0.5	0.0	100.2	2	38	61
MFT-San1 - 42	Core	65.4	0.1	19.5	0.1	0.0	0.4	4.2	10.4	0.4	0.0	100.4	2	37	61
MFT-San1 - 43	Core	65.1	0.0	19.4	0.1	0.0	0.4	4.2	10.4	0.4	0.0	100.2	2	37	61
MFT-San1 - 44	Core	65.4	0.1	19.5	0.1	0.0	0.4	4.3	10.3	0.4	0.0	100.4	2	38	60
MFT-San1 - 45	Core	65.8	0.0	19.7	0.1	0.0	0.4	4.2	10.4	0.6	0.0	101.3	2	38	61
MFT-San1 - 46	Core	65.0	0.1	19.5	0.1	0.0	0.4	4.2	10.4	0.3	0.0	100.0	2	37	61
MFT-San1 - 47	Core	65.5	0.1	19.4	0.1	0.0	0.3	4.1	10.5	0.4	0.0	100.4	2	37	62
MFT-San1 - 48	Core	65.5	0.1	19.2	0.1	0.0	0.4	4.1	10.5	0.4	0.0	100.2	2	37	61
grain5-1	Core	65.8	0.0	19.3	0.1	0.0	0.4	4.2	10.2	0.0	0.2	100.2	2	38	61
grain5-2	Core	65.9	0.0	19.3	0.1	0.0	0.4	4.2	10.1	0.0	0.3	100.4	2	38	60
grain5-3	Core	66.0	0.0	19.2	0.1	0.0	0.4	4.2	10.1	0.0	0.2	100.2	2	38	60
grain5-4	Core	65.9	0.1	19.4	0.1	0.0	0.3	4.2	10.1	0.0	0.2	100.2	2	38	60
grain5-5	Core	65.8	0.0	19.4	0.1	0.0	0.4	4.2	10.2	0.0	0.2	100.3	2	38	60
grain5-6	Core	65.9	0.0	19.6	0.1	0.0	0.3	4.2	10.3	0.0	0.3	100.6	2	37	61
grain5-7	Core	65.9	0.1	19.4	0.1	0.0	0.4	4.2	10.3	0.0	0.2	100.6	2	37	61
grain5-8	Core	65.8	0.1	19.4	0.1	0.0	0.3	4.2	10.2	0.0	0.3	100.4	2	38	61
grain5-9	Core	66.0	0.1	19.6	0.1	0.0	0.4	4.2	10.2	0.0	0.3	100.9	2	38	60
grain5-10	Core	65.6	0.0	19.4	0.1	0.0	0.4	4.2	10.1	0.0	0.2	100.1	2	38	60
grain5-11	Core	65.8	0.0	19.4	0.1	0.0	0.4	4.2	10.1	0.0	0.2	100.2	2	38	60
grain5-12	Core	65.9	0.0	19.4	0.1	0.0	0.4	4.2	10.1	0.0	0.2	100.3	2	38	60
grain5-13	Core	65.9	0.1	19.3	0.1	0.0	0.4	4.2	10.1	0.0	0.3	100.4	2	38	60
grain5-14	Core	66.1	0.0	19.4	0.1	0.0	0.4	4.3	10.2	0.0	0.2	100.8	2	38	60
grain5-15	Core	66.1	0.0	19.3	0.1	0.0	0.4	4.2	10.2	0.0	0.2	100.5	2	38	60
grain5-16	Core	66.2	0.1	19.4	0.1	0.0	0.4	4.3	10.0	0.0	0.2	100.5	2	39	59
grain5-17	Core	66.2	0.0	19.5	0.1	0.0	0.4	4.3	10.0	0.0	0.3	100.7	2	38	60
grain5-18	Core	66.0	0.0	19.5	0.1	0.0	0.4	4.3	10.2	0.0	0.3	100.8	2	38	60
grain5-19	Core	65.9	0.1	19.2	0.1	0.0	0.4	4.2	10.2	0.0	0.2	100.2	2	38	60
grain5-20	Core	66.1	0.1	19.3	0.1	0.0	0.4	4.3	10.2	0.0	0.3	100.6	2	38	60
grain5-21	Core	66.0	0.0	19.3	0.1	0.0	0.4	4.2	10.2	0.0	0.3	100.5	2	38	60
grain5-22	Core	66.3	0.0	19.4	0.1	0.0	0.4	4.3	10.2	0.0	0.3	101.0	2	38	60
grain5-23	Rim	66.0	0.0	19.5	0.1	0.0	0.4	4.3	9.9	0.0	0.3	100.4	2	39	59
grain5-24	Rim	65.8	0.1	19.3	0.1	0.0	0.3	4.3	10.0	0.0	0.3	100.1	2	39	60
grain5-25	Rim	65.7	0.1	19.4	0.1	0.0	0.4	4.4	10.1	0.0	0.3	100.5	2	39	59
grain5-26	Rim	66.0	0.0	19.5	0.1	0.0	0.4	4.3	10.1	0.0	0.2	100.6	2	39	60
grain5-27	Rim	65.9	0.1	19.6	0.1	0.0	0.4	4.3	10.0	0.0	0.2	100.6	2	39	59
grain5-28	Rim	66.1	0.1	19.3	0.1	0.0	0.4	4.3	10.1	0.0	0.2	100.6	2	39	59
MFT-San5 - 1	Rim	65.0	0.1	18.8	0.1	0.0	0.3	4.1	10.8	0.1	0.0	99.3	2	36	62
MFT-San5 - 2	Core	64.3	0.0	19.2	0.1	0.0	0.3	4.2	10.7	0.1	0.0	99.0	1	37	62
MFT-San5 - 3	Core	64.6	0.1	19.3	0.1	0.0	0.3	4.2	10.8	0.2	0.0	99.6	2	37	62
MFT-San5 - 4	Core	65.2	0.0	19.0	0.1	0.0	0.3	4.1	10.6	0.2	0.0	99.6	2	36	62
MFT-San5 - 5	Core	64.9	0.0	19.1	0.1	0.0	0.3	4.2	10.6	0.3	0.0	99.6	2	37	62
MFT-San5 - 6	Core	65.1	0.1	19.2	0.1	0.0	0.3	4.2	10.6	0.4	0.0	99.9	2	37	62
MFT-San5 - 7	Core	64.5	0.1	19.1	0.1	0.0	0.4	4.2	10.4	0.4	0.0	99.1	2	37	61
MFT-San5 - 8	Core	65.4	0.0	19.1	0.1	0.0	0.3	4.1	10.7	0.4	0.0	100.2	2	36	62
MFT-San5 - 9	Core	65.3	0.0	19.4	0.1	0.0	0.4	4.2	10.4	0.3	0.0	100.2	2	37	61
MFT-San5 - 10	Core	65.4	0.1	19.4	0.1	0.0	0.4	4.2	10.6	0.2	0.0	100.3	2	37	61
MFT-San5 - 11	Core	65.4	0.0	19.3	0.1	0.0	0.4	4.2	10.7	0.3	0.0	100.4	2	37	61
MFT-San5 - 12	Core	65.1	0.1	19.1	0.1	0.0	0.4	4.2	10.5	0.2	0.0	99.6	2	37	61
MFT-San5 - 13	Core	65.4	0.0	19.1	0.1	0.0	0.3	4.2	10.7	0.2	0.0	100.1	2	37	62
MFT-San5 - 14	Core	65.2	0.1	19.1	0.1	0.0	0.4	4.1	10.6	0.2	0.0	99.6	2	36	62
MFT-San5 - 15	Core	65.4	0.1	19.2	0.1	0.0	0.4	4.2	10.6	0.2	0.0	100.1	2	37	61
MFT-San5 - 16	Core	65.4	0.1	19.1	0.1	0.0	0.4	4.3	10.6	0.3	0.0	100.1	2	37	61
MFT-San5 - 17	Core	65.4	0.0	19.1	0.1	0.0	0.3	4.1	10.6	0.2	0.0	100.0	2	37	62
MFT-San5 - 18	Core	65.4	0.0	19.2	0.1	0.0	0.4	4.1	10.6	0.2	0.0	100.0	2	36	62
MFT-San5 - 19	Core	65.4	0.1	19.1	0.1	0.0	0.4	4.2	10.5	0.2	0.0	100.0	2	37	61
MFT-San5 - 20	Core	65.4	0.0	19.4	0.1	0.0	0.4	4.3	10.6	0.2	0.0	100.3	2	37	61
MFT-San5 - 21	Core	65.2	0.1	19.0	0.1	0.0	0.4	4.2	10.6	0.4	0.0	99.9	2	37	61
MFT-San5 - 22	Core	65.1	0.0	19.2	0.1	0.0	0.4	4.2	10.6	0.3	0.0	99.8	2	37	61
MFT-San5 - 23	Core	65.2	0.1	19.1	0.1	0.0	0.4	4.1	10.6	0.3	0.0	99.8	2	37	62
MFT-San5 - 24	Core	65.0	0.0	19.4	0.1	0.0	0.3	4.2	10.5	0.4	0.0	100.1	2	37	61
MFT-San5 - 25	Core	65.2	0.1	19.3	0.1	0.0	0.4	4.3	10.4	0.4	0.0	100.1	2	38	61
MFT-San5 - 26	Core	64.9	0.1	19.3	0.1	0.0	0.4	4.2	10.4	0.3	0.0	99.6	2	37	61
MFT-San5 - 27	Core	65.2	0.1	19.3	0.1	0.0	0.4	4.2	10.5	0.3	0.0	100.0	2	37	61
MFT-San5 - 28	Core	65.2	0.0	19.3	0.1	0.0	0.4	4.2	10.4	0.4	0.0	100.1	2	37	61
MFT-San5 - 29	Core	65.2	0.0	19.2	0.1	0.0	0.4	4.2	10.5	0.5	0.0	100.2	2	37	61
MFT-San5 - 30	Core	65.1	0.1	19.2	0.1	0.0	0.4	4.2	10.4	0.5	0.0	100.0	2	37	61
MFT-San5 - 31	Core	65.0	0.1	19.3	0.1	0.0	0.4	4.2	10.5	0.5	0.0	100.0	2	37	61
MFT-San5 - 32	Core	65.2	0.0	19.2	0.1	0.0	0.4	4.2	10.4	0.5	0.0	100.0	2	37	61
MFT-San5 - 33	Core	65.4	0.1	19.3	0.1	0.0	0.4	4.2	10.4	0.4	0.0	100.3	2	37	61
MFT-San5 - 34	Core	65.5	0.0	19.5	0.1	0.0	0.4	4.3	10.2	0.4	0.0	100.5	2	38	60

Table A1.4:continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K2O	SrO	BaO	Total	An	Ab	Or
MFT-San5 - 35	Core	65.4	0.1	19.4	0.1	0.0	0.5	4.4	10.2	0.4	0.0	100.5	2	39	59
MFT-San5 - 36	Core	65.6	0.0	18.9	0.1	0.0	0.3	4.1	10.6	0.3	0.0	99.9	1	36	62
MFT-San5 - 37		65.6	0.0	18.9	0.1	0.0	0.3	4.1	10.8	0.3	0.0	100.2	1	36	63
grain6-1	Rim	65.1	0.1	19.7	0.1	0.0	0.5	4.4	9.7	0.0	0.9	100.5	3	40	57
grain6-2	Rim	65.4	0.1	19.8	0.1	0.0	0.5	4.3	9.7	0.0	1.0	100.9	3	39	58
grain6-3	Rim	65.3	0.1	19.8	0.1	0.0	0.5	4.4	9.7	0.0	0.8	100.6	3	40	58
grain6-4	Rim	65.2	0.1	19.9	0.1	0.0	0.5	4.4	9.6	0.0	0.8	100.8	3	40	57
grain6-5	Core	65.2	0.1	19.7	0.1	0.0	0.5	4.3	9.6	0.0	0.9	100.5	3	40	58
grain6-6	Core	65.0	0.1	19.7	0.1	0.0	0.5	4.4	9.7	0.0	0.9	100.3	3	40	58
grain6-7	Core	65.2	0.1	19.8	0.1	0.0	0.5	4.4	9.7	0.0	0.8	100.6	3	39	58
grain6-8	Core	65.1	0.1	19.8	0.1	0.0	0.5	4.3	9.6	0.0	0.9	100.4	3	39	58
grain6-9	Core	65.0	0.1	19.8	0.1	0.0	0.5	4.4	9.7	0.0	1.0	100.5	3	40	58
grain6-10	Core	64.6	0.0	19.7	0.1	0.0	0.5	4.2	9.6	0.0	0.9	99.8	3	39	58
grain6-11	Core	65.1	0.1	19.7	0.1	0.0	0.5	4.3	9.6	0.0	0.8	100.2	2	40	58
grain6-12	Core	64.6	0.1	19.7	0.1	0.0	0.5	4.4	9.7	0.0	0.9	100.1	3	40	58
grain6-13	Core	64.8	0.1	19.8	0.1	0.0	0.5	4.4	9.7	0.0	0.9	100.2	3	39	58
grain6-14	Core	65.1	0.1	19.6	0.1	0.0	0.5	4.4	9.7	0.0	1.0	100.3	2	40	58
grain6-15	Core	64.8	0.0	19.7	0.1	0.0	0.5	4.4	9.8	0.1	0.9	100.4	2	39	58
grain6-16	Core	65.0	0.1	19.8	0.1	0.0	0.5	4.4	9.6	0.0	0.9	100.5	3	40	57
grain6-17	Core	64.9	0.1	19.5	0.1	0.0	0.5	4.4	9.6	0.0	1.0	100.0	2	40	57
grain6-18	Core	65.0	0.1	19.6	0.1	0.0	0.5	4.3	9.6	0.0	0.9	100.1	3	39	58
grain6-19	Core	64.9	0.0	19.5	0.1	0.0	0.4	4.2	9.6	0.0	1.0	99.9	2	39	59
grain6-20	Core	64.6	0.1	19.8	0.1	0.0	0.5	4.3	9.6	0.1	0.9	99.9	2	39	58
grain6-21	Core	65.0	0.1	19.5	0.1	0.0	0.5	4.2	9.6	0.0	0.9	99.9	3	39	58
grain6-22	Core	64.8	0.1	19.8	0.1	0.0	0.5	4.4	9.6	0.0	0.9	100.1	3	40	58
grain6-23	Core	64.8	0.1	19.7	0.1	0.0	0.4	4.3	9.8	0.0	1.0	100.1	2	39	59
grain6-24	Core	64.5	0.1	19.7	0.1	0.0	0.5	4.5	9.7	0.0	0.9	99.9	2	40	57
grain6-25	Core	64.9	0.1	19.8	0.1	0.0	0.5	4.3	9.6	0.0	0.9	100.2	3	39	58
grain6-26	Core	64.6	0.1	20.1	0.1	0.0	0.6	4.4	9.3	0.1	0.9	100.2	3	41	56
grain6-27	Core	64.4	0.1	20.1	0.1	0.0	0.7	4.5	9.2	0.0	0.9	100.0	4	41	55
grain6-28	Core	64.4	0.1	20.2	0.1	0.0	0.7	4.5	9.1	0.0	0.8	100.0	4	41	55
grain6-29	Core	64.3	0.1	19.9	0.1	0.0	0.7	4.5	9.2	0.0	0.9	99.8	3	41	55
grain6-30	Core	64.7	0.1	19.7	0.1	0.0	0.6	4.5	9.5	0.0	0.8	100.0	3	41	56
grain6-31	Core	64.8	0.1	19.7	0.1	0.0	0.6	4.5	9.7	0.0	0.8	100.2	3	40	57
grain6-32	Core	64.5	0.1	19.9	0.1	0.0	0.5	4.4	9.6	0.0	1.0	100.1	3	40	57
MFT-San6 - 1	Rim	65.7	0.1	19.1	0.1	0.0	0.3	3.7	10.8	0.4	0.0	100.2	1	34	65
MFT-San6 - 2	Core	65.5	0.0	19.1	0.1	0.0	0.3	3.8	10.6	0.4	0.0	99.9	2	34	64
MFT-San6 - 3	Core	64.9	0.1	19.6	0.1	0.0	0.8	4.1	9.7	0.4	0.0	99.5	4	37	59
MFT-San6 - 4	Core	65.2	0.0	19.1	0.1	0.0	0.4	3.7	10.5	0.5	0.0	99.6	2	34	64
MFT-San6 - 5	Core	65.5	0.1	19.3	0.1	0.0	0.4	3.8	10.6	0.5	0.0	100.2	2	35	64
MFT-San6 - 6	Core	65.3	0.1	19.6	0.1	0.0	0.6	4.0	10.0	0.7	0.0	100.4	3	36	61
MFT-San6 - 7	Core	64.5	0.1	19.6	0.1	0.0	0.6	4.0	9.8	0.8	0.0	99.6	3	37	60
MFT-San6 - 8	Core	64.9	0.1	19.6	0.1	0.0	0.6	3.9	10.0	0.8	0.0	100.0	3	36	61
MFT-San6 - 9	Core	64.7	0.1	19.8	0.1	0.0	0.7	4.1	9.6	0.8	0.0	99.9	4	38	59
MFT-San26- 10	Core	65.2	0.0	19.4	0.1	0.0	0.5	3.9	10.1	0.7	0.0	100.0	3	36	62
MFT-San6 - 11	Core	65.1	0.1	19.7	0.1	0.0	0.5	4.0	10.1	0.8	0.0	100.4	3	36	61
MFT-San6 - 12	Core	64.9	0.1	19.5	0.1	0.0	0.5	3.9	10.1	0.9	0.0	100.0	2	36	62
MFT-San6 - 13	Core	65.3	0.1	19.6	0.1	0.0	0.5	3.9	10.0	0.8	0.0	100.3	3	36	61
MFT-San6 - 14	Core	65.3	0.1	19.7	0.1	0.0	0.5	3.9	10.2	1.0	0.0	100.7	2	36	62
MFT-San6 - 15	Core	64.9	0.1	19.6	0.1	0.0	0.4	4.0	10.2	0.9	0.0	100.1	2	36	61
MFT-San6 - 16	Core	64.8	0.1	19.6	0.1	0.0	0.5	3.8	10.2	1.0	0.0	100.1	2	36	62
MFT-San6 - 17	Core	64.9	0.1	19.3	0.1	0.0	0.4	3.9	10.2	0.8	0.0	99.8	2	36	62
MFT-San6 - 18	Core	64.9	0.1	19.5	0.1	0.0	0.5	3.9	10.0	0.9	0.0	99.9	3	36	61
MFT-San6 - 19	Core	65.2	0.1	19.7	0.1	0.0	0.6	4.0	9.9	1.1	0.0	100.5	3	37	60
MFT-San6 - 20	Core	65.1	0.1	19.7	0.1	0.0	0.5	3.9	10.1	0.9	0.0	100.4	3	36	61
MFT-San6 - 22	Core	65.4	0.1	19.4	0.1	0.0	0.4	3.9	10.3	0.9	0.0	100.5	2	36	62
MFT-San6 - 23	Core	65.1	0.1	19.8	0.1	0.0	0.4	3.9	10.2	1.0	0.0	100.5	2	36	62
MFT-San6 - 24	Core	65.4	0.1	19.5	0.1	0.0	0.5	3.9	10.2	0.8	0.0	100.5	2	36	62
MFT-San6 - 25	Rim	65.7	0.1	19.5	0.1	0.0	0.5	3.9	10.2	1.0	0.0	100.9	2	36	62
grain15-1	Rim	65.4	0.1	18.9	0.1	0.0	0.4	4.3	10.1	0.0	0.2	99.5	2	39	59
grain15-2	Rim	65.5	0.1	18.9	0.1	0.0	0.4	4.3	10.1	0.0	0.1	99.6	2	38	60
grain15-3	Core	65.4	0.0	18.9	0.1	0.0	0.3	4.4	10.1	0.0	0.1	99.4	2	39	59
grain15-4	Core	65.9	0.1	19.0	0.1	0.0	0.3	4.4	10.3	0.0	0.1	100.2	2	39	60
grain15-5	Core	65.8	0.1	19.1	0.1	0.0	0.4	4.3	10.1	0.0	0.2	100.2	2	39	60
grain15-6	Core	65.6	0.0	19.1	0.1	0.0	0.4	4.4	10.2	0.0	0.2	100.0	2	39	60
grain15-7	Core	65.9	0.0	19.2	0.1	0.0	0.4	4.4	10.3	0.0	0.2	100.5	2	38	60
grain15-8	Core	65.8	0.1	19.3	0.1	0.0	0.4	4.3	10.3	0.0	0.1	100.4	2	38	60
grain15-9	Core	65.2	0.1	19.1	0.1	0.0	0.4	4.3	9.9	0.0	0.2	99.3	2	39	59
grain15-10	Core	65.2	0.0	18.9	0.1	0.0	0.4	4.3	9.9	0.0	0.2	99.1	2	39	59
grain15-11	Core	65.5	0.0	18.9	0.1	0.0	0.4	4.3	10.0	0.0	0.2	99.3	2	39	59
grain15-12	Core	65.4	0.1	19.1	0.1	0.0	0.4	4.4	10.2	0.0	0.2	99.7	2	39	59
grain15-13	Core	65.4	0.1	18.9	0.1	0.0	0.3	4.3	10.1	0.0	0.2	99.4	2	39	60
grain15-14	Core	65.7	0.1	19.0	0.1	0.0	0.3	4.3	10.2	0.0	0.2	99.9	2	38	60
grain15-15	Core	65.6	0.0	19.2	0.1	0.0	0.4	4.3	10.2	0.0	0.2	100.0	2	38	60
grain15-16	Core	65.6	0.1	19.2	0.1	0.0	0.3	4.3	10.1	0.0	0.2	99.9	2	38	60
grain15-17	Core	65.6	0.1	19.0	0.1	0.0	0.4	4.3	10.1	0.0	0.2	99.8	2	38	60
grain15-18	Core	66.1	0.1	19.2	0.1	0.0	0.3	4.3	10.1	0.0	0.2	100.4	2	38	60
grain15-19	Core	65.9	0.1	19.1	0.1	0.0	0.3	4.3	10.0	0.0	0.2	100.0	2	39	60
grain15-20	Core	65.6	0.0	19.1	0.1	0.0	0.4	4.3	10.1	0.0	0.2	99.8	2	38	60
grain15-21	Core	65.5	0.0	19.0	0.1	0.0	0.4	4.3	10.0	0.0	0.2	99.5	2	39	59
grain15-22	Core	65.4	0.0	18.9	0.1	0.0	0.4	4.2	10.0	0.0	0.2	99.3	2	39	60
grain15-23	Core	65.7	0.1	19.0	0.1	0.0	0.3	4.3	10.2	0.0	0.1	99.8	2	38	60
grain15-24	Core	65.7	0.0	19.1	0.1	0.0	0.3	4.3	10.0	0.0	0.2	99.8	2	39	60

Table A1.4: continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
grain15-25	Core	65.4	0.0	19.1	0.1	0.0	0.3	4.3	10.0	0.0	0.2	99.6	2	39	59
grain15-26	Core	65.3	0.1	19.1	0.1	0.0	0.3	4.4	10.0	0.0	0.3	99.6	2	39	59
grain15-27	Core	65.7	0.1	19.1	0.1	0.0	0.3	4.3	10.0	0.0	0.3	99.9	2	39	60
grain15-28	Core	65.6	0.1	19.0	0.1	0.0	0.3	4.2	10.0	0.0	0.3	99.7	2	38	60
grain15-29	Core	65.8	0.1	19.3	0.1	0.0	0.4	4.2	10.2	0.0	0.3	100.3	2	38	60
grain15-30	Core	65.5	0.1	19.0	0.1	0.0	0.4	4.4	10.0	0.0	0.2	99.7	2	39	59
grain15-31	Core	65.5	0.1	19.1	0.1	0.0	0.3	4.3	10.0	0.0	0.2	99.6	2	39	59
grain15-32	Core	65.7	0.0	19.0	0.1	0.0	0.3	4.3	10.0	0.0	0.3	99.7	2	39	60
grain15-33	Core	65.6	0.1	19.1	0.1	0.0	0.4	4.3	10.1	0.0	0.3	99.9	2	38	60
grain15-34	Core	65.4	0.0	19.0	0.2	0.0	0.4	4.3	9.9	0.0	0.4	99.6	2	39	59
grain15-35	Core	65.8	0.1	19.0	0.1	0.0	0.4	4.3	10.1	0.0	0.4	100.2	2	38	60
grain15-36	Core	65.0	0.1	18.9	0.1	0.0	0.4	4.3	9.9	0.0	0.3	99.0	2	39	59
grain15-37	Core	65.2	0.0	19.0	0.1	0.0	0.4	4.3	9.9	0.0	0.3	99.3	2	39	59
grain15-38	Rim	65.3	0.1	19.0	0.1	0.0	0.3	4.3	10.0	0.0	0.3	99.4	2	39	60
grain15-39	Rim	65.6	0.1	19.0	0.1	0.0	0.4	4.3	9.9	0.0	0.3	99.7	2	39	59
grain15-40	Rim	65.8	0.1	19.0	0.1	0.0	0.4	4.2	9.9	0.0	0.3	99.8	2	38	60
grain16-1	Rim	65.1	0.0	19.0	0.1	0.0	0.4	4.4	9.9	0.0	0.1	98.9	2	39	59
grain16-3	Rim	65.1	0.0	19.0	0.1	0.0	0.4	4.4	9.9	0.0	0.1	99.0	2	39	59
grain16-4	Rim	65.4	0.0	19.0	0.1	0.0	0.4	4.3	10.0	0.0	0.1	99.2	2	39	59
grain16-5	Rim	65.3	0.0	18.8	0.1	0.0	0.4	4.3	9.9	0.0	0.1	99.0	2	39	59
grain16-6	Core	65.3	0.0	19.0	0.1	0.0	0.4	4.4	9.9	0.0	0.0	99.2	2	39	59
grain16-7	Core	65.0	0.0	18.9	0.1	0.0	0.3	4.3	9.8	0.0	0.1	98.6	2	39	59
grain16-8	Core	65.2	0.1	18.9	0.1	0.0	0.4	4.3	10.0	0.0	0.1	99.0	2	39	59
grain16-9	Core	65.4	0.0	19.0	0.1	0.0	0.3	4.3	10.0	0.0	0.1	99.2	2	39	60
grain16-10	Core	65.7	0.0	18.7	0.1	0.0	0.4	4.3	9.9	0.0	0.1	99.2	2	39	59
grain16-11	Core	65.3	0.1	18.9	0.1	0.0	0.4	4.3	9.9	0.0	0.0	99.0	2	39	59
grain16-12	Core	65.4	0.0	18.9	0.1	0.0	0.3	4.2	10.0	0.0	0.1	99.1	2	39	60
grain16-13	Core	65.6	0.0	18.9	0.1	0.0	0.3	4.4	10.0	0.0	0.2	99.5	2	39	59
grain16-14	Core	65.4	0.0	19.0	0.1	0.0	0.4	4.4	10.0	0.0	0.1	99.5	2	39	59
grain16-15	Core	65.6	0.1	19.0	0.1	0.0	0.4	4.3	10.1	0.0	0.1	99.6	2	39	59
grain16-16	Core	65.5	0.1	18.9	0.1	0.0	0.4	4.4	10.0	0.0	0.0	99.3	2	39	59
grain16-17	Core	65.6	0.0	18.9	0.1	0.0	0.3	4.4	10.0	0.0	0.1	99.4	2	39	59
grain16-18	Core	65.7	0.1	19.0	0.1	0.0	0.4	4.4	9.9	0.0	0.1	99.6	2	40	58
grain16-19	Core	65.9	0.1	19.1	0.1	0.0	0.4	4.4	10.0	0.0	0.1	100.0	2	39	59
grain16-20	Core	65.7	0.0	19.1	0.1	0.0	0.3	4.3	10.1	0.0	0.1	99.9	2	39	59
grain16-21	Core	65.6	0.1	18.9	0.1	0.0	0.3	4.3	10.2	0.0	0.0	99.3	2	38	60
grain16-22	Core	65.8	0.1	19.1	0.1	0.0	0.4	4.3	10.2	0.0	0.0	99.9	2	39	60
grain16-23	Core	66.1	0.1	19.0	0.1	0.0	0.4	4.4	10.0	0.0	0.1	100.1	2	39	59
grain16-24	Core	65.8	0.1	19.0	0.1	0.0	0.3	4.3	9.9	0.0	0.0	99.5	2	39	59
grain16-25	Core	65.9	0.1	19.1	0.1	0.0	0.3	4.3	10.1	0.0	0.0	100.0	1	39	60
grain16-26	Core	65.8	0.0	19.1	0.1	0.0	0.4	4.2	10.0	0.0	0.0	99.7	2	38	60
grain16-27	Core	65.7	0.1	19.0	0.1	0.0	0.3	4.4	10.0	0.0	0.0	99.6	2	40	59
grain16-28	Core	66.0	0.1	19.2	0.1	0.0	0.3	4.3	10.1	0.0	0.0	100.1	2	39	60
grain16-29	Core	65.9	0.1	19.0	0.1	0.0	0.3	4.3	10.1	0.0	0.0	99.9	2	38	60
grain16-30	Core	65.8	0.1	19.0	0.1	0.0	0.3	4.4	10.1	0.0	0.0	99.9	2	39	59
grain16-31	Core	65.8	0.0	19.0	0.1	0.0	0.3	4.3	10.0	0.0	0.0	99.6	2	39	59
grain16-32	Core	65.9	0.0	18.8	0.1	0.0	0.4	4.3	10.0	0.0	0.0	99.5	2	39	59
grain16-33	Core	65.4	0.0	19.0	0.1	0.0	0.3	4.3	9.9	0.0	0.1	99.2	2	39	59
grain16-34	Core	65.2	0.0	19.0	0.1	0.0	0.3	4.4	10.0	0.0	0.0	99.1	2	39	59
grain16-35	Core	65.4	0.0	18.9	0.1	0.0	0.3	4.4	10.0	0.0	0.0	99.2	2	40	59
grain16-36	Core	65.4	0.0	18.9	0.1	0.0	0.4	4.4	9.9	0.0	0.0	99.1	2	39	59
grain16-37	Core	65.6	0.1	18.9	0.1	0.0	0.4	4.3	9.9	0.0	0.0	99.3	2	39	59
grain16-38	Core	65.4	0.1	18.8	0.1	0.0	0.4	4.4	9.9	0.0	0.0	99.0	2	39	59
grain16-39	Core	65.7	0.0	18.8	0.1	0.0	0.3	4.4	10.0	0.0	0.0	99.4	2	39	59
grain16-40	Core	65.7	0.0	18.9	0.1	0.0	0.3	4.4	9.8	0.0	0.0	99.3	2	40	59
grain16-41	Core	65.3	0.1	18.9	0.1	0.0	0.4	4.3	9.8	0.0	0.1	98.8	2	39	59
grain16-42	Core	65.5	0.0	18.6	0.1	0.0	0.4	4.4	9.8	0.0	0.1	98.9	2	40	59
grain16-43	Core	65.5	0.0	18.8	0.1	0.0	0.3	4.3	10.0	0.0	0.0	99.1	2	39	60
grain16-44	Core	65.4	0.1	18.7	0.1	0.0	0.4	4.3	9.9	0.0	0.0	98.9	2	39	59
grain16-45	Core	65.3	0.0	18.7	0.1	0.0	0.4	4.4	10.0	0.0	0.1	99.0	2	39	59
grain16-46	Core	65.6	0.1	18.9	0.1	0.0	0.4	4.4	10.0	0.0	0.0	99.4	2	39	59
grain16-47	Core	65.8	0.0	18.9	0.1	0.0	0.3	4.4	9.9	0.0	0.0	99.5	2	40	59
grain16-48	Core	65.4	0.0	19.0	0.1	0.0	0.4	4.4	9.9	0.0	0.0	99.1	2	39	59
grain16-49	Core	65.4	0.1	19.0	0.1	0.0	0.4	4.5	10.0	0.0	0.1	99.4	2	40	58
grain16-50	Core	65.4	0.1	18.9	0.1	0.0	0.4	4.4	9.9	0.0	0.1	99.3	2	40	58
grain16-51	Core	65.2	0.1	18.8	0.1	0.0	0.4	4.4	9.9	0.0	0.1	98.9	2	39	59
grain16-52	Core	65.3	0.1	18.9	0.1	0.0	0.4	4.3	9.9	0.0	0.0	98.9	2	39	59
grain16-53	Core	65.1	0.1	18.7	0.1	0.0	0.4	4.3	9.9	0.0	0.1	98.6	2	39	59
grain16-54	Core	64.8	0.1	18.8	0.1	0.0	0.3	4.3	9.9	0.0	0.1	98.3	2	39	59
grain16-55	Core	65.3	0.1	18.9	0.1	0.0	0.4	4.4	9.7	0.0	0.0	98.8	2	40	58
grain16-56	Core	65.1	0.1	18.8	0.1	0.0	0.3	4.3	9.8	0.0	0.1	98.7	2	39	59
grain16-57	Core	64.9	0.0	18.8	0.1	0.0	0.4	4.4	9.8	0.0	0.0	98.3	2	40	59
grain16-58	Core	64.9	0.0	18.8	0.1	0.0	0.4	4.3	9.9	0.0	0.1	98.4	2	39	59
grain16-59	Core	65.7	0.1	18.9	0.1	0.0	0.4	4.3	10.0	0.0	0.1	99.5	2	39	59
grain16-60	Core	65.4	0.1	19.1	0.1	0.0	0.4	4.3	10.0	0.0	0.1	99.5	2	39	59
grain16-61	Core	65.5	0.1	18.8	0.1	0.0	0.3	4.3	9.9	0.0	0.0	99.0	2	39	59
grain16-62	Core	65.4	0.1	19.0	0.1	0.0	0.3	4.3	9.9	0.0	0.1	99.2	2	39	59
grain16-63	Core	65.4	0.0	18.8	0.2	0.0	0.3	4.3	10.0	0.0	0.0	99.0	2	39	60
grain16-64	Core	65.4	0.0	18.8	0.1	0.0	0.3	4.3	10.0	0.0	0.1	99.1	2	39	59
grain16-65	Core	65.5	0.0	19.1	0.1	0.0	0.4	4.3	10.0	0.0	0.0	99.3	2	39	60
grain16-66	Core	65.5	0.1	19.1	0.1	0.0	0.3	4.4	10.0	0.0	0.1	99.6	2	39	59
grain16-67	Core	65.4	0.0	19.0	0.1	0.0	0.4	4.2	10.0	0.0	0.0	99.2	2	38	60
grain16-68	Core	65.3	0.1	19.0	0.1	0.0	0.3	4.3	9.9	0.0	0.0	99.1	2	39	59
grain16-69	Core	65.3	0.0	18.8	0.1	0.0	0.4	4.3	9.9	0.0	0.1	98.9	2	39	59
grain16-70	Core	65.3	0.0	18.8	0.1	0.0	0.4	4.3	9.8	0.0	0.0	98.8	2	39	59

Table A1.4: continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na2O	K2O	SrO	BaO	Total	An	Ab	Or
grain17-1	Core	64.6	0.1	19.3	0.1	0.0	0.4	4.3	9.7	0.0	0.9	99.4	2	39	58
grain17-2	Core	64.8	0.1	19.0	0.1	0.0	0.4	4.2	9.5	0.0	0.8	99.0	2	39	58
grain17-3	Core	64.7	0.1	19.2	0.1	0.0	0.4	4.3	9.7	0.0	1.0	99.5	2	39	58
grain17-4	Core	64.8	0.1	19.2	0.1	0.0	0.4	4.3	9.7	0.0	0.9	99.6	2	39	58
grain17-5	Core	64.6	0.1	19.3	0.1	0.0	0.5	4.2	9.7	0.0	1.2	99.7	2	39	59
grain17-6	Core	64.5	0.1	19.3	0.1	0.0	0.4	4.3	9.9	0.0	0.9	99.6	2	39	59
grain17-7	Core	65.1	0.1	19.4	0.1	0.0	0.4	4.3	10.0	0.1	1.0	100.4	2	39	59
grain17-8	Core	65.2	0.1	19.5	0.1	0.0	0.4	4.2	9.6	0.0	0.9	100.1	2	39	59
grain17-9	Core	65.1	0.1	19.3	0.1	0.0	0.4	4.2	9.8	0.0	0.8	99.7	2	39	59
grain17-10	Core	64.8	0.1	18.9	0.1	0.0	0.4	4.2	9.6	0.0	0.9	99.0	2	39	59
grain17-11	Core	65.1	0.1	19.5	0.1	0.0	0.4	4.3	9.8	0.0	1.0	100.3	2	39	59
grain17-12	Core	64.7	0.1	19.4	0.1	0.0	0.4	4.3	9.8	0.0	1.0	99.7	2	39	59
grain17-13	Core	64.8	0.1	19.4	0.1	0.0	0.5	4.3	9.7	0.0	1.0	99.9	2	39	58
grain17-14	Core	64.8	0.1	19.4	0.1	0.0	0.4	4.2	9.7	0.0	1.1	100.0	2	39	59
grain17-15	Core	64.8	0.1	19.4	0.2	0.0	0.4	4.2	9.6	0.0	1.3	100.0	2	39	59
grain17-16	Core	65.1	0.1	19.4	0.1	0.0	0.4	4.3	9.7	0.0	1.0	100.2	2	39	59
grain17-17	Core	64.9	0.1	19.7	0.1	0.0	0.4	4.3	9.6	0.0	1.4	100.4	2	40	58
grain17-18	Core	64.3	0.1	19.1	0.1	0.0	0.4	4.3	9.5	0.0	1.1	98.9	2	40	58
grain17-19	Core	64.7	0.0	19.2	0.1	0.0	0.4	4.3	9.6	0.0	0.8	99.3	2	40	58
grain17-20	Core	65.0	0.1	19.1	0.1	0.0	0.4	4.3	9.8	0.0	0.6	99.4	2	39	59
grain17-21	Core	65.2	0.0	19.1	0.1	0.0	0.4	4.3	9.8	0.0	0.7	99.8	2	39	59
grain17-22	Core	64.8	0.1	19.3	0.1	0.0	0.4	4.4	9.8	0.0	0.8	99.7	2	40	59
grain17-23	Core	63.5	0.1	18.8	0.1	0.0	0.4	4.2	9.5	0.0	0.5	97.1	2	39	59
grain17-24	Core	65.3	0.1	19.3	0.1	0.0	0.4	4.3	9.7	0.0	0.6	99.9	2	39	58
grain17-25	Core	65.1	0.1	19.4	0.1	0.0	0.4	4.3	9.7	0.0	0.9	100.1	2	40	58
grain17-26	Rim	64.5	0.1	19.2	0.1	0.0	0.4	4.3	9.5	0.0	1.1	99.3	2	40	58
grain17-27	Rim	64.9	0.1	19.2	0.1	0.0	0.4	4.4	9.6	0.0	1.1	99.8	2	40	58
grain17-28	Rim	64.9	0.1	19.5	0.2	0.0	0.4	4.3	9.6	0.0	1.1	100.0	2	40	58
grain17-29	Rim	64.8	0.1	19.5	0.2	0.0	0.5	4.4	9.6	0.0	1.3	100.2	2	40	58
grain17-30	Rim	64.6	0.1	19.2	0.1	0.0	0.5	4.3	9.2	0.0	1.5	99.6	2	41	57
MFT-San17 - 1	Rim	63.80	0.07	18.95	0.12	0.00	0.45	4.01	10.25	0.54	0.00	98.18	2	36	61
MFT-San17 - 2	Core	63.45	0.04	18.94	0.16	0.01	0.33	4.12	10.34	0.57	0.00	97.95	2	37	61
MFT-San17 - 3	Core	62.54	0.06	19.12	0.14	0.00	0.38	3.98	10.32	0.91	0.00	97.44	2	36	62
MFT-San17 - 4	Core	62.64	0.06	19.16	0.10	0.00	0.38	4.00	10.33	0.95	0.00	97.63	2	36	62
MFT-San17 - 5	Core	61.85	0.07	19.13	0.09	0.00	0.53	4.06	9.99	1.33	0.04	97.09	3	37	60
MFT-San17 - 6	Core	62.09	0.09	19.02	0.10	0.00	0.40	3.93	10.07	1.26	0.00	96.96	2	36	61
MFT-San17 - 7	Core	61.89	0.06	19.11	0.11	0.00	0.38	4.03	10.11	1.03	0.00	96.72	2	37	61
MFT-San17 - 8	Core	61.73	0.08	18.81	0.11	0.01	0.39	4.02	10.31	0.84	0.02	96.31	2	36	62
MFT-San17 - 9	Core	63.16	0.06	19.14	0.12	0.00	0.39	4.09	10.26	0.93	0.00	98.14	2	37	61
MFT-San17 - 10	Core	62.96	0.07	19.11	0.12	0.02	0.42	4.01	10.25	0.82	0.03	97.80	2	37	61
MFT-San17 - 11	Core	62.58	0.09	19.11	0.13	0.00	0.42	4.01	10.15	0.96	0.00	97.45	2	37	61
MFT-San17 - 12	Core	62.25	0.08	19.31	0.08	0.01	0.44	4.05	10.18	0.98	0.00	97.39	2	37	61
MFT-San17 - 13	Core	62.45	0.05	19.31	0.12	0.00	0.40	4.08	10.14	1.21	0.04	97.81	2	37	61
MFT-San17 - 14	Core	62.21	0.09	19.21	0.10	0.00	0.39	4.07	10.12	1.15	0.00	97.36	2	37	61
MFT-San17 - 15	Core	62.31	0.09	19.29	0.13	0.00	0.40	3.94	10.16	1.01	0.02	97.34	2	36	62
MFT-San17 - 17	Core	62.84	0.10	19.42	0.10	0.01	0.40	4.04	10.20	1.18	0.01	98.31	2	37	61
MFT-San17 - 18	Core	62.78	0.10	19.22	0.12	0.00	0.43	4.07	10.23	1.16	0.00	98.10	2	37	61
MFT-San17 - 19	Core	62.98	0.08	19.16	0.08	0.00	0.40	4.04	10.34	0.86	0.00	97.94	2	37	61
MFT-San17 - 20	Core	63.09	0.07	19.24	0.10	0.00	0.39	4.04	10.34	0.58	0.00	97.84	2	37	62
MFT-San17 - 21	Core	63.35	0.06	19.20	0.11	0.00	0.39	4.02	10.44	0.62	0.01	98.20	2	36	62
MFT-San17 - 22	Core	63.29	0.09	19.13	0.11	0.00	0.39	4.04	10.25	0.79	0.02	98.10	2	37	61
MFT-San17 - 23	Core	63.31	0.09	19.05	0.11	0.00	0.41	4.15	10.26	0.62	0.00	97.99	2	37	61
MFT-San17 - 24	Core	62.24	0.09	19.52	0.11	0.00	0.51	4.17	9.90	1.20	0.00	97.73	3	38	59
MFT-San17 - 25	Core	62.64	0.09	19.11	0.13	0.00	0.42	4.07	10.02	1.12	0.04	97.64	2	37	61
MFT-San17 - 26	Core	62.66	0.04	19.20	0.13	0.01	0.45	4.17	10.04	0.93	0.04	97.67	2	38	60
MFT-San17 - 27	Core	62.26	0.07	19.26	0.13	0.00	0.41	4.16	9.93	1.14	0.00	97.36	2	38	60
MFT-San17 - 28	Core	61.82	0.09	19.17	0.12	0.01	0.44	4.08	9.90	1.30	0.01	96.93	2	38	60
MFT-San17 - 29	Core	61.93	0.08	19.21	0.11	0.00	0.46	4.03	9.90	1.23	0.00	96.94	2	37	60
MFT-San17 - 30	Core	62.96	0.07	19.49	0.13	0.00	0.46	4.18	10.03	1.18	0.00	98.50	2	38	60
MFT-San17 - 31	Core	62.71	0.08	19.66	0.11	0.00	0.54	4.08	9.80	1.75	0.01	98.73	3	38	60
MFT-San17 - 32	Core	62.54	0.10	19.83	0.08	0.00	0.48	4.03	9.83	1.43	0.02	98.35	2	37	60
MFT-San17 - 33	Core	62.55	0.08	19.37	0.09	0.00	0.50	4.03	9.96	1.37	0.00	97.94	3	37	60
MFT-San17 - 34	Core	62.42	0.08	19.46	0.13	0.00	0.45	4.03	9.94	1.26	0.01	97.77	2	37	60
MFT-San17 - 35	Core	63.28	0.07	19.25	0.12	0.00	0.38	4.25	10.09	0.64	0.00	98.07	2	38	60
MFT-San17 - 36	Core	63.09	0.07	19.25	0.11	0.01	0.42	4.13	10.16	0.63	0.00	97.87	2	37	61
MFT-San17 - 37	Core	62.89	0.06	19.52	0.10	0.00	0.43	4.12	10.05	0.65	0.06	97.89	2	38	60
grain18-1	Rim	65.3	0.1	19.2	0.1	0.0	0.4	4.1	10.4	0.0	0.4	100.0	2	37	61
grain18-2	Rim	65.8	0.1	19.3	0.1	0.0	0.3	4.0	10.6	0.0	0.4	100.6	2	36	62
grain18-3	Core	65.5	0.1	19.2	0.1	0.0	0.3	4.1	10.5	0.0	0.3	100.1	2	37	61
grain18-4	Core	65.3	0.1	19.1	0.1	0.0	0.4	4.1	10.2	0.0	0.6	99.8	2	37	61
grain18-5	Core	65.5	0.0	19.3	0.1	0.0	0.4	4.3	10.3	0.0	0.6	100.5	2	38	60
grain18-6	Core	65.4	0.1	19.2	0.1	0.0	0.4	4.1	10.3	0.0	0.6	100.1	2	37	61
grain18-7	Core	65.6	0.1	19.3	0.1	0.0	0.4	4.2	10.3	0.0	0.6	100.5	2	37	61
grain18-8	Core	65.7	0.1	19.0	0.2	0.0	0.4	4.1	10.0	0.0	0.6	100.2	2	38	60
grain18-9	Core	65.7	0.0	19.3	0.1	0.0	0.3	4.1	10.6	0.0	0.4	100.5	2	36	62
grain18-10	Core	65.6	0.1	19.4	0.1	0.0	0.5	4.2	10.1	0.0	0.6	100.7	2	38	60
grain18-11	Core	65.4	0.1	19.4	0.1	0.0	0.5	4.4	9.9	0.0	0.4	100.2	3	39	58
grain18-12	Core	65.6	0.0	19.0	0.1	0.0	0.3	4.1	10.6	0.0	0.3	100.1	1	37	62
grain18-13	Core	65.8	0.1	19.1	0.1	0.0	0.3	4.1	10.5	0.0	0.0	100.0	1	37	62
grain18-14	Core	66.2	0.0	19.2	0.1	0.0	0.3	4.2	10.6	0.0	0.0	100.6	2	37	61
grain18-15	Core	65.9	0.1	19.3	0.1	0.0	0.4	4.2	10.5	0.0	0.0	100.4	2	37	61
grain18-16	Core	65.6	0.0	19.1	0.1	0.0	0.4	4.2	10.6	0.0	0.1	100.0	2	37	61
grain18-17	Core	66.1	0.1	19.2	0.1	0.0	0.4	4.3	10.5	0.0	0.1	100.7	2	37	61
grain18-18	Core	66.3	0.1	19.3	0.1	0.0	0.3	4.2	10.4	0.0	0.1	100.9	2	38	61

Table A1.4: continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
grain18-19	Core	66.2	0.0	19.4	0.1	0.0	0.4	4.2	10.4	0.0	0.1	100.7	2	37	61
grain18-20	Core	66.3	0.1	19.6	0.1	0.0	0.4	4.2	10.5	0.0	0.1	101.1	2	37	61
grain18-21	Core	66.2	0.1	19.3	0.1	0.0	0.4	4.2	10.5	0.0	0.1	100.8	2	37	61
grain18-22	Core	66.4	0.0	19.2	0.1	0.0	0.4	4.2	10.5	0.0	0.0	100.9	2	37	61
grain18-23	Core	66.2	0.0	19.4	0.1	0.0	0.4	4.2	10.4	0.0	0.0	100.7	2	37	61
grain18-24	Core	66.0	0.1	19.1	0.1	0.0	0.3	4.3	10.6	0.0	0.1	100.5	2	37	61
grain18-25	Core	65.9	0.0	19.2	0.1	0.0	0.3	4.2	10.5	0.0	0.1	100.4	2	37	61
grain18-26	Core	66.1	0.1	19.3	0.1	0.0	0.4	4.2	10.5	0.0	0.1	100.8	2	37	61
grain18-27	Core	66.2	0.0	19.3	0.1	0.0	0.4	4.2	10.6	0.0	0.1	100.8	2	37	61
grain18-28	Core	66.0	0.1	19.3	0.1	0.0	0.4	4.3	10.5	0.0	0.1	100.6	2	38	61
grain18-29	Core	66.0	0.0	19.2	0.1	0.0	0.4	4.3	10.4	0.0	0.1	100.4	2	38	60
grain18-30	Core	66.1	0.1	19.0	0.1	0.0	0.4	4.2	10.4	0.0	0.1	100.4	2	37	61
grain18-31	Core	66.1	0.1	19.3	0.1	0.0	0.4	4.3	10.5	0.0	0.1	100.8	2	38	60
grain18-32	Core	66.0	0.0	19.2	0.1	0.0	0.4	4.2	10.4	0.0	0.1	100.5	2	37	61
grain18-33	Core	66.0	0.0	19.2	0.1	0.0	0.4	4.2	10.4	0.0	0.1	100.4	2	37	61
grain18-34	Core	66.3	0.0	19.4	0.1	0.0	0.4	4.2	10.4	0.0	0.1	100.9	2	38	61
grain18-35	Core	66.2	0.0	19.4	0.1	0.0	0.4	4.2	10.4	0.0	0.0	100.8	2	38	61
grain18-36	Core	66.1	0.1	19.1	0.1	0.0	0.3	4.2	10.4	0.0	0.1	100.4	2	37	61
grain18-37	Core	66.0	0.1	19.4	0.1	0.0	0.3	4.2	10.4	0.0	0.1	100.6	2	37	61
grain18-38	Core	66.3	0.1	19.2	0.1	0.0	0.3	4.1	10.5	0.0	0.1	100.7	2	37	61
grain18-39	Core	66.2	0.0	19.3	0.1	0.0	0.3	4.2	10.5	0.0	0.1	100.8	2	37	61
grain18-40	Core	66.2	0.0	19.2	0.1	0.0	0.3	4.2	10.4	0.0	0.1	100.7	2	37	61
grain18-41	Core	66.1	0.1	19.3	0.1	0.0	0.3	4.2	10.5	0.0	0.2	100.9	2	37	61
grain18-42	Core	66.2	0.1	19.2	0.1	0.0	0.4	4.2	10.5	0.0	0.1	100.7	2	37	61
grain18-43	Core	65.8	0.0	19.2	0.1	0.0	0.4	4.2	10.4	0.1	0.1	100.2	2	37	61
grain18-44	Core	66.1	0.0	19.4	0.1	0.0	0.4	4.2	10.3	0.0	0.1	100.6	2	38	60
grain18-45	Core	66.1	0.0	19.5	0.1	0.0	0.4	4.1	10.5	0.0	0.1	100.8	2	37	61
grain18-46	Core	66.0	0.0	19.2	0.1	0.0	0.3	4.2	10.4	0.0	0.2	100.5	2	37	61
grain18-47	Core	65.9	0.0	19.4	0.1	0.0	0.4	4.3	10.4	0.0	0.1	100.6	2	38	61
grain18-48	Core	66.0	0.0	19.1	0.1	0.0	0.4	4.2	10.5	0.0	0.1	100.4	2	37	61
grain18-49	Core	65.9	0.0	19.1	0.1	0.0	0.3	4.2	10.6	0.0	0.1	100.3	2	37	61
grain18-50	Core	66.1	0.0	19.1	0.1	0.0	0.3	4.1	10.6	0.0	0.2	100.5	2	36	62
grain18-51	Core	66.1	0.1	19.1	0.1	0.0	0.3	4.1	10.5	0.0	0.1	100.4	2	37	61
grain18-52	Core	66.0	0.0	19.0	0.2	0.0	0.3	4.1	10.6	0.0	0.2	100.4	2	37	62
grain18-53	Core	66.0	0.1	19.3	0.1	0.0	0.3	4.1	10.6	0.0	0.3	100.7	2	37	62
grain18-54	Core	66.1	0.0	19.1	0.1	0.0	0.3	4.1	10.5	0.0	0.4	100.6	2	37	62
grain18-55	Core	66.3	0.1	19.1	0.1	0.0	0.3	4.0	10.5	0.0	0.3	100.7	1	36	62
grain18-56	Core	65.7	0.0	19.6	0.1	0.0	0.4	4.2	10.1	0.0	0.6	100.9	2	38	60
grain18-57	Core	65.7	0.1	19.4	0.1	0.0	0.4	4.1	10.2	0.0	0.6	100.5	2	37	61
MFT-San18 - 1	Core	65.3	0.0	19.0	0.1	0.0	0.3	4.3	10.6	0.0	0.1	99.7	2	38	61
MFT-San18 - 2	Core	65.5	0.0	19.0	0.1	0.0	0.3	4.3	10.7	0.0	0.0	99.9	2	37	61
MFT-San18 - 3	Core	65.3	0.0	19.0	0.1	0.0	0.3	4.2	10.6	0.0	0.0	99.6	2	37	61
MFT-San18 - 4	Core	65.6	0.1	19.0	0.1	0.0	0.4	4.2	10.6	0.0	0.0	99.9	2	37	62
MFT-San18 - 5	Core	65.5	0.0	19.0	0.1	0.0	0.4	4.2	10.6	0.0	0.0	99.8	2	37	61
MFT-San18 - 6	Core	65.4	0.1	18.9	0.1	0.0	0.4	4.3	10.6	0.0	0.0	99.8	2	37	61
MFT-San18 - 7	Core	65.7	0.1	19.0	0.1	0.0	0.3	4.2	10.6	0.0	0.0	100.1	2	37	61
MFT-San18 - 8	Core	65.5	0.0	19.0	0.1	0.0	0.3	4.2	10.7	0.1	0.0	99.9	2	37	62
MFT-San18 - 9	Core	65.5	0.1	19.1	0.1	0.0	0.4	4.2	10.6	0.0	0.0	99.9	2	37	61
MFT-San18 - 10	Core	65.7	0.1	19.1	0.1	0.0	0.3	4.1	10.7	0.0	0.0	100.1	2	36	62
MFT-San18 - 11	Core	65.7	0.0	19.1	0.1	0.0	0.3	4.2	10.6	0.0	0.0	100.2	2	37	61
MFT-San18 - 12	Core	65.5	0.0	19.2	0.1	0.0	0.3	4.2	10.6	0.0	0.0	100.0	2	37	61
MFT-San18 - 13	Core	65.7	0.1	19.2	0.1	0.0	0.3	4.2	10.7	0.1	0.0	100.4	2	37	62
MFT-San18 - 14	Core	65.5	0.0	19.0	0.1	0.0	0.3	4.2	10.7	0.0	0.0	99.8	2	37	62
MFT-San18 - 15	Core	65.5	0.0	19.0	0.1	0.0	0.4	4.2	10.6	0.0	0.0	99.8	2	37	61
MFT-San18 - 16	Core	65.3	0.1	19.1	0.1	0.0	0.3	4.2	10.7	0.1	0.0	99.8	2	37	62
MFT-San18 - 17	Core	65.9	0.1	18.9	0.1	0.0	0.3	4.1	10.7	0.1	0.0	100.2	2	36	62
MFT-San18 - 18	Core	65.6	0.0	19.2	0.1	0.0	0.4	4.2	10.6	0.1	0.0	100.2	2	37	61
MFT-San18 - 19	Core	65.7	0.1	19.2	0.1	0.0	0.4	4.3	10.5	0.1	0.0	100.2	2	38	61
MFT-San18 - 20	Core	65.8	0.0	19.1	0.1	0.0	0.3	4.2	10.7	0.1	0.0	100.5	1	37	61
MFT-San18 - 21	Core	65.6	0.0	19.1	0.1	0.0	0.4	4.2	10.5	0.1	0.0	100.1	2	37	61
MFT-San18 - 22	Core	65.6	0.0	19.3	0.1	0.0	0.4	4.3	10.6	0.1	0.0	100.3	2	37	61
MFT-San18 - 23	Core	65.7	0.0	19.3	0.1	0.0	0.3	4.2	10.6	0.1	0.0	100.4	2	37	61
MFT-San18 - 24	Core	66.0	0.1	19.4	0.1	0.0	0.4	4.3	10.6	0.1	0.0	100.8	2	37	61
MFT-San18 - 25	Core	65.8	0.1	19.2	0.1	0.0	0.3	4.2	10.6	0.0	0.0	100.3	2	37	62
MFT-San18 - 26	Core	65.7	0.0	19.1	0.1	0.0	0.4	4.1	10.5	0.0	0.0	99.9	2	37	62
MFT-San18 - 27	Core	65.5	0.1	19.2	0.1	0.0	0.3	4.2	10.7	0.1	0.0	100.1	2	37	62
MFT-San18 - 28	Core	65.6	0.0	19.3	0.1	0.0	0.3	4.1	10.7	0.2	0.0	100.4	1	37	62
MFT-San18 - 29	Core	65.5	0.0	19.0	0.1	0.0	0.3	4.0	10.8	0.3	0.0	100.1	1	36	63
MFT-San18 - 30	Core	65.4	0.1	19.1	0.1	0.0	0.3	4.1	10.7	0.4	0.0	100.1	1	36	62
MFT-San18 - 31	Core	65.0	0.1	19.3	0.1	0.0	0.5	4.4	10.1	0.5	0.0	100.0	3	39	59
MFT-San18 - 32	Core	65.2	0.1	19.3	0.1	0.0	0.4	4.2	10.3	0.7	0.0	100.2	2	37	61
MFT-San18 - 33	Core	64.9	0.1	19.5	0.1	0.0	0.4	4.3	10.4	0.6	0.0	100.3	2	38	60
MFT-San18 - 34	Core	65.1	0.1	19.4	0.1	0.0	0.4	4.2	10.4	0.6	0.0	100.2	2	38	60
MFT-San18 - 35	Core	65.2	0.1	19.7	0.1	0.0	0.4	4.3	10.4	0.7	0.0	100.8	2	38	60
MFT-San18 - 36	Core	65.0	0.1	19.5	0.1	0.0	0.4	4.2	10.4	0.6	0.0	100.3	2	37	61
MFT-San18 - 37	Core	65.0	0.1	19.4	0.1	0.0	0.4	4.1	10.4	0.5	0.0	100.0	2	37	61
MFT-San18 - 38	Rim	65.7	0.0	19.4	0.1	0.0	0.3	4.1	10.7	0.4	0.0	100.6	1	36	62
MFT-San18 - 39	Rim	65.5	0.0	19.2	0.1	0.0	0.3	4.1	10.7	0.4	0.0	100.2	2	36	63
grain19-1	Rim	65.3	0.1	19.4	0.1	0.0	0.4	4.2	10.2	0.0	1.0	100.6	2	38	60
grain19-2	Rim	65.4	0.1	19.6	0.1	0.0	0.4	4.1	10.2	0.0	1.1	101.0	2	37	61
grain19-3	Rim	65.6	0.1	19.6	0.1	0.0	0.4	4.2	10.1	0.0	0.9	101.1	2	38	60
grain19-4	Core	65.4	0.1	19.8	0.1	0.0	0.5	4.2	10.0	0.0	1.2	101.2	2	38	60
grain19-5	Core	65.3	0.1	19.7	0.1	0.0	0.4	4.2	10.2	0.0	1.1	101.0	2	38	60

Table A1.4: continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
grain19-6	Core	65.0	0.1	19.9	0.1	0.0	0.4	4.2	10.2	0.0	1.0	101.0	2	38	60
grain19-7	Core	65.1	0.1	19.7	0.1	0.0	0.4	4.2	10.2	0.0	0.9	100.6	2	38	60
grain19-8	Core	65.3	0.1	19.7	0.1	0.0	0.4	4.1	10.1	0.0	1.2	101.0	2	37	60
grain19-9	Core	64.9	0.1	19.6	0.1	0.0	0.4	4.1	9.9	0.0	1.4	100.5	2	37	60
grain19-10	Core	65.1	0.1	19.7	0.1	0.0	0.4	4.1	10.1	0.1	1.2	100.8	2	37	61
grain19-11	Core	64.8	0.1	19.5	0.1	0.0	0.5	4.2	9.8	0.0	1.4	100.3	3	38	59
grain19-12	Core	64.7	0.1	19.8	0.1	0.0	0.6	4.2	9.7	0.0	1.6	100.9	3	39	59
grain19-13	Core	64.5	0.1	20.0	0.1	0.0	0.7	4.4	9.5	0.0	1.6	100.8	3	40	57
grain19-14	Core	65.3	0.1	19.5	0.1	0.0	0.4	4.2	10.1	0.0	1.3	101.0	2	38	60
grain19-15	Core	65.4	0.1	19.8	0.1	0.0	0.4	4.1	10.2	0.0	1.2	101.1	2	37	61
grain19-16	Core	64.8	0.0	20.0	0.1	0.0	0.6	4.2	9.8	0.0	1.6	101.1	3	38	59
grain19-17	Core	64.6	0.1	19.7	0.1	0.0	0.5	4.3	9.8	0.0	1.6	100.7	3	39	59
grain19-18	Core	64.8	0.1	19.9	0.1	0.0	0.5	4.2	9.8	0.0	1.5	100.9	3	38	59
grain19-19	Core	64.7	0.1	20.3	0.1	0.0	0.7	4.3	9.7	0.0	1.6	101.3	3	39	58
grain19-20	Core	64.6	0.1	20.1	0.1	0.0	0.7	4.4	9.6	0.0	1.5	101.0	4	39	57
grain19-21	Core	65.0	0.1	19.9	0.1	0.0	0.5	4.3	9.8	0.0	1.5	101.2	3	39	58
grain19-22	Core	64.7	0.1	19.9	0.1	0.0	0.6	4.1	9.8	0.1	1.5	100.9	3	38	59
grain19-23	Core	65.0	0.1	19.9	0.1	0.0	0.6	4.3	9.7	0.0	1.6	101.2	3	39	58
grain19-24	Core	64.7	0.1	20.1	0.1	0.0	0.6	4.3	9.8	0.0	1.5	101.1	3	39	58
grain19-25	Core	64.4	0.1	20.1	0.1	0.0	0.8	4.4	9.3	0.1	1.4	100.7	4	40	56
grain19-26	Core	64.5	0.1	20.2	0.1	0.0	0.7	4.4	9.3	0.0	1.6	100.9	4	40	56
grain19-27	Core	64.5	0.1	20.2	0.1	0.0	0.8	4.3	9.3	0.0	1.5	100.8	4	40	56
grain19-28	Core	64.4	0.1	20.2	0.1	0.0	0.8	4.5	9.3	0.0	1.5	100.8	4	40	56
grain19-29	Core	64.7	0.1	19.9	0.1	0.0	0.5	4.2	9.7	0.0	1.7	100.9	3	38	59
grain19-30	Core	64.6	0.1	19.8	0.1	0.0	0.6	4.2	9.7	0.0	1.7	100.8	3	39	58
grain19-31	Core	64.7	0.1	19.9	0.1	0.0	0.6	4.2	9.7	0.0	1.7	100.9	3	39	59
grain19-32	Core	64.8	0.1	19.8	0.1	0.0	0.6	4.1	9.7	0.0	1.6	100.8	3	38	59
grain19-33	Core	64.7	0.1	19.7	0.1	0.0	0.6	4.2	9.7	0.0	1.6	100.7	3	39	58
grain19-34	Core	64.9	0.1	19.9	0.1	0.0	0.6	4.2	9.8	0.0	1.6	101.1	3	39	59
grain19-35	Core	64.9	0.1	19.8	0.1	0.0	0.6	4.2	9.6	0.0	1.7	101.0	3	39	58
grain19-36	Core	64.9	0.1	19.9	0.1	0.0	0.6	4.2	9.6	0.0	1.6	101.1	3	39	58
grain19-37	Core	64.6	0.1	19.6	0.1	0.0	0.6	4.2	9.6	0.0	1.5	100.3	3	39	58
grain19-38	Core	64.8	0.1	19.4	0.1	0.0	0.4	4.0	10.2	0.0	1.4	100.3	2	37	61
grain19-39	Core	64.7	0.1	19.9	0.1	0.0	0.6	4.2	9.6	0.0	1.6	100.9	3	39	58
grain19-40	Core	64.9	0.1	20.0	0.1	0.0	0.7	4.3	9.6	0.0	1.4	101.1	3	39	58
grain19-41	Core	65.0	0.1	19.9	0.1	0.0	0.7	4.3	9.7	0.0	1.3	101.1	3	39	58
grain19-42	Core	65.2	0.1	19.8	0.1	0.0	0.5	4.3	9.9	0.0	1.1	100.9	2	39	59
grain19-43	Core	65.0	0.1	19.9	0.2	0.0	0.5	4.3	9.9	0.0	1.1	100.9	2	39	59
grain19-44	Core	65.1	0.1	19.5	0.1	0.0	0.5	4.2	9.9	0.0	1.1	100.5	3	38	59
grain19-45	Core	65.2	0.1	19.7	0.1	0.0	0.5	4.3	10.0	0.0	1.2	101.1	3	38	59
grain19-46	Core	65.3	0.1	19.8	0.1	0.0	0.5	4.2	9.9	0.0	1.1	101.1	3	38	59
grain19-47	Core	65.1	0.1	19.6	0.1	0.0	0.5	4.2	9.9	0.0	1.0	100.5	3	38	59
grain19-48	Rim	66.0	0.1	19.5	0.1	0.0	0.3	4.2	10.4	0.0	0.4	101.0	2	37	61
grain19-49	Rim	65.6	0.0	19.3	0.1	0.0	0.4	4.3	10.3	0.0	0.5	100.3	2	38	60
grain19-50	Rim	65.4	0.1	19.8	0.1	0.0	0.6	4.4	10.0	0.0	0.8	101.2	3	39	58
MFT-San19 - 1	Core	63.6	0.1	19.1	0.1	0.0	0.4	4.2	10.3	0.8	0.0	98.7	2	37	61
MFT-San19 - 2	Core	62.6	0.1	19.1	0.1	0.0	0.4	4.1	10.2	0.9	0.0	97.5	2	37	61
MFT-San19 - 3	Core	62.7	0.1	19.1	0.1	0.0	0.4	4.1	10.1	1.2	0.0	97.7	2	37	61
MFT-San19 - 4	Core	62.9	0.1	19.4	0.1	0.0	0.5	4.1	10.0	1.2	0.0	98.3	2	38	60
MFT-San19 - 5	Core	62.8	0.1	19.1	0.1	0.0	0.4	4.1	10.1	1.3	0.0	97.9	2	37	60
MFT-San19 - 6	Core	62.7	0.1	19.3	0.1	0.0	0.5	4.2	10.0	1.3	0.0	98.2	2	38	60
MFT-San19 - 7	Core	62.8	0.1	19.4	0.1	0.0	0.4	4.2	10.0	1.5	0.0	98.4	2	38	60
MFT-San19 - 8	Core	62.3	0.1	19.7	0.1	0.0	0.6	4.3	9.7	1.8	0.0	98.6	3	39	58
MFT-San19 - 9	Core	62.7	0.1	19.4	0.1	0.0	0.6	4.2	9.8	1.5	0.0	98.4	3	38	59
MFT-San19 - 10	Core	62.5	0.1	19.5	0.1	0.0	0.6	4.1	9.8	1.5	0.0	98.3	3	38	59
MFT-San19 - 11	Core	63.0	0.1	19.6	0.1	0.0	0.5	4.2	9.7	1.5	0.0	98.7	3	38	59
MFT-San19 - 12	Core	62.8	0.1	19.6	0.1	0.0	0.5	4.2	9.9	1.5	0.1	98.7	3	38	59
MFT-San19 - 13	Core	62.9	0.1	19.8	0.1	0.0	0.5	4.1	10.0	1.7	0.0	99.2	3	37	60
MFT-San19 - 14	Core	63.3	0.1	19.5	0.1	0.0	0.5	4.1	10.0	1.5	0.0	99.0	3	38	60
MFT-San19 - 15	Core	62.8	0.1	19.8	0.1	0.0	0.8	4.5	9.3	1.5	0.0	98.8	4	41	55
MFT-San19 - 16	Core	63.1	0.1	19.7	0.1	0.0	0.7	4.4	9.5	1.5	0.0	99.1	3	40	57
MFT-San19 - 17	Core	63.3	0.1	19.6	0.1	0.0	0.6	4.3	9.6	1.5	0.0	99.1	3	39	58
MFT-San19 - 18	Core	63.1	0.1	19.4	0.1	0.0	0.5	4.1	9.9	1.5	0.0	98.7	3	38	59
MFT-San19 - 19	Core	63.6	0.1	19.4	0.1	0.0	0.5	4.1	10.0	1.4	0.0	99.1	2	37	60
MFT-San19 - 20	Core	63.7	0.1	19.3	0.1	0.0	0.4	4.1	10.2	1.2	0.0	99.2	2	37	61
MFT-San19 - 21	Core	63.6	0.1	19.4	0.1	0.0	0.4	4.1	10.2	1.2	0.0	99.1	2	37	61
MFT-San19 - 22	Core	63.8	0.1	19.3	0.1	0.0	0.4	4.2	10.2	1.1	0.0	99.2	2	37	61
MFT-San19 - 23	Core	64.0	0.1	19.4	0.1	0.0	0.5	4.1	10.3	1.1	0.0	99.5	2	37	61
MFT-San19 - 24	Core	64.0	0.1	19.2	0.1	0.0	0.4	4.1	10.4	1.1	0.0	99.1	2	37	61
MFT-San19 - 25	Core	64.0	0.1	19.4	0.1	0.0	0.4	4.1	10.2	1.1	0.0	99.3	2	37	61
MFT-San19 - 26	Core	64.2	0.1	19.3	0.1	0.0	0.3	4.0	10.4	0.9	0.0	99.3	2	37	62
MFT-San19 - 27	Core	64.0	0.1	19.2	0.1	0.0	0.4	4.1	10.3	0.9	0.0	99.0	2	37	61
MFT-San19 - 28	Core	64.3	0.1	19.1	0.1	0.0	0.4	4.2	10.3	1.0	0.0	99.4	2	37	61
MFT-San19 - 29	Core	64.0	0.0	19.3	0.1	0.0	0.4	4.2	10.2	0.8	0.0	99.1	2	38	60
MFT-San19 - 30	Core	64.2	0.0	19.3	0.1	0.0	0.4	4.3	10.3	0.8	0.0	99.5	2	38	60
MFT-San19 - 31	Rim	64.4	0.1	19.2	0.1	0.0	0.4	4.2	10.3	0.7	0.0	99.4	2	37	61
MFT-San19 - 32	Rim	64.4	0.1	19.1	0.1	0.0	0.4	4.1	10.3	0.8	0.0	99.3	2	37	61
MFT-San19 - 33	Rim	64.5	0.1	19.1	0.1	0.0	0.4	4.2	10.3	0.6	0.0	99.3	2	37	61
MFT-San27 - 1	Rim	64.26	0.03	18.79	0.10	0.00	0.34	4.00	10.38	0.38	0.00	98.27	2	36	62
MFT-San27 - 2	Rim	63.95	0.07	18.90	0.09	0.00	0.39	4.08	10.36	0.49	0.00	98.34	2	37	61
MFT-San27 - 3	Core	63.58	0.06	18.80	0.12	0.00	0.35	4.05	10.34	0.38	0.05	97.73	2	37	62
MFT-San27 - 4	Core	63.40	0.05	18.88	0.09	0.00	0.38	4.15	10.44	0.40	0.00	97.79	2	37	61
MFT-San27 - 5	Core	63.24	0.06	18.86	0.09	0.01	0.40	4.16	10.38	0.43	0.00	97.63	2	37	61
MFT-San27 - 6	Core	63.07	0.07	19.00	0.10	0.00	0.41	4.13	10.34	0.46	0.00	97.58	2	37	61
MFT-San27 - 7	Core	63.05	0.05	18.98	0.09	0.00	0.44	4.25	10.20	0.46	0.02	97.53	2	38	60

Table A1.4: continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
MFT-San27 - 8	Core	62.95	0.06	18.84	0.14	0.00	0.34	4.08	10.49	0.38	0.00	97.27	2	37	62
MFT-San27 - 9	Core	64.00	0.04	18.87	0.09	0.00	0.31	4.10	10.57	0.33	0.01	98.32	2	37	62
MFT-San27 - 10	Core	64.02	0.03	18.93	0.08	0.00	0.33	4.09	10.61	0.39	0.00	98.47	2	36	62
MFT-San27 - 11	Core	63.78	0.07	18.91	0.10	0.00	0.33	4.08	10.63	0.30	0.00	98.20	2	36	62
MFT-San27 - 12	Core	63.59	0.04	18.82	0.11	0.00	0.34	4.16	10.51	0.36	0.02	97.95	2	37	61
MFT-San27 - 13	Core	63.46	0.06	18.92	0.10	0.00	0.37	4.03	10.48	0.21	0.01	97.63	2	36	62
MFT-San27 - 14	Core	63.58	0.05	18.93	0.09	0.00	0.30	4.14	10.60	0.21	0.00	97.91	1	37	62
MFT-San27 - 15	Core	63.47	0.05	18.93	0.08	0.01	0.32	4.05	10.60	0.33	0.01	97.85	2	36	62
MFT-San27 - 16	Core	63.26	0.04	19.10	0.10	0.01	0.36	4.17	10.50	0.21	0.00	97.74	2	37	61
MFT-San27 - 17	Core	63.11	0.08	18.82	0.12	0.00	0.31	4.08	10.59	0.21	0.00	97.32	2	36	62
MFT-San27 - 18	Core	64.08	0.04	19.16	0.10	0.00	0.36	4.09	10.52	0.24	0.00	98.59	2	36	62
MFT-San27 - 19	Core	63.86	0.04	19.03	0.10	0.00	0.36	4.19	10.48	0.19	0.00	98.25	2	37	61
MFT-San27 - 20	Core	63.89	0.07	19.22	0.11	0.02	0.40	4.15	10.46	0.22	0.03	98.57	2	37	61
MFT-San27 - 21	Core	64.06	0.06	19.09	0.10	0.00	0.36	4.15	10.53	0.18	0.03	98.57	2	37	61
MFT-San27 - 22	Core	63.79	0.05	18.93	0.13	0.03	0.32	4.11	10.57	0.17	0.01	98.10	2	37	62
MFT-San27 - 23	Core	63.73	0.04	18.81	0.11	0.00	0.31	4.14	10.58	0.18	0.00	97.90	2	37	62
MFT-San27 - 24	Core	63.60	0.07	18.97	0.08	0.00	0.33	4.18	10.65	0.12	0.00	98.00	2	37	62
MFT-San27 - 25	Core	63.87	0.08	19.08	0.13	0.01	0.32	4.05	10.66	0.15	0.03	98.36	2	36	62
MFT-San27 - 26	Rim	63.49	0.06	19.05	0.10	0.00	0.30	4.07	10.65	0.11	0.00	97.83	1	36	62
MFT-San27 - 27	Rim	63.54	0.05	18.87	0.08	0.00	0.33	4.18	10.69	0.07	0.00	97.81	2	37	62
mount1-1-1	Rim	65.2	0.0	19.4	bdl	0.1	0.4	4.2	9.2			98.5	2	40	58
mount1-1-3	Core	64.9	0.1	19.6	bdl	0.1	0.4	4.1	9.1			98.2	2	40	58
mount1-5-1	Rim	65.4	0.1	19.3	bdl	0.1	0.3	4.2	9.4			98.9	2	40	58
mount1-5-2	Core	65.5	0.1	19.4	0.1	0.0	0.4	4.2	9.2			98.8	2	40	58
mount1-6-1	Rim	64.9	0.1	19.8	bdl	0.1	0.5	4.2	9.0			98.6	3	40	57
mount2-10-1	Rim	65.0	0.0	19.3	0.1	0.0	0.5	4.3	9.0			98.2	3	41	57
mount2-10-2	Core	65.0	0.1	19.5	bdl	0.1	0.5	4.1	9.0			98.1	2	40	58
mount2-14-1	Rim	65.5	0.0	19.1	bdl	0.1	0.4	4.0	9.2			98.3	2	39	59
mount2-14-2	Rim	65.5	0.0	19.1	bdl	0.1	0.4	4.0	9.3			98.3	2	39	59
mount2-14-3	Core	66.4	0.0	19.1	bdl	0.1	0.3	4.0	9.2			99.3	2	39	59
mount2-14-4	Core	66.3	0.0	19.2	bdl	0.1	0.4	4.1	9.2			99.2	2	40	58
mount2-14-5	Core	66.0	0.0	19.2	bdl	0.1	0.3	4.1	9.2			99.0	2	39	59
mount2-14-6	Rim	66.2	0.0	19.1	0.1	0.0	0.4	4.1	9.2			99.1	2	40	58
mount2-14-7	Rim	66.4	0.0	19.2	bdl	0.1	0.4	4.1	9.3			99.6	2	39	59
mount1-15-1	Rim	65.2	0.0	19.2	bdl	0.1	0.4	4.2	9.5			98.6	2	39	59
mount1-16-1	Rim	65.1	0.0	19.2	bdl	0.1	0.4	4.2	9.4			98.5	2	40	58
mount1-16-2	Core	65.3	0.0	19.3	bdl	0.1	0.4	4.2	9.4			98.7	2	40	58
mount1-17-1	Rim	65.1	0.0	19.4	bdl	0.1	0.4	4.2	9.3			98.4	2	40	58
mount1-17-3	Rim	64.7	0.1	19.8	bdl	0.1	0.5	4.2	8.9			98.2	3	41	57
mount1-18-2	Core	65.7	0.0	19.2	bdl	0.1	0.4	4.3	9.3			98.9	2	40	58
mount1-19-1	Rim	64.8	0.1	19.5	bdl	0.1	0.4	4.2	9.0			98.2	2	41	57
mount1-22-1	Rim	65.2	0.1	19.2	bdl	0.1	0.4	4.2	9.2			98.4	2	40	58
mount1-22-2	Core	64.6	0.1	19.5	0.1	0.0	0.4	4.2	9.1			98.0	2	40	57
mount2-8-1	Rim	65.7	0.0	19.1	bdl	0.1	0.4	4.1	9.2			98.6	2	40	58
mount2-8-2	Core	65.3	0.0	18.9	bdl	0.1	0.4	4.0	9.2			98.0	2	39	59
mount2-8-3	Core	65.5	0.0	19.3	bdl	0.1	0.4	4.1	9.1			98.5	2	40	58
mount2-8-4	Rim	65.5	0.1	19.0	bdl	0.1	0.4	4.1	9.1			98.4	2	40	58
mount2-16-2	Rim	65.6	0.0	19.4	bdl	0.1	0.4	4.0	9.2			98.8	2	39	59
mount2-16-3	Core	65.0	0.1	19.3	0.1	0.0	0.4	4.1	8.9			98.0	2	40	57
mount2-16-4	Core	65.5	0.0	19.1	0.1	0.0	0.4	4.0	9.0			98.1	2	40	58
mount2-16-5	Core	65.5	0.1	19.3	bdl	0.1	0.4	4.1	9.0			98.5	2	40	58
mount2-20-1	Rim	66.2	0.0	19.2	0.1	0.0	0.3	4.1	9.2			99.2	2	40	58
mount2-20-2	Core	66.4	0.1	19.3	bdl	0.1	0.4	4.0	9.1			99.4	2	39	59
mount2-20-3	Core	66.7	0.0	19.2	bdl	0.1	0.4	4.1	9.3			99.7	2	39	59
mount2-20-4	Rim	66.2	0.1	19.1	0.1	0.0	0.4	4.1	9.2			99.1	2	39	59
mount2-20-5	Core	66.1	0.0	19.2	0.1	0.0	0.4	4.0	9.3			99.1	2	39	59
mount2-21-1	Rim	66.0	0.0	19.1	0.1	0.0	0.4	4.0	9.3			98.9	2	39	59
mount2-21-2	Core	66.0	0.0	19.2	bdl	0.1	0.4	4.0	9.4			99.0	2	38	60
mount2-22-1	Rim	65.8	0.1	19.2	bdl	0.1	0.4	4.0	9.2			98.8	2	39	59
mount2-22-2	Core	65.5	0.1	19.2	bdl	0.1	0.4	4.0	9.1			98.3	2	39	59
mount2-28-2	Rim	66.0	0.0	19.0	bdl	0.1	0.4	4.1	9.0			98.7	2	40	58
mount2-28-3	Rim	65.7	0.0	19.2	0.1	0.0	0.4	4.1	9.0			98.5	2	40	57
mount2-28-4	Core	65.6	0.0	19.1	0.1	0.0	0.4	4.0	8.9			98.1	2	40	58
mount2-28-5	Core	65.5	0.0	19.2	bdl	0.1	0.4	4.1	9.2			98.4	2	40	58
mount2-28-6	Core	65.8	0.0	19.2	0.1	0.0	0.4	4.0	9.1			98.7	2	39	59

Table A1.5: Trace elements - saninde

Info	Position	Li6	Li7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-grain1-5	Rim	b.d.l.	1.6	32218.0	25.5	97575	303853	b.d.l.	74793	4267.0	0.6	34.2	b.d.l.	b.d.l.	725.0	89.0	287.0	0.1	0.3	0.1	0.0	4440	4.7	2.4	0.1	0.2	0.0	7.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-6	Rim	b.d.l.	2.7	31806.4	b.d.l.	96432	303853	b.d.l.	78614	4055.8	1.1	46.3	b.d.l.	0.8	746.1	95.7	266.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.	4196	5.3	2.9	0.1	0.2	b.d.l.	7.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-7	Rim	b.d.l.	3.4	30254.2	b.d.l.	96002	303853	b.d.l.	78443	3290.2	0.8	69.7	b.d.l.	b.d.l.	714.7	99.5	237.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.	3092	7.1	4.8	0.2	0.5	b.d.l.	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-8	Rim	b.d.l.	3.8	29595.6	b.d.l.	97402	303853	b.d.l.	79698	3585.1	0.9	67.1	b.d.l.	0.9	764.8	98.4	234.7	b.d.l.	b.d.l.	b.d.l.	0.1	3076	7.4	5.4	0.3	0.5	0.0	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-9	Rim	b.d.l.	3.7	29366.1	b.d.l.	94180	303853	29.1	77327	2954.0	b.d.l.	70.8	b.d.l.	b.d.l.	714.3	98.5	229.6	b.d.l.	b.d.l.	0.0	0.0	3211	7.5	5.2	0.2	0.6	b.d.l.	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-10	Rim	b.d.l.	4.0	30038.7	b.d.l.	95851	303853	b.d.l.	79696	3492.7	0.9	73.3	b.d.l.	b.d.l.	751.9	100.8	229.6	0.0	b.d.l.	b.d.l.	0.1	3500	8.0	5.5	0.3	0.4	b.d.l.	6.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-11	Rim	b.d.l.	4.2	29959.5	b.d.l.	95387	303853	b.d.l.	79267	3130.3	0.8	73.5	b.d.l.	b.d.l.	772.3	99.1	221.8	b.d.l.	b.d.l.	b.d.l.	0.1	3548	7.5	5.2	0.2	0.4	0.0	6.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-12	Rim	b.d.l.	4.1	29610.2	7.0	96048	303853	b.d.l.	79294	3011.4	1.0	74.5	b.d.l.	1.1	701.1	99.5	219.2	0.0	b.d.l.	0.0	b.d.l.	3493	7.4	5.2	0.3	0.5	b.d.l.	6.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-13	Rim	b.d.l.	3.3	30893.4	b.d.l.	96681	303853	24.0	79307	2974.0	b.d.l.	77.5	b.d.l.	0.9	759.3	100.5	221.4	b.d.l.	b.d.l.	b.d.l.	0.1	3491	7.5	5.1	0.2	0.5	b.d.l.	5.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-14	Rim	b.d.l.	3.5	30032.6	b.d.l.	95589	303853	19.3	79525	2964.8	0.8	74.0	b.d.l.	b.d.l.	756.9	100.1	218.9	0.0	b.d.l.	b.d.l.	0.1	3758	7.2	5.2	0.3	0.4	0.0	5.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-15	Rim	b.d.l.	3.4	30244.9	6.4	93919	303853	19.6	78270	2749.0	0.8	68.8	b.d.l.	b.d.l.	747.0	99.4	208.9	b.d.l.	b.d.l.	0.1	b.d.l.	3914	7.3	5.1	0.2	0.4	b.d.l.	5.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-16	Core	b.d.l.	4.1	30156.3	b.d.l.	96673	303853	b.d.l.	81095	2805.5	0.6	73.9	b.d.l.	0.7	763.5	100.8	212.6	b.d.l.	b.d.l.	b.d.l.	0.1	4355	7.6	5.0	0.3	0.5	b.d.l.	5.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-17	Core	b.d.l.	4.6	29429.5	4.6	94420	303853	19.2	78723	3010.0	0.9	70.5	b.d.l.	0.8	766.8	101.0	209.0	0.1	b.d.l.	0.0	0.1	4399	7.2	4.9	0.2	0.5	b.d.l.	5.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-18	Core	b.d.l.	4.9	29038.7	b.d.l.	95236	303853	b.d.l.	79186	2867.6	b.d.l.	70.3	b.d.l.	b.d.l.	749.5	98.9	204.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.	4180	7.5	5.2	0.2	0.4	b.d.l.	5.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-19	Core	b.d.l.	5.3	30080.2	b.d.l.	97389	303853	42.8	81748	3053.8	1.1	66.6	b.d.l.	b.d.l.	818.8	103.6	209.9	0.0	b.d.l.	b.d.l.	0.1	4703	7.6	5.2	0.3	0.4	b.d.l.	5.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-20	Core	b.d.l.	5.1	30681.7	4.8	97511	303853	b.d.l.	81581	3289.5	1.0	76.5	b.d.l.	b.d.l.	765.3	102.0	211.8	0.0	b.d.l.	b.d.l.	b.d.l.	4797	8.1	5.3	0.3	0.3	b.d.l.	5.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-21	Core	b.d.l.	5.3	29849.4	b.d.l.	93321	303853	25.9	81090	2443.7	0.7	71.9	b.d.l.	b.d.l.	785.7	103.2	193.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	5271	7.1	4.9	0.2	0.5	b.d.l.	5.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-22	Core	b.d.l.	5.5	30229.7	b.d.l.	96024	303853	b.d.l.	82500	2537.0	0.8	71.8	b.d.l.	0.9	813.8	107.2	196.7	b.d.l.	b.d.l.	b.d.l.	0.1	5677	7.6	5.0	0.2	0.4	b.d.l.	5.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-23	Core	b.d.l.	4.8	30160.4	b.d.l.	97884	303853	b.d.l.	80576	3043.2	0.7	75.2	b.d.l.	0.9	791.1	103.3	197.2	0.0	b.d.l.	0.0	b.d.l.	5977	7.5	4.9	0.3	0.4	b.d.l.	5.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-24	Core	b.d.l.	4.9	29688.0	b.d.l.	96345	303853	b.d.l.	83931	2648.8	0.8	66.5	b.d.l.	b.d.l.	823.7	106.1	187.7	0.0	b.d.l.	b.d.l.	0.1	6127	6.8	4.6	0.2	0.4	0.0	4.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-25	Core	b.d.l.	5.0	29156.6	b.d.l.	98770	303853	31.0	82708	2367.8	0.9	69.0	b.d.l.	b.d.l.	812.1	106.9	181.0	0.0	b.d.l.	b.d.l.	0.0	6389	6.2	4.2	0.2	0.6	b.d.l.	5.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-26	Core	b.d.l.	4.8	29710.3	5.5	96867	303853	26.7	80612	2612.8	0.7	74.2	b.d.l.	0.7	750.1	107.3	173.6	0.0	b.d.l.	b.d.l.	0.1	6309	5.9	4.1	0.2	0.3	b.d.l.	5.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-27	Core	b.d.l.	5.4	29315.8	9.7	95180	303853	19.1	80534	2632.5	b.d.l.	68.5	b.d.l.	b.d.l.	792.9	106.1	180.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.	6504	6.3	4.1	0.2	0.3	0.0	5.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-28	Core	b.d.l.	4.8	29156.0	b.d.l.	97362	303853	28.3	80788	2305.4	0.9	73.6	b.d.l.	b.d.l.	809.6	105.4	186.3	0.0	b.d.l.	0.0	0.1	6491	6.3	4.3	0.2	0.4	b.d.l.	5.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-29	Core	b.d.l.	5.4	29282.8	b.d.l.	96308	303853	b.d.l.	79908	2520.8	b.d.l.	77.2	b.d.l.	b.d.l.	770.3	101.6	210.1	b.d.l.	b.d.l.	0.0	0.0	7177	7.6	5.2	0.2	0.5	b.d.l.	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-30	Core	b.d.l.	5.1	30830.9	b.d.l.	95434	303853	b.d.l.	79284	3502.1	b.d.l.	83.3	b.d.l.	0.7	758.4	99.9	230.3	b.d.l.	b.d.l.	b.d.l.	0.1	7573	8.7	5.8	0.3	0.5	b.d.l.	6.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-31	Core	b.d.l.	4.9	30708.0	b.d.l.	98612	303853	b.d.l.	79504	3540.6	0.8	85.5	b.d.l.	0.6	793.1	104.1	244.4	0.0	b.d.l.	b.d.l.	0.1	7510	9.0	6.2	0.3	0.6	0.0	6.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-32	Core	b.d.l.	4.5	29255.1	b.d.l.	94602	303853	22.7	76840	3215.2	0.8	80.1	b.d.l.	b.d.l.	764.9	102.6	240.1	0.1	b.d.l.	b.d.l.	b.d.l.	7436	8.7	6.3	0.3	0.6	0.1	6.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-33	Core	b.d.l.	4.6	30112.6	b.d.l.	98239	303853	b.d.l.	80715	3364.0	0.8	82.4	b.d.l.	b.d.l.	778.8	102.9	239.0	0.0	0.1	b.d.l.	b.d.l.	7661	8.5	6.1	0.3	0.6	b.d.l.	6.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-34	Core	b.d.l.	4.3	29971.0	b.d.l.	96568	303853	b.d.l.	80880	3285.7	0.9	84.4	b.d.l.	0.8	744.3	102.1	237.3	b.d.l.	b.d.l.	b.d.l.	0.1	7360	7.9	5.8	0.3	0.5	b.d.l.	6.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-35	Core	b.d.l.	5.4	29417.5	b.d.l.	98639	303853	27.1	79374	3265.6	0.7	80.7	b.d.l.	0.9	827.8	103.6	225.0	0.0	b.d.l.	b.d.l.	0.1	8013	6.8	4.5	0.2	0.5	0.0	6.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-36	Core	b.d.l.	5.1	30302.7	b.d.l.	98537	303853	b.d.l.	78730	3684.2	0.8	85.1	b.d.l.	b.d.l.	777.7	98.5	263.0	b.d.l.	0.1	0.0	b.d.l.	9320	8.6	6.2	0.3	0.6	0.0	7.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-37	Core	b.d.l.	5.0	30768.8	5.3	100981	303853	b.d.l.	80531	3902.8	0.6	89.3	b.d.l.	b.d.l.	797.5	101.6	264.8	b.d.l.	b.d.l.	0.0	b.d.l.	9444	9.0	6.2	0.3	0.4	b.d.l.	7.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-38	Core	b.d.l.	5.0	30924.6	b.d.l.	98339	303853	48.6	81090	3965.3	0.9	92.4	b.d.l.	0.7	793.2	98.7	265.2	0.0	b.d.l.	b.d.l.	b.d.l.	9384	9.1	6.0	0.3	0.6	0.0	7.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-39	Core	b.d.l.	4.7	30505.2	b.d.l.	101036	303853	b.d.l.	78938	4142.4	b.d.l.	94.7	b.d.l.	b.d.l.	823.3	100.9	265.4	0.0	b.d.l.	b.d.l.	0.0	9461	9.0	6.2	0.3	0.7	0.0	7.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-40	Core	b.d.l.	5.2	29897.7	b.d.l.	95706	303853	19.2	81174	2699.2	0.9	81.1	b.d.l.	b.d.l.	796.8	111.0	218.5	0.0	0.1	0.0	0.0	7694	6.7	4.8	0.2	0.7	b.d.l.	5.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-41	Core	b.d.l.	5.0	29139.2	b.d.l.	95874	303853	29.7	80552	3270.5	0.7	79.8	b.d.l.	0.6	781.9	102.4	217.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.	7661	6.9	4.8	0.2	0.6	b.d.l.	6.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-42	Core	b.d.l.	5.6	30695.8	b.d.l.	99057	303853	b.d.l.	82424	2913.3	b.d.l.	77.4	b.d.l.	0.7	768.0	105.3	219.5	0.0	b.d.l.	b.d.l.	0.1	7829	7.3	4.7	0.2	0.3	b.d.l.	6.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-43	Core	b.d.l.	5.2	29497.3	b.d.l.	96295	303853	23.2	81727	2523.3	b.d.l.	83.5	b.d.l.	b.d.l.	814.0	103.4	211.5	b.d.l.	b.d.l.	b.d.l.	0.1	7893	6.6	4.5	0.2	0.4	b.d.l.	5.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-44	Core	b.d.l.	5.6	29444.8	b.d.l.	98248	303853	b.d.l.	80843	2852.3	1.1	88.6	b.d.l.	b.d.l.	793.3	106.9	212.4	0.0	b.d.l.	b.d.l.	0.1	7943	7.0	4.6	0.2	0.4	0.1	5.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-45	Core	b.d.l.	5.8	30179.5	6.7	96936	303853	b.d.l.	79707	2954.4	b.d.l.	86.8	b.d.l.	b.d.l.	848.2	107.2	212.1	0.0	b.d.l.	0.0	0.1	8606	6.8	4.6	0.2	0.6	b.d.l.	6.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-46	Core	b.d.l.	5.5	29399.9	b.d.l.	96674	303853	18.1	76972	2742.7	0.8	84.6	b.d.l.	b.d.l.	768.9	100.2	223.9	b.d.l.	b.d.l.	b.d.l.	0.1	9043	7.5	5.0	0.3	0.5	b.d.l.	6.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-47	Core	b.d.l.	5.2	30494.2	6.6	98666	303853	b.d.l.	79254	3728.7	0.7	91.0	b.d.l.	0.7	799.3	100.0	256.2	0.1	0.1	0.0	b.d.l.	10468	9.4	6.3	0.3	0.6	b.d.l.	7.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-48	Core	b.d.l.	5.6	30972.1	b.d.l.	98277	303853	23.0	79532	3692.9	b.d.l.	92.3	b.d.l.	b.d.l.	763.4	97.7	253.3	0.1	0.1	b.d.l.	0.1	10288	9.1	6.2	0.3	0.6	b.d.l.	7.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-49	Core	b.d.l.	5.5	30300.3	b.d.l.	100634	303853	25.5	79568	3703.2	b.d.l.	86.0	b.d.l.	b.d.l.	805.9	100.5	258.3	0.1	0.1	b.d.l.	b.d.l.	10760	8.9	6.3	0.3	0.5	b.d.l.	7.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-50	Core	b.d.l.	5.8	30734.6	b.d.l.	100023	303853	b.d.l.	81102	3821.4	b.d.l.	87.4	b.d.l.	b.d.l.	843.8	99.8	258.9	0.1	b.d.l.	b.d.l.	b.d.l.	10797	9.0	6.0	0.3	0.7	b.d.l.	7.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-51	Core	b.d.l.	5.8	30676.3	5.5	96468	303853	b.d.l.	78745	3495.6	0.6	90.1	b.d.l.	0.8	894.3	102.3	250.5	0.0	b.d.l.	0.0	b.d.l.	10910	8.4	5.8	0.3	0.6	b.d.l.	7.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-52	Core	b.d.l.	5.7	28712.9	b.d.l.	94434	299178	b.d.l.	78622	3186.1	0.9	83.0	b.d.l.	b.d.l.	852.4	97.4	233.2	b.d.l.	b.d.l.	0.0	b.d.l.	10540	7.2	5.2	0.3	0.5	b.d.l.	6.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-53	Core	b.d.l.	5.8	29694.5	b.d.l.	97608	299178	b.d.l.	77617	3158.3	0.6	92.7	b.d.l.	0.8	827.8	100.4	236.6	0.0	b.d.l.	b.d.l.	b.d.l.	10740	7.3	4.8	0.2	0.5	0.0	6.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-54	Core	b.d.l.	5.9	30350.6	b.d.l.	98811	299178	b.d.l.	77754	3379.0	1.0	88.0	b.d.l.	1.0	856.0	100.7	233.6	b.d.l.	b.d.l.	0.0	0.0	10779	6.6	4.5	0.2	0.5	0.0	6.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	20.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	20.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	20.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	20.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	20.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	20.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	20.0	b.d.l.	b.d.l.

Table A1.5: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-grain1-55	Core	b.d.l.	5.9	30034.8	b.d.l.	97783	299178	b.d.l.	77837	3292.8	b.d.l.	92.1	b.d.l.	0.8	853.7	100.6	246.4	0.0	b.d.l.	b.d.l.	0.0	11456	7.1	5.2	0.3	0.6	b.d.l.	6.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-56	Core	b.d.l.	5.8	30858.4	8.6	98172	299178	b.d.l.	72470	4898.9	1.1	111.8	b.d.l.	0.9	839.3	90.2	331.3	0.1	b.d.l.	b.d.l.	0.0	13856	10.6	8.3	0.5	0.8	b.d.l.	9.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-57	Core	b.d.l.	5.8	29962.7	b.d.l.	98107	299178	b.d.l.	75270	4081.8	b.d.l.	105.8	b.d.l.	b.d.l.	866.5	96.7	280.4	0.1	b.d.l.	0.0	0.0	13357	7.7	5.3	0.3	0.6	b.d.l.	8.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-58	Core	b.d.l.	6.1	30394.3	b.d.l.	97381	299178	29.0	75372	4323.0	0.6	116.6	b.d.l.	0.7	868.8	97.9	283.6	0.1	b.d.l.	b.d.l.	b.d.l.	13458	7.9	5.6	0.3	0.7	b.d.l.	8.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-grain1-59	Core	b.d.l.	6.1	30470.2	b.d.l.	99212	299178	20.7	73726	3755.9	b.d.l.	104.3	b.d.l.	1.2	854.7	95.3	293.0	0.1	b.d.l.	0.0	0.0	13576	8.1	6.0	0.3	0.7	b.d.l.	8.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
Sanidine grain 2 - Line 2																																
MFT-San1 - 1	Rim	2.4	2.0	30372.1	2.7	106930	308527	79.6	78080	2917.5	1.0	66.1	b.d.l.	b.d.l.	737.8	120.9	126.3	0.2	b.d.l.	b.d.l.	0.1	3220	6.4	4.5	0.2	0.5	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 2	Rim	2.7	3.2	29822.5	4.1	104592	308527	b.d.l.	75283	2748.9	b.d.l.	70.0	b.d.l.	b.d.l.	625.2	116.4	130.7	0.2	b.d.l.	b.d.l.	b.d.l.	3473	6.5	4.3	0.2	0.5	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 3	Rim	4.4	4.6	32120.8	1.6	112736	308527	b.d.l.	79851	3399.0	b.d.l.	68.5	b.d.l.	b.d.l.	734.1	123.1	145.3	0.2	0.1	b.d.l.	0.1	4046	7.2	5.0	0.2	0.4	b.d.l.	4.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 4	Rim	3.3	5.5	30350.0	1.2	107538	308527	57.1	76018	3725.4	b.d.l.	74.5	b.d.l.	b.d.l.	746.9	119.3	146.0	0.3	0.1	0.0	0.1	4186	6.7	4.7	0.2	0.4	b.d.l.	4.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 5	Rim	5.6	6.3	31126.9	1.7	110362	308527	82.1	78375	3220.5	b.d.l.	78.3	b.d.l.	b.d.l.	847.1	123.0	163.4	0.2	b.d.l.	b.d.l.	b.d.l.	4809	7.1	5.0	0.3	0.5	b.d.l.	4.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 6	Core	7.8	6.5	31584.6	2.4	110489	308527	b.d.l.	77852	3413.7	0.8	79.8	b.d.l.	b.d.l.	816.0	121.4	162.4	0.3	0.0	b.d.l.	0.2	5219	7.4	5.3	0.3	0.4	b.d.l.	4.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 7	Core	7.3	6.5	30293.0	1.2	108596	308527	b.d.l.	75193	3171.9	b.d.l.	75.2	b.d.l.	b.d.l.	868.3	112.9	169.2	0.4	b.d.l.	0.0	0.0	5800	7.7	5.4	0.3	0.5	b.d.l.	4.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 8	Core	6.3	6.8	31661.2	3.0	112221	308527	b.d.l.	75607	3932.5	b.d.l.	77.4	b.d.l.	b.d.l.	842.1	118.3	179.7	0.4	0.0	0.0	0.1	6550	8.1	5.6	0.2	0.6	b.d.l.	5.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 9	Core	7.6	6.9	33479.5	1.8	119038	308527	91.7	81400	3811.7	b.d.l.	80.9	b.d.l.	b.d.l.	891.1	122.2	198.4	0.4	b.d.l.	b.d.l.	0.2	8016	8.4	6.1	0.3	0.8	b.d.l.	5.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 10	Core	7.0	6.3	30042.1	2.7	107705	308527	b.d.l.	73001	3412.1	b.d.l.	72.7	b.d.l.	b.d.l.	815.5	107.4	191.4	0.3	0.1	b.d.l.	b.d.l.	7736	8.2	5.4	0.2	0.5	b.d.l.	5.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 11	Core	5.8	6.4	30398.8	1.2	108656	308527	49.3	75378	2745.9	b.d.l.	85.0	b.d.l.	b.d.l.	788.6	110.8	184.8	0.4	b.d.l.	b.d.l.	b.d.l.	8087	6.8	4.6	0.3	0.5	b.d.l.	5.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 12	Core	6.6	5.8	30830.8	2.0	109790	308527	b.d.l.	73773	4501.6	b.d.l.	86.6	b.d.l.	b.d.l.	752.8	107.3	217.4	0.4	0.1	b.d.l.	b.d.l.	9129	8.2	6.1	0.3	0.6	b.d.l.	6.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 13	Core	4.7	5.7	30252.7	3.4	107239	308527	b.d.l.	73609	3717.0	b.d.l.	86.6	b.d.l.	b.d.l.	841.5	105.7	213.4	0.5	0.1	0.0	b.d.l.	9311	7.9	5.8	0.4	0.6	b.d.l.	6.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 14	Core	4.7	6.1	31224.5	b.d.l.	112374	308527	b.d.l.	75355	3523.7	0.7	94.4	b.d.l.	b.d.l.	807.5	110.2	206.5	0.7	b.d.l.	0.0	0.0	9720	8.1	5.6	0.3	0.6	b.d.l.	6.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 15	Core	7.2	5.6	30928.0	2.5	111548	308527	b.d.l.	75129	3151.1	1.1	85.3	b.d.l.	b.d.l.	790.1	114.2	205.7	0.5	0.0	b.d.l.	b.d.l.	9925	7.9	5.5	0.3	0.6	0.1	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 16	Core	6.0	5.7	29451.0	4.6	102003	308527	b.d.l.	70904	3705.3	0.6	81.2	b.d.l.	b.d.l.	763.9	103.4	201.0	0.9	b.d.l.	b.d.l.	0.0	9908	7.5	5.4	0.3	0.7	b.d.l.	6.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 17	Core	5.6	5.9	29830.0	1.6	105435	308527	47.0	72027	3628.9	b.d.l.	90.1	b.d.l.	b.d.l.	881.8	106.9	232.9	0.6	b.d.l.	b.d.l.	b.d.l.	10848	8.5	6.0	0.3	0.7	b.d.l.	7.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 18	Core	5.9	6.0	31901.2	2.0	113467	308527	50.2	74522	4042.6	b.d.l.	112.0	b.d.l.	b.d.l.	860.0	106.6	256.4	0.6	0.0	b.d.l.	0.0	11908	8.2	6.1	0.4	0.7	b.d.l.	7.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 19	Core	6.6	6.0	31000.6	2.7	112119	308527	b.d.l.	71795	4222.6	b.d.l.	108.9	b.d.l.	b.d.l.	793.6	101.6	271.0	0.7	0.1	0.1	b.d.l.	12869	8.5	6.4	0.3	0.9	b.d.l.	7.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 20	Core	7.0	5.9	31077.3	1.9	113293	308527	64.2	73260	4759.3	b.d.l.	105.9	b.d.l.	b.d.l.	834.8	101.3	281.1	0.7	b.d.l.	b.d.l.	b.d.l.	13378	7.8	5.7	0.3	0.9	b.d.l.	8.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 21	Core	5.6	5.6	31422.5	b.d.l.	109286	308527	b.d.l.	69679	5342.0	b.d.l.	132.6	b.d.l.	b.d.l.	797.7	95.1	291.2	0.6	b.d.l.	0.0	b.d.l.	13792	7.2	5.6	0.3	0.5	b.d.l.	8.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 22	Core	6.7	6.2	32835.0	3.0	113193	308527	b.d.l.	67910	6469.4	b.d.l.	119.5	b.d.l.	10.5	817.0	91.2	317.8	0.7	b.d.l.	b.d.l.	b.d.l.	14358	8.1	6.0	0.4	0.9	b.d.l.	9.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 23	Core	6.0	6.2	32110.4	5.8	113081	308527	b.d.l.	67547	6486.5	b.d.l.	120.6	b.d.l.	b.d.l.	709.8	90.3	330.6	0.8	0.0	0.0	b.d.l.	14737	7.6	5.9	0.3	1.0	b.d.l.	9.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 24	Core	3.8	6.2	32315.5	2.3	112429	308527	b.d.l.	66800	6574.7	b.d.l.	119.9	b.d.l.	b.d.l.	822.1	93.0	327.1	0.6	0.1	b.d.l.	b.d.l.	14481	8.2	6.9	0.4	0.6	b.d.l.	9.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 25	Core	7.3	6.0	31758.5	3.5	112284	308527	80.0	69272	5420.7	b.d.l.	117.4	b.d.l.	b.d.l.	848.7	94.4	301.0	0.6	b.d.l.	b.d.l.	0.1	14120	8.1	6.1	0.3	0.5	0.1	8.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 26	Core	7.4	5.7	31363.5	b.d.l.	111602	308527	b.d.l.	71169	5253.7	0.8	103.3	b.d.l.	b.d.l.	855.0	96.0	299.0	0.7	b.d.l.	b.d.l.	0.1	13465	7.6	6.1	0.3	0.7	b.d.l.	8.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 27	Core	4.1	5.2	30483.5	1.5	106803	308527	b.d.l.	66468	5207.6	0.7	102.0	b.d.l.	b.d.l.	742.8	91.6	298.7	0.4	b.d.l.	b.d.l.	b.d.l.	12921	9.2	7.4	0.4	1.0	b.d.l.	8.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 28	Core	7.0	5.9	30131.9	1.5	109102	308527	54.0	71105	3572.2	b.d.l.	95.8	b.d.l.	b.d.l.	740.1	94.5	245.2	0.4	b.d.l.	0.0	0.0	10825	7.0	5.1	0.3	0.6	b.d.l.	7.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 29	Core	6.4	6.1	31163.2	3.8	114324	308527	53.1	78534	3382.6	b.d.l.	83.6	b.d.l.	12.8	920.3	112.5	215.9	0.5	0.0	b.d.l.	b.d.l.	8980	7.1	5.0	0.3	0.5	b.d.l.	6.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 30	Core	4.9	6.1	30391.1	b.d.l.	109557	308527	b.d.l.	75440	3613.1	b.d.l.	72.2	b.d.l.	14.4	769.3	103.7	215.4	0.5	b.d.l.	b.d.l.	0.1	8266	6.9	4.7	0.2	0.4	b.d.l.	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 31	Core	7.1	6.1	31614.5	3.4	112133	308527	b.d.l.	75895	3426.1	b.d.l.	95.4	b.d.l.	b.d.l.	841.2	105.0	249.0	0.5	b.d.l.	0.0	0.0	7982	8.5	5.5	0.3	0.5	b.d.l.	7.0	b.d.l.	b.d.l.	b.d.l.	0.0
MFT-San1 - 32	Core	7.6	5.8	31519.4	b.d.l.	110503	308527	53.8	77484	3971.6	0.8	81.3	b.d.l.	b.d.l.	776.0	106.1	250.4	0.3	b.d.l.	b.d.l.	0.0	7343	8.4	5.8	0.3	0.6	b.d.l.	7.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 33	Core	6.0	5.2	29798.3	2.6	106946	308527	57.3	74763	3015.0	0.8	70.1	b.d.l.	b.d.l.	807.0	103.9	197.5	0.2	b.d.l.	b.d.l.	b.d.l.	5197	6.2	4.1	0.2	b.d.l.	b.d.l.	5.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 34	Core	4.5	4.4	29326.6	0.7	104386	308527	58.4	72990	3096.3	0.7	76.6	b.d.l.	b.d.l.	694.9	104.3	193.7	0.2	b.d.l.	b.d.l.	0.0	4505	6.6	4.4	0.2	0.3	b.d.l.	5.2	0.1	0.0	b.d.l.	b.d.l.
MFT-San1 - 35	Core	3.4	3.3	30159.2	b.d.l.	107329	308527	b.d.l.	74597	3016.6	b.d.l.	63.7	b.d.l.	b.d.l.	783.2	102.5	206.6	0.2	b.d.l.	b.d.l.	0.1	4078	7.4	5.1	0.2	0.4	b.d.l.	5.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 36	Core	2.4	2.6	30834.4	2.0	109852	308527	50.9	76063	3503.6	b.d.l.	70.9	b.d.l.	b.d.l.	724.7	109.1	210.2	0.2	b.d.l.	0.0	b.d.l.	3644	7.1	4.9	0.2	0.4	b.d.l.	5.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 37	Core	2.1	2.0	30306.4	2.6	105265	308527	b.d.l.	75321	2985.7	b.d.l.	58.1	b.d.l.	b.d.l.	798.4	101.8	206.1	0.3	0.3	0.0	b.d.l.	3260	7.1	4.8	0.3	0.4	b.d.l.	5.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 38	Core	1.9	1.7	30111.4	8.1	104713	308527	62.8	72214	3294.1	0.7	66.4	b.d.l.	b.d.l.	662.7	98.6	212.1	0.2	b.d.l.	0.0	b.d.l.	3241	7.5	4.9	0.2	0.6	b.d.l.	6.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 39	Core	1.6	1.8	30861.5	1.1	106342	308527	b.d.l.	74272	3778.1	0.7	68.0	b.d.l.	b.d.l.	752.9	97.6	231.6	0.2	b.d.l.	0.1	0.1	3425	7.8	5.4	0.2	0.6	b.d.l.	6.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 40	Core	2.9	2.4	31242.3	b.d.l.	109815	308527	b.d.l.	75857	3477.8	b.d.l.	80.6	b.d.l.	b.d.l.	753.9	98.0	235.0	0.2	0.2	0.0	b.d.l.	3484	7.7	5.0	0.2	0.6	b.d.l.	6.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 41	Core	1.5	2.5	32147.9	2.0	112370	308527	b.d.l.	77230	3488.1	b.d.l.	76.5	b.d.l.	b.d.l.	746.9	105.7	243.8	0.1	b.d.l.	b.d.l.	0.0	3643	8.6	5.8	0.3	0.4	b.d.l.	6.7	b.d.l.	b.d.l.	0.0	b.d.l.
MFT-San1 - 42	Core	2.6	2.8	31607.8	2.5	110935	308527	b.d.l.	76084	3995.8	0.8	73.9	b.d.l.	b.d.l.	708.7	101.4	242.1	0.3	b.d.l.	0.0	b.d.l.	3589	8.1	5.2	0.2	0.3	b.d.l.	6.8	b.d.l.	0.0	b.d.l.	b.d.l.
MFT-San1 - 43	Core	2.8	2.9	29719.4	1.1	104860	308527	60.6	72929	3451.3	b.d.l.	68.1	b.d.l.	b.d.l.	735.9	92.4	228.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.	3522	7.8	4.8	0.2	0.7	b.d.l.	6.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 44	Core	3.7	3.0	29148.0	2.7	104218	308527	b.d.l.	71114	3349.5	b.d.l.	70.9	b.d.l.	b.d.l.	700.5	91.7	227.2	0.2	0.0	b.d.l.	b.d.l.	3544	7.4	4.8	0.2	0.4	b.d.l.	6.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 45	Core	4.0	3.6	30561.3	2.8	105034	308527	b.d.l.	78655	3477.5	0.6	85.8	b.d.l.	b.d.l.	767.6	99.8	223.4	0.2	b.d.l.	b.d.l.	0.1	3484	6.8	4.9	0.2	0.3	b.d.l.	5.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 46	Core	3.3	3.8	31269.1	1.2	110826	308527	b.d.l.	77709	3073.9	b.d.l.	77.8	0.6	12.8	828.8	103.9	230.1	0.1	0.0	b.d.l.	b.d.l.	2903	7.5	4.9	0.2	0.4	b.d.l.	5.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	20.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	23.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	23.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	24.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	26.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	26.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	27.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	29.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	25.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	23.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	24.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	23.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	23.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	26.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	27.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	28.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	28.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.2	0.1	26.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	27.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	28.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	23.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	20.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	23.6	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	24.7	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	0.1	18.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	17.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	19.5	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	18.8	b.d.l.	b.d.l.
0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	19.1	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	0.1	20.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	22.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	0.1	b.d.l.	20.4	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.4	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	23.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	20.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.9	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.1	21.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	20.7	0.0	0.0

Table A1.5: continued

Info	Position	Li^6	L^{7}	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-San1 - 47	Core	4.9	4.6	29915.6	0.4	103344	308527	b.d.l.	74894	3196.6	b.d.l.	78.6	b.d.l.	11.4	794.1	97.9	214.6	b.d.l.	b.d.l.	0.1	b.d.l.	2243	7.3	5.2	0.2	0.4	b.d.l.	5.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San1 - 48	Core	4.0	4.6	30056.5	2.2	105145	308527	b.d.l.	74172	3413.3	b.d.l.	83.8	b.d.l.	b.d.l.	765.2	99.6	216.3	0.1	b.d.l.	0.0	b.d.l.	2580	7.5	4.6	0.2	0.4	b.d.l.	5.3	b.d.l.	b.d.l.	b.d.l.	0.0
Sanidine grain 5 - Line 1																																
grain5-1	Core	b.d.l.	5.7	30786.5	b.d.l.	99504	308527	30.6	84116	3166.4	b.d.l.	65.9	b.d.l.	b.d.l.	722.7	121.0	128.3	b.d.l.	b.d.l.	b.d.l.	0.1	1985	6.6	4.5	0.2	0.5	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-2	Core	b.d.l.	5.7	31046.4	b.d.l.	99092	308527	27.0	82542	2904.3	0.7	69.2	b.d.l.	1.1	739.6	118.0	130.1	b.d.l.	b.d.l.	b.d.l.	0.1	1959	6.6	4.5	0.2	0.4	0.0	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-3	Core	b.d.l.	5.7	31269.8	b.d.l.	100515	308527	b.d.l.	88117	2881.6	b.d.l.	68.7	b.d.l.	b.d.l.	720.8	123.8	127.3	b.d.l.	b.d.l.	b.d.l.	0.1	1983	6.7	4.6	0.2	0.5	b.d.l.	3.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-4	Core	b.d.l.	5.8	30834.5	b.d.l.	98060	308527	31.8	83327	2953.8	b.d.l.	71.4	b.d.l.	b.d.l.	757.0	119.6	123.0	b.d.l.	b.d.l.	b.d.l.	0.1	1987	6.7	4.6	0.2	0.4	0.1	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-5	Core	b.d.l.	5.3	30292.7	b.d.l.	96415	308527	b.d.l.	81293	3038.4	b.d.l.	68.5	b.d.l.	b.d.l.	710.8	115.8	119.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.	1979	6.5	4.6	0.2	0.4	0.0	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-6	Core	b.d.l.	5.1	29676.1	b.d.l.	95965	308527	b.d.l.	80523	2691.7	b.d.l.	73.2	b.d.l.	b.d.l.	676.5	116.3	115.6	b.d.l.	b.d.l.	b.d.l.	0.1	1972	6.5	4.3	0.2	0.4	b.d.l.	3.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-7	Core	b.d.l.	5.5	31443.7	9.7	99827	308527	b.d.l.	83332	2644.8	b.d.l.	69.9	b.d.l.	1.0	695.1	121.7	118.0	0.0	b.d.l.	b.d.l.	0.1	2054	6.8	4.5	0.2	0.5	b.d.l.	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-8	Core	b.d.l.	5.2	30664.6	6.4	93986	303853	30.4	80942	2425.8	0.8	66.7	b.d.l.	0.7	698.9	116.2	109.5	b.d.l.	b.d.l.	b.d.l.	0.1	1914	5.9	4.3	0.2	0.4	b.d.l.	3.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-9	Core	b.d.l.	5.6	30454.0	b.d.l.	97873	308527	b.d.l.	88413	2730.1	b.d.l.	71.7	b.d.l.	b.d.l.	716.3	121.5	114.3	b.d.l.	0.1	b.d.l.	0.1	2044	6.4	4.4	0.2	0.4	b.d.l.	3.1	b.d.l.	0.0	b.d.l.	b.d.l.
grain5-10	Core	b.d.l.	5.6	30595.2	b.d.l.	99333	308527	b.d.l.	81767	3135.8	b.d.l.	71.8	b.d.l.	b.d.l.	661.1	127.8	111.7	b.d.l.	b.d.l.	b.d.l.	0.1	2041	6.4	4.5	0.2	0.4	b.d.l.	3.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-11	Core	b.d.l.	5.4	31750.9	b.d.l.	95994	308527	b.d.l.	83039	2949.9	b.d.l.	70.0	b.d.l.	0.9	784.3	128.6	111.7	b.d.l.	b.d.l.	b.d.l.	0.1	2034	6.4	4.5	0.2	0.4	0.1	3.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-12	Core	b.d.l.	5.4	30685.1	b.d.l.	100679	308527	b.d.l.	84776	2960.1	0.6	78.5	b.d.l.	b.d.l.	689.6	120.8	113.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.	2092	6.6	4.4	0.2	0.4	0.0	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-13	Core	b.d.l.	5.0	31360.7	b.d.l.	100168	308527	30.7	84427	2951.5	0.7	73.5	0.1	b.d.l.	751.1	121.9	112.0	0.0	b.d.l.	b.d.l.	0.1	2080	6.7	4.4	0.2	0.4	b.d.l.	3.3	b.d.l.	0.0	b.d.l.	b.d.l.
grain5-14	Core	b.d.l.	5.3	30504.6	b.d.l.	98498	308527	b.d.l.	84241	2783.9	b.d.l.	68.9	b.d.l.	b.d.l.	684.6	119.0	107.2	b.d.l.	b.d.l.	0.0	0.1	2019	6.5	4.3	0.2	0.4	b.d.l.	3.0	b.d.l.	b.d.l.	0.0	b.d.l.
grain5-15	Core	b.d.l.	5.2	30258.9	b.d.l.	99053	308527	b.d.l.	82817	2603.0	b.d.l.	70.2	b.d.l.	1.0	692.0	118.0	105.3	0.0	b.d.l.	b.d.l.	0.1	2016	6.3	4.4	0.2	0.4	b.d.l.	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-16	Core	b.d.l.	5.4	31965.5	8.0	101174	308527	b.d.l.	84912	3105.5	b.d.l.	66.7	b.d.l.	b.d.l.	725.0	121.5	111.5	b.d.l.	b.d.l.	b.d.l.	0.1	2087	6.7	4.6	0.2	0.5	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-17	Core	b.d.l.	5.6	31564.0	8.8	100244	308527	b.d.l.	84879	2810.0	1.0	76.3	b.d.l.	b.d.l.	716.5	126.7	112.6	b.d.l.	b.d.l.	b.d.l.	0.1	2071	6.6	4.4	0.2	0.4	b.d.l.	3.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-18	Core	b.d.l.	5.0	30549.6	b.d.l.	97235	303853	b.d.l.	84433	2440.6	b.d.l.	79.9	b.d.l.	b.d.l.	696.1	120.4	109.0	b.d.l.	b.d.l.	0.0	0.1	2024	6.4	4.3	0.2	0.5	0.0	3.2	b.d.l.	b.d.l.	b.d.l.	0.0
grain5-19	Core	b.d.l.	5.1	31406.8	b.d.l.	100006	308527	b.d.l.	85001	3080.4	b.d.l.	69.0	b.d.l.	b.d.l.	710.7	122.7	111.4	b.d.l.	b.d.l.	b.d.l.	0.1	2052	6.5	4.5	0.2	0.5	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-20	Core	b.d.l.	5.3	32153.5	7.9	99979	308527	b.d.l.	83933	3038.2	0.6	70.1	b.d.l.	b.d.l.	705.9	120.6	112.3	b.d.l.	b.d.l.	b.d.l.	0.1	2031	6.6	4.5	0.2	0.5	0.1	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-21	Core	b.d.l.	4.7	30946.5	b.d.l.	99005	308527	b.d.l.	83785	2982.5	0.6	67.3	b.d.l.	1.1	724.8	120.0	112.3	b.d.l.	b.d.l.	b.d.l.	0.1	2045	6.5	4.5	0.2	0.5	b.d.l.	3.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-22	Core	b.d.l.	4.9	32444.4	b.d.l.	99567	308527	b.d.l.	84827	3287.2	b.d.l.	75.5	b.d.l.	b.d.l.	763.6	120.4	112.6	b.d.l.	b.d.l.	b.d.l.	0.1	2081	6.3	4.6	0.2	0.4	b.d.l.	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-23	Rim	b.d.l.	3.9	30940.3	b.d.l.	100766	308527	b.d.l.	82886	2854.2	b.d.l.	72.4	b.d.l.	b.d.l.	728.2	119.3	111.3	b.d.l.	b.d.l.	b.d.l.	0.1	2094	6.8	4.5	0.2	0.5	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-24	Rim	b.d.l.	3.5	30263.9	b.d.l.	92941	308527	b.d.l.	79036	2997.0	b.d.l.	72.4	b.d.l.	0.9	722.0	117.8	110.4	b.d.l.	b.d.l.	b.d.l.	0.1	1940	6.5	4.4	0.2	0.6	b.d.l.	3.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-25	Rim	b.d.l.	2.9	31522.5	b.d.l.	101714	303853	b.d.l.	80765	3031.6	b.d.l.	72.8	b.d.l.	b.d.l.	721.7	113.8	120.9	0.0	b.d.l.	b.d.l.	0.1	2052	7.3	4.9	0.2	0.5	0.0	3.5	b.d.l.	0.0	b.d.l.	b.d.l.
grain5-26	Rim	b.d.l.	2.2	30249.3	b.d.l.	97600	303853	b.d.l.	79284	2855.5	b.d.l.	69.4	b.d.l.	b.d.l.	703.2	115.6	118.2	b.d.l.	b.d.l.	b.d.l.	0.1	1953	6.8	4.7	0.2	0.4	b.d.l.	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain5-27	Rim	b.d.l.	2.4	29753.1	b.d.l.	96238	303853	22.3	78034	3034.3	b.d.l.	68.2	b.d.l.	b.d.l.	703.2	110.9	119.6	b.d.l.	b.d.l.	b.d.l.	0.1	1873	7.0	4.8	0.2	0.4	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
Sanidine grain 5 - Line 2																																
MFT-San5 - 1	Rim	3.7	3.6	28590.7	1.2	107250	308527	b.d.l.	73987	2667.2	b.d.l.	61.8	b.d.l.	b.d.l.	675.7	121.1	61.3	b.d.l.	b.d.l.	b.d.l.	0.1	821	6.2	4.4	0.2	0.4	b.d.l.	2.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 2	Core	2.7	3.7	29289.1	2.4	105892	308527	b.d.l.	75017	2238.8	0.7	71.8	b.d.l.	b.d.l.	708.5	127.4	71.2	b.d.l.	b.d.l.	b.d.l.	0.1	1090	6.1	4.4	0.3	0.4	b.d.l.	2.6	0.1	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 3	Core	3.4	3.8	31024.3	2.0	110440	308527	b.d.l.	78523	2464.8	0.7	64.8	b.d.l.	b.d.l.	745.3	129.1	87.7	0.1	b.d.l.	b.d.l.	0.0	1500	6.7	4.4	0.3	0.5	b.d.l.	3.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 4	Core	5.5	4.4	30804.7	1.3	112288	308527	144.1	79389	3027.9	b.d.l.	76.5	b.d.l.	12.2	774.2	130.4	96.9	0.1	0.1	b.d.l.	0.1	2106	6.6	4.6	0.2	0.4	0.1	3.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 5	Core	5.1	4.4	30733.9	1.5	109072	308527	b.d.l.	79189	3124.6	b.d.l.	68.2	b.d.l.	b.d.l.	793.3	125.8	112.5	0.3	0.0	b.d.l.	0.1	2862	6.5	4.6	0.2	0.5	b.d.l.	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 6	Core	5.0	4.8	31243.6	1.2	112368	308527	b.d.l.	80311	3344.0	b.d.l.	70.9	b.d.l.	b.d.l.	857.8	125.1	126.8	0.2	b.d.l.	0.1	b.d.l.	3407	7.2	4.7	0.3	0.4	b.d.l.	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 7	Core	7.0	4.9	34611.1	3.4	116930	308527	126.0	79777	3430.2	0.7	71.3	b.d.l.	b.d.l.	836.3	127.1	142.1	0.2	b.d.l.	b.d.l.	0.1	3335	7.1	5.2	0.2	0.5	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 8	Core	4.2	4.8	30158.0	4.1	100839	308527	b.d.l.	77135	2422.3	b.d.l.	68.7	b.d.l.	b.d.l.	765.3	117.2	117.2	0.1	b.d.l.	0.0	0.0	2519	6.1	4.6	0.2	0.5	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 9	Core	6.9	4.9	32628.0	2.1	116608	308527	b.d.l.	82191	3550.9	1.1	61.0	b.d.l.	b.d.l.	800.8	128.0	131.6	0.1	b.d.l.	0.0	b.d.l.	2333	6.9	4.6	0.2	0.4	b.d.l.	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 10	Core	6.4	4.8	30857.5	b.d.l.	110471	308527	b.d.l.	78600	3320.0	1.1	67.1	b.d.l.	b.d.l.	795.9	120.8	123.4	0.2	b.d.l.	b.d.l.	0.2	1962	6.4	4.6	0.3	0.4	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 11	Core	6.5	5.3	33756.4	2.3	119719	308527	87.2	83220	3399.4	b.d.l.	75.8	b.d.l.	b.d.l.	771.6	125.7	130.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.	1969	7.2	4.9	0.3	0.4	b.d.l.	3.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 12	Core	5.2	5.3	31400.9	2.8	112161	308527	b.d.l.	78281	3308.5	b.d.l.	68.5	0.9	b.d.l.	754.5	123.2	121.4	0.1	0.0	b.d.l.	b.d.l.	1735	6.5	4.3	0.3	0.6	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 13	Core	6.5	5.1	32190.2	2.7	113671	308527	b.d.l.	78878	2855.3	b.d.l.	64.9	b.d.l.	b.d.l.	696.8	120.9	124.4	0.1	b.d.l.	b.d.l.	0.1	1799	6.9	4.7	0.2	0.8	b.d.l.	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 14	Core	4.9	4.7	29781.1	1.6	108688	308527	b.d.l.	76307	3060.7	b.d.l.	59.1	b.d.l.	b.d.l.	681.6	114.8	114.1	0.2	0.1	b.d.l.	b.d.l.	1757	6.8	4.3	0.2	0.2	0.1	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 15	Core	4.3	5.4	32135.0	2.4	110144	308527	b.d.l.	80646	2836.3	0.7	67.0	b.d.l.	b.d.l.	777.9	135.0	119.7	0.2	b.d.l.	b.d.l.	0.2	1915	6.7	4.4	0.2	0.6	b.d.l.	3.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 16	Core	5.8	5.1	30435.6	3.1	110637	308527	b.d.l.	79028	3146.0	0.9	64.9	b.d.l.	b.d.l.	739.4	121.1	117.2	0.1	b.d.l.	0.0	b.d.l.	1950	6.6	4.5	0.2	0.5	b.d.l.	3.2	b.d.l.	b.d.l.	0.0	b.d.l.
MFT-San5 - 17	Core	6.2	5.8	30470.2	2.6	107399	308527	b.d.l.	77355	2947.0	1.1	65.0	b.d.l.	b.d.l.	790.3	120.2	116.2	0.3	0.1	b.d.l.	b.d.l.	1996	6.8	4.3	0.3	0.3	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 18	Core	4.5	5.8	31156.9	4.4	110848	308527	108.7	89348	3010.9	b.d.l.	66.1	b.d.l.	b.d.l.	855.8	119.7	114.0	b.d.l.	0.0	b.d.l.	b.d.l.	2078	6.8	4.8	0.3	0.4	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 19	Core	5.9	5.7	32879.8	2.5	118030	308527	b.d.l.	81773	3272.6	1.3	92.9	b.d.l.	b.d.l.	832.9	122.3	115.2	0.2	b.d.l.	b.d.l.	0.1	2348	7.4	5.1	0.2	0.5	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 20	Core	5.5	5.3	30282.8	b.d.l.	109203	308527	b.d.l.	78171	2731.0	b.d.l.	58.5	b.d.l.	b.d.l.	742.5	120.3	112.8	0.1	b.d.l.	b.d.l.	b.d.l.	2479	6.7	4.8	0.2	0.4	b.d.l.	3.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 21	Core	6.7	5.7	31135.7	2.0	110364	308527	87.2	77691	3099.3	b.d.l.	67.1	b.d.l.	b.d.l.	787.3	115.9	113.1	0.2	b.d.l.	b.d.l.	0.1	2649	6.8	4.8	0.3	0.5	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 22	Core	5.8	5.9	32045.0	2.4	114971	308527	b.d.l.	80371	3552.5	b.d.l.	72.7	b.d.l.	b.d.l.	844.1	120.9	121.7	0.1	b.d.l.	b.d.l.	b.d.l.	3120	7.7	5.3	0.3	0.4	b.d.l.	3.4	0.1	b.d.l.	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	0.0	21.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	26.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	27.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.9	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	24.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	26.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	27.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	27.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	26.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.5	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	26.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	27.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	29.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	30.2	0.0	0.0
b.d.l.	b.d.l.	0.1	b.d.l.	0.0	b.d.l.	30.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	29.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	30.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.1	27.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.3	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.3	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.3	b.d.l.	0.1
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	28.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	29.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	30.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	0.1	b.d.l.	29.7	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	28.6	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	29.3	b.d.l.	b.d.l.

Table A1.5: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-San5 - 23	Core	4.4	5.8	31023.5	1.2	110451	308527	b.d.l.	76563	3247.1	0.8	79.7	b.d.l.	b.d.l.	712.9	117.2	122.1	0.2	b.d.l.	b.d.l.	0.1	3306	8.0	4.9	0.2	0.2	b.d.l.	3.5	0.1	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 24	Core	5.4	5.8	30742.1	2.0	110470	308527	b.d.l.	75965	3343.4	0.6	67.9	b.d.l.	10.5	760.9	116.6	116.6	0.2	b.d.l.	b.d.l.	0.1	3647	7.2	5.3	0.2	0.4	b.d.l.	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 25	Core	6.5	5.7	29484.9	1.5	105891	308527	b.d.l.	73309	3442.9	b.d.l.	72.1	b.d.l.	b.d.l.	739.7	115.2	112.6	0.2	b.d.l.	b.d.l.	0.1	3610	7.4	4.6	0.3	0.5	b.d.l.	3.2	0.1	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 26	Core	5.5	5.6	31007.2	b.d.l.	111853	308527	b.d.l.	76239	2888.9	b.d.l.	70.4	b.d.l.	b.d.l.	774.1	115.8	116.8	0.3	b.d.l.	b.d.l.	0.1	4045	7.7	5.0	0.3	0.4	b.d.l.	3.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 27	Core	4.9	5.7	31930.9	1.7	113269	308527	b.d.l.	79838	3134.4	0.6	77.4	b.d.l.	b.d.l.	868.2	118.6	120.7	0.2	0.1	b.d.l.	0.1	4215	7.7	5.3	0.3	0.6	b.d.l.	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 28	Core	5.0	5.6	31314.9	b.d.l.	112998	308527	b.d.l.	80226	3002.9	b.d.l.	73.7	b.d.l.	b.d.l.	799.1	118.0	116.6	0.3	b.d.l.	b.d.l.	0.1	4183	7.5	5.1	0.2	0.6	0.1	3.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 29	Core	7.7	6.1	33574.8	3.0	120399	308527	b.d.l.	82635	3065.3	0.8	81.8	b.d.l.	b.d.l.	915.9	123.3	126.5	0.3	b.d.l.	b.d.l.	0.1	4470	8.3	5.6	0.3	0.5	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 30	Core	4.3	5.7	31688.4	1.6	113358	308527	b.d.l.	77749	3546.9	b.d.l.	84.5	b.d.l.	b.d.l.	769.2	119.6	123.2	0.1	b.d.l.	0.0	0.1	4234	8.1	5.7	0.3	0.4	b.d.l.	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 31	Core	6.9	5.6	32384.1	1.2	114671	308527	b.d.l.	77730	3685.5	b.d.l.	79.2	b.d.l.	b.d.l.	876.9	116.7	128.3	0.3	b.d.l.	b.d.l.	0.1	4032	7.9	5.3	0.3	0.7	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 32	Core	5.2	5.2	33501.7	3.0	117291	308527	79.2	77481	4215.5	b.d.l.	83.5	b.d.l.	b.d.l.	813.2	113.1	139.8	0.2	b.d.l.	b.d.l.	0.1	3881	9.6	7.2	0.3	0.6	b.d.l.	4.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 33	Core	5.5	5.5	29872.7	3.6	107616	308527	72.4	76984	2442.6	0.7	69.4	b.d.l.	b.d.l.	819.6	118.5	91.7	0.1	b.d.l.	b.d.l.	0.1	2556	5.6	3.2	0.1	0.3	b.d.l.	2.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 34	Core	7.0	5.5	29867.9	2.0	108233	308527	b.d.l.	77856	2794.7	0.7	69.1	b.d.l.	b.d.l.	707.3	118.3	91.8	0.2	b.d.l.	b.d.l.	0.1	2197	5.9	3.8	0.2	0.4	b.d.l.	2.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 35	Core	6.0	5.2	30364.5	4.9	106615	308527	b.d.l.	79277	2516.1	b.d.l.	64.9	b.d.l.	b.d.l.	715.9	120.1	91.3	0.1	0.0	b.d.l.	0.1	1594	5.8	4.2	0.2	0.4	b.d.l.	2.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San5 - 36	Core	5.8	4.9	28596.5	6.7	103356	308527	b.d.l.	83271	2573.5	b.d.l.	60.4	b.d.l.	b.d.l.	739.3	116.9	89.7	0.3	b.d.l.	0.1	0.2	1292	5.7	4.0	0.3	0.7	b.d.l.	2.7	b.d.l.	0.0	0.1	0.0
MFT-San5 - 37																																
Sanidine grain 6 - Line 1																																
grain6-1	Rim																															
grain6-2	Rim	b.d.l.	3.6	31040.5	11.6	100530	303853	34.3	79768	3618.6	0.8	87.8	b.d.l.	1.6	832.8	116.6	116.4	b.d.l.	b.d.l.	b.d.l.	0.1	6902	7.6	5.2	0.3	0.6	0.0	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-3	Rim	b.d.l.	5.8	31041.1	13.6	100062	303853	23.6	78343	3978.7	b.d.l.	93.8	b.d.l.	b.d.l.	768.7	117.8	110.9	0.0	b.d.l.	b.d.l.	0.1	7004	7.9	5.2	0.3	0.6	0.1	3.7	b.d.l.	b.d.l.	b.d.l.	0.0
grain6-4	Rim	b.d.l.	7.4	31737.2	10.5	102833	303853	b.d.l.	80258	3693.1	b.d.l.	90.8	b.d.l.	0.9	840.2	117.1	114.7	0.0	b.d.l.	b.d.l.	0.1	7024	8.0	5.4	0.3	0.5	0.1	3.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-5	Core	b.d.l.	8.2	31492.6	b.d.l.	102362	303853	b.d.l.	82546	4070.0	0.6	96.3	b.d.l.	1.0	891.5	118.6	113.4	0.0	b.d.l.	b.d.l.	0.1	7165	8.2	5.4	0.3	0.7	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-6	Core	b.d.l.	8.6	31319.3	b.d.l.	101345	303853	b.d.l.	80356	3758.7	b.d.l.	90.7	b.d.l.	1.2	855.3	120.3	109.9	0.0	b.d.l.	b.d.l.	0.1	7196	7.6	5.2	0.3	0.6	b.d.l.	3.5	0.1	b.d.l.	b.d.l.	b.d.l.
grain6-7	Core	b.d.l.	8.9	32409.1	b.d.l.	105189	303853	b.d.l.	82856	3681.0	b.d.l.	93.2	b.d.l.	b.d.l.	899.6	120.7	107.6	b.d.l.	b.d.l.	b.d.l.	0.1	7210	7.8	5.6	0.3	0.7	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-8	Core	b.d.l.	8.5	31305.6	b.d.l.	102380	303853	b.d.l.	81728	4003.8	b.d.l.	89.5	b.d.l.	0.9	890.0	119.6	107.4	0.0	b.d.l.	b.d.l.	0.1	7161	8.0	5.3	0.3	0.4	0.1	3.3	b.d.l.	0.0	b.d.l.	b.d.l.
grain6-9	Core	b.d.l.	9.5	31625.1	b.d.l.	101953	303853	b.d.l.	81219	4227.6	b.d.l.	97.3	b.d.l.	0.9	838.5	119.1	104.9	b.d.l.	b.d.l.	0.0	0.1	7136	7.9	5.1	0.3	0.6	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-10	Core	b.d.l.	8.9	31119.7	b.d.l.	102956	303853	b.d.l.	81529	3820.4	0.9	93.7	b.d.l.	0.9	884.0	121.1	103.6	0.1	b.d.l.	b.d.l.	0.1	7172	7.7	5.3	0.3	0.6	0.0	3.4	0.1	0.0	b.d.l.	b.d.l.
grain6-11	Core	b.d.l.	8.9	30995.0	b.d.l.	100666	303853	b.d.l.	80389	3466.5	b.d.l.	94.4	b.d.l.	0.9	857.1	118.1	105.0	0.0	b.d.l.	b.d.l.	0.1	7315	8.1	5.3	0.2	0.5	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-12	Core	b.d.l.	8.2	30603.8	b.d.l.	99324	303853	b.d.l.	79451	3473.5	b.d.l.	94.0	b.d.l.	0.9	848.4	117.1	110.3	0.0	b.d.l.	b.d.l.	0.1	7534	8.1	5.6	0.3	0.5	0.1	3.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-13	Core	b.d.l.	8.0	31429.3	b.d.l.	101778	303853	b.d.l.	79419	4013.2	0.7	92.3	b.d.l.	b.d.l.	868.7	117.9	116.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	7653	8.9	5.9	0.3	0.6	b.d.l.	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-14	Core	b.d.l.	7.8	31376.2	7.3	103371	303853	b.d.l.	79816	3732.5	b.d.l.	89.8	b.d.l.	b.d.l.	829.3	119.7	118.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	7839	8.7	5.9	0.3	0.7	b.d.l.	4.0	0.1	b.d.l.	b.d.l.	b.d.l.
grain6-15	Core	b.d.l.	8.2	32040.9	b.d.l.	102560	303853	b.d.l.	83326	3668.3	0.6	94.4	b.d.l.	0.8	809.0	125.5	119.3	b.d.l.	b.d.l.	b.d.l.	0.1	7668	8.5	5.7	0.3	0.6	0.1	4.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-16	Core	b.d.l.	8.4	31122.6	b.d.l.	103943	303853	b.d.l.	80192	3778.9	1.0	84.7	b.d.l.	0.9	877.4	119.9	122.0	0.1	b.d.l.	b.d.l.	0.1	7576	8.5	5.6	0.3	0.7	b.d.l.	4.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-17	Core	b.d.l.	8.2	30912.9	b.d.l.	103478	303853	25.9	80647	4089.8	0.8	84.2	b.d.l.	0.8	868.1	122.0	120.3	b.d.l.	b.d.l.	b.d.l.	0.1	7647	8.1	5.8	0.3	0.6	b.d.l.	4.0	0.0	b.d.l.	b.d.l.	b.d.l.
grain6-18	Core	b.d.l.	7.8	30980.6	b.d.l.	100403	303853	b.d.l.	81010	3679.5	0.6	89.4	b.d.l.	b.d.l.	826.8	122.6	117.7	0.0	b.d.l.	0.0	b.d.l.	7365	7.7	5.3	0.3	0.5	0.1	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-19	Core	b.d.l.	8.5	30997.6	b.d.l.	101647	303853	b.d.l.	80693	4199.5	0.7	85.5	b.d.l.	0.8	801.4	124.7	119.5	0.0	b.d.l.	b.d.l.	0.1	7481	7.7	5.5	0.3	0.7	b.d.l.	4.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-20	Core	b.d.l.	7.9	30822.2	b.d.l.	101317	303853	b.d.l.	81598	3594.2	b.d.l.	92.7	b.d.l.	b.d.l.	773.0	125.6	128.9	0.0	0.1	b.d.l.	b.d.l.	7499	7.8	5.4	0.3	0.5	0.1	4.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-21	Core	b.d.l.	7.7	31385.1	7.1	103643	303853	b.d.l.	82070	3598.3	0.8	93.2	b.d.l.	0.8	832.1	126.7	131.5	b.d.l.	b.d.l.	0.0	0.1	7404	7.5	5.4	0.3	0.5	b.d.l.	4.7	b.d.l.	b.d.l.	b.d.l.	0.0
grain6-22	Core	b.d.l.	8.1	31715.1	b.d.l.	102662	303853	b.d.l.	80280	3731.4	0.9	91.3	b.d.l.	b.d.l.	854.7	126.2	130.6	b.d.l.	b.d.l.	b.d.l.	0.1	7349	7.5	5.2	0.3	0.6	b.d.l.	4.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-23	Core	b.d.l.	7.9	31257.8	10.6	103058	303853	b.d.l.	80844	3890.3	0.8	93.1	b.d.l.	b.d.l.	779.1	123.7	135.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	7668	8.6	5.8	0.3	0.5	b.d.l.	4.4	0.1	b.d.l.	0.0	b.d.l.
grain6-24	Core	b.d.l.	8.8	32537.7	b.d.l.	103390	303853	b.d.l.	86474	4320.2	0.7	91.4	b.d.l.	1.0	847.3	127.7	137.5	b.d.l.	b.d.l.	b.d.l.	0.1	7651	8.4	5.9	0.3	0.6	0.0	4.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-25	Core	b.d.l.	7.9	31018.6	b.d.l.	103394	303853	b.d.l.	80754	3528.5	b.d.l.	88.0	b.d.l.	b.d.l.	908.4	123.7	137.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.	7592	8.3	5.8	0.3	0.4	b.d.l.	4.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-26	Core	b.d.l.	8.5	30785.6	6.4	99230	299178	b.d.l.	80518	4401.8	b.d.l.	83.5	b.d.l.	0.8	839.4	125.2	138.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.	7361	8.6	6.2	0.3	0.6	b.d.l.	4.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-27	Core	b.d.l.	8.7	30558.2	9.3	100993	299178	b.d.l.	79885	3753.7	0.7	93.2	b.d.l.	1.0	814.1	125.2	140.7	0.0	b.d.l.	b.d.l.	0.1	7403	8.1	5.7	0.3	0.6	b.d.l.	4.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-28	Core	b.d.l.	8.6	31433.7	b.d.l.	100850	299178	21.6	78550	3450.0	b.d.l.	87.4	b.d.l.	b.d.l.	835.2	126.5	141.9	0.1	b.d.l.	b.d.l.	b.d.l.	7344	8.2	5.6	0.3	0.5	0.1	4.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-29	Core	b.d.l.	8.0	30865.7	b.d.l.	101405	299178	b.d.l.	82264	3918.0	b.d.l.	91.6	b.d.l.	0.9	835.3	126.2	141.2	b.d.l.	b.d.l.	b.d.l.	0.1	7311	8.1	5.6	0.3	0.5	0.1	4.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-30	Core	b.d.l.	7.5	31784.4	8.7	100994	303853	28.3	80232	4139.8	1.0	95.1	b.d.l.	0.8	848.0	126.7	142.3	0.0	b.d.l.	b.d.l.	0.1	7385	8.2	5.8	0.3	0.6	0.0	4.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-31	Core	b.d.l.	5.1	31835.8	b.d.l.	103621	303853	b.d.l.	78320	4833.2	b.d.l.	92.3	b.d.l.	b.d.l.	832.2	122.2	149.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.	7382	9.5	7.1	0.4	0.9	b.d.l.	5.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain6-32	Core																															
Sanidine grain 5 - Line 2																																
MFT-San6 - 1	Rim	2.1	1.3	33025.4	4.3	117095	308527	b.d.l.	78116	3886.9	0.8	96.0	b.d.l.	b.d.l.	909.2	121.6	118.9	0.3	0.0	b.d.l.	b.d.l.	7943	9.2	6.9	0.4	0.9	b.d.l.	4.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 2	Core	1.8	2.6	31164.4	2.3	106837	308527	b.d.l.	73201	3678.5	b.d.l.	87.1	b.d.l.	b.d.l.	750.6	117.4	109.8	0.5	b.d.l.	b.d.l.	0.0	7628	8.3	6.1	0.4	0.9	b.d.l.	3.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 3	Core	4.1	3.8	32751.0	3.0	115041	308527	b.d.l.	78883	4000.1	b.d.l.	94.9	b.d.l.	b.d.l.	891.3	124.7	113.1	0.4	0.1	0.0	0.1	7939	8.4	6.0	0.3	0.9	b.d.l.	4.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 4	Core	4.8	5.2	31576.5	2.7	113666	308527	100.8	77495	3573.0	b.d.l.	93.2	b.d.l.	17.1	891.2	122.4	108.8	0.5	0.1	b.d.l.	0.0	7748	8.4	5.9	0.3	0.6	b.d.l.	3.9	0.1	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 5	Core	6.7	6.0	30284.1	b.d.l.	108509	308527	b.d.l.	74388	3336.7	b.d.l.	78.4	b.d.l.	b.d.l.	850.9	118.6	103.7	0.5	b.d.l.	0.0	0.1	7480	7.6	5.4	0.3	0.4	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.8	b.d.l.	b.d.l.
0.1	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	30.9	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	28.1	b.d.l.	b.d.l.
0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.7	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	29.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.	0.0	33.0	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	33.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	37.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	24.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	26.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	27.1	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	33.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	33.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	34.2	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	34.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	33.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	34.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	34.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	34.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	34.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	34.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	33.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	34.0	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	34.9	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	35.0	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	33.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	35.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	34.3	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	34.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	33.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	34.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	34.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	34.8	b.d.l.	0.0
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	33.0	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	33.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	32.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	33.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	34.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	36.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	34.5	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	33.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	33.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.1	b.d.l.	0.1	0.0	32.2	b.d.l.	b.d.l.

Table A1.5: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-San6 - 6	Core	7.2	6.6	32144.7	4.3	115495	308527	b.d.l.	76805	3985.6	b.d.l.	88.8	b.d.l.	b.d.l.	794.2	121.0	116.0	0.5	b.d.l.	0.0	0.1	8235	9.5	6.5	0.3	0.6	b.d.l.	4.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 7	Core	7.9	7.0	30988.4	2.4	110058	308527	b.d.l.	73913	4145.5	b.d.l.	94.6	b.d.l.	b.d.l.	730.3	114.4	119.7	0.4	b.d.l.	0.0	b.d.l.	7997	9.4	7.0	0.3	0.6	b.d.l.	4.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 8	Core	11.0	7.4	31870.9	1.2	112396	308527	b.d.l.	76460	3531.9	b.d.l.	87.0	b.d.l.	b.d.l.	793.5	117.7	113.9	0.5	b.d.l.	0.1	0.1	8004	9.0	6.2	0.3	0.6	b.d.l.	4.0	0.1	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 9	Core	7.5	7.0	29629.3	1.9	106986	308527	128.7	73128	3193.3	b.d.l.	86.4	b.d.l.	b.d.l.	800.6	118.5	105.6	0.5	0.1	b.d.l.	0.1	7234	7.4	5.6	0.2	0.5	b.d.l.	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San26- 10	Core	8.9	7.9	32265.6	2.7	116039	308527	b.d.l.	76661	3800.9	0.9	92.3	b.d.l.	b.d.l.	852.3	123.7	120.4	0.5	b.d.l.	0.0	0.0	8032	8.4	6.0	0.3	0.5	0.1	4.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 11	Core	10.3	8.7	33002.8	2.8	119796	308527	b.d.l.	81075	4040.3	0.8	98.8	b.d.l.	b.d.l.	885.5	122.3	124.8	0.5	b.d.l.	b.d.l.	b.d.l.	8264	8.7	6.4	0.4	0.7	b.d.l.	4.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 12	Core	5.1	7.5	30177.7	3.9	107588	308527	b.d.l.	74145	3841.1	b.d.l.	81.5	b.d.l.	b.d.l.	846.3	112.1	111.1	0.6	b.d.l.	b.d.l.	b.d.l.	7603	8.6	5.6	0.4	0.6	b.d.l.	3.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 13	Core	8.8	8.2	31158.4	2.5	113798	308527	b.d.l.	74946	3837.9	b.d.l.	90.1	b.d.l.	b.d.l.	841.3	125.5	118.8	0.4	0.0	b.d.l.	b.d.l.	7182	7.4	5.4	0.3	0.4	b.d.l.	3.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 14	Core	8.1	8.6	31381.1	3.5	109935	308527	141.5	76470	3899.1	b.d.l.	78.2	b.d.l.	b.d.l.	874.9	114.9	127.1	0.5	b.d.l.	b.d.l.	b.d.l.	7262	8.4	5.8	0.3	0.7	b.d.l.	4.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 15	Core	9.2	8.9	32551.9	4.9	114770	308527	128.7	76260	4240.6	b.d.l.	79.7	b.d.l.	b.d.l.	874.0	111.0	133.3	0.4	0.1	b.d.l.	0.1	7240	8.1	5.5	0.3	0.7	b.d.l.	4.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 16	Core																															
MFT-San6 - 17	Core	8.2	8.1	30028.6	2.0	105778	308527	b.d.l.	67960	4154.7	b.d.l.	85.0	b.d.l.	b.d.l.	749.9	102.4	129.7	0.4	0.1	0.0	0.1	6327	7.9	6.2	0.3	0.8	b.d.l.	3.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 18	Core	9.5	8.1	32656.9	2.5	115653	308527	b.d.l.	74818	4470.1	0.7	84.0	b.d.l.	b.d.l.	852.0	108.2	144.7	0.4	b.d.l.	b.d.l.	b.d.l.	6551	9.3	7.3	0.4	1.1	b.d.l.	4.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 19	Core	8.2	8.0	33163.3	3.9	111498	308527	b.d.l.	74084	4976.0	b.d.l.	88.9	b.d.l.	b.d.l.	792.7	115.7	129.4	0.3	0.1	b.d.l.	0.0	4898	9.3	7.2	0.5	0.8	0.1	3.9	b.d.l.	0.0	b.d.l.	b.d.l.
MFT-San6 - 20	Core	7.5	6.4	31710.8	1.9	115835	308527	b.d.l.	79862	3552.8	b.d.l.	92.9	b.d.l.	b.d.l.	782.6	124.3	119.2	0.2	b.d.l.	b.d.l.	0.2	4630	7.5	5.1	0.3	0.5	b.d.l.	3.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 22	Core	5.6	4.0	31738.0	b.d.l.	114813	308527	b.d.l.	79014	2830.2	b.d.l.	74.4	b.d.l.	b.d.l.	809.3	127.9	112.0	0.1	0.1	b.d.l.	b.d.l.	4001	7.5	5.2	0.3	0.4	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 23	Core	2.1	2.5	31795.3	3.8	117019	308527	b.d.l.	81842	3857.2	1.0	73.8	b.d.l.	b.d.l.	860.2	126.4	113.5	0.2	b.d.l.	0.0	b.d.l.	3806	7.9	5.2	0.3	0.5	0.1	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 24	Core	b.d.l.	1.7	31138.6	3.4	113334	308527	b.d.l.	80275	2519.3	0.6	77.7	b.d.l.	b.d.l.	797.8	128.9	105.3	0.1	b.d.l.	b.d.l.	0.1	3261	7.3	4.8	0.2	0.4	b.d.l.	3.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San6 - 25	Rim																															
Sanidine grain 15 - Line 1																																
grain15-1	Rim	b.d.l.	3.7	31355.4	b.d.l.	98392	308527	28.3	83729	3392.5	0.5	93.8	b.d.l.	b.d.l.	841.1	125.4	99.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.	1459	7.4	5.1	0.3	0.5	b.d.l.	2.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-2	Rim	b.d.l.	4.4	30831.9	b.d.l.	96435	308527	b.d.l.	83590	2693.8	0.7	91.5	b.d.l.	b.d.l.	838.7	122.7	96.0	b.d.l.	b.d.l.	b.d.l.	0.1	1372	7.1	5.2	0.2	0.4	b.d.l.	2.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-3	Core	b.d.l.	5.2	31496.2	b.d.l.	97978	308527	32.2	84923	2720.1	0.7	91.9	b.d.l.	0.9	828.5	127.1	94.3	0.0	b.d.l.	0.0	b.d.l.	1336	7.6	5.1	0.2	0.4	0.0	2.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-4	Core	b.d.l.	5.3	31325.4	b.d.l.	95745	308527	19.7	82984	2667.0	0.8	91.7	b.d.l.	0.7	854.2	125.9	91.1	b.d.l.	b.d.l.	b.d.l.	0.1	1300	7.6	5.3	0.2	0.4	b.d.l.	2.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-5	Core	6.5	5.5	30797.0	5.9	94795	308527	16.1	83335	2814.8	0.8	97.4	b.d.l.	b.d.l.	804.7	124.8	84.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.	1277	7.3	4.9	0.2	0.5	b.d.l.	2.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-6	Core	b.d.l.	5.5	31669.2	b.d.l.	98218	308527	17.9	86400	2803.8	0.6	100.9	b.d.l.	0.8	859.3	129.2	87.5	b.d.l.	b.d.l.	0.0	0.1	1382	7.8	5.3	0.3	0.5	b.d.l.	2.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-7	Core	b.d.l.	5.9	31539.2	b.d.l.	96477	308527	26.9	85775	2666.9	0.6	93.8	b.d.l.	b.d.l.	864.5	126.6	84.5	b.d.l.	b.d.l.	b.d.l.	0.1	1409	7.6	5.3	0.2	0.5	0.0	2.3	b.d.l.	0.0	0.0	b.d.l.
grain15-8	Core	b.d.l.	5.6	32369.3	b.d.l.	99144	308527	b.d.l.	86037	2982.4	0.9	96.8	b.d.l.	0.9	877.0	129.8	82.5	b.d.l.	b.d.l.	b.d.l.	0.1	1423	7.6	5.2	0.3	0.4	b.d.l.	2.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-9	Core	b.d.l.	5.5	32729.3	b.d.l.	96440	308527	16.1	88461	2848.4	0.6	94.2	b.d.l.	b.d.l.	865.4	132.4	79.7	b.d.l.	b.d.l.	b.d.l.	0.1	1480	7.6	5.7	0.3	0.6	b.d.l.	2.2	b.d.l.	0.0	b.d.l.	b.d.l.
grain15-10	Core	b.d.l.	5.6	30360.7	b.d.l.	92521	308527	25.7	83900	3135.6	0.8	89.7	b.d.l.	b.d.l.	823.7	123.9	76.0	b.d.l.	b.d.l.	b.d.l.	0.1	1491	7.7	5.4	0.3	0.5	0.0	2.2	0.0	0.0	b.d.l.	b.d.l.
grain15-11	Core	b.d.l.	5.5	31739.2	b.d.l.	94474	308527	15.2	85198	3045.8	1.0	96.7	b.d.l.	0.6	853.7	128.7	76.0	0.0	b.d.l.	b.d.l.	0.1	1526	7.7	5.6	0.2	0.5	b.d.l.	2.1	b.d.l.	b.d.l.	0.0	b.d.l.
grain15-12	Core	6.4	5.1	31308.8	6.0	93065	308527	19.2	85806	2512.0	0.6	88.7	b.d.l.	0.6	850.2	125.7	70.8	b.d.l.	b.d.l.	b.d.l.	0.1	1499	7.6	5.4	0.3	0.5	b.d.l.	1.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-13	Core	b.d.l.	5.4	30770.7	8.6	93100	308527	18.0	87495	2639.2	0.9	97.2	b.d.l.	0.6	817.7	129.8	66.6	b.d.l.	b.d.l.	b.d.l.	0.1	1469	7.2	5.1	0.2	0.3	b.d.l.	1.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-14	Core	6.2	5.6	32340.0	b.d.l.	96984	308527	b.d.l.	86191	2466.7	0.6	100.4	b.d.l.	b.d.l.	854.7	131.3	63.7	b.d.l.	b.d.l.	b.d.l.	0.1	1489	7.2	5.0	0.2	0.4	b.d.l.	1.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-15	Core	b.d.l.	5.3	31359.6	6.8	94608	308527	13.3	86317	3134.1	0.7	86.7	b.d.l.	b.d.l.	824.4	128.7	64.1	b.d.l.	b.d.l.	b.d.l.	0.1	1548	7.6	5.6	0.3	0.4	b.d.l.	1.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-16	Core	b.d.l.	5.4	32207.8	b.d.l.	88602	308527	13.8	80109	2821.1	0.5	88.5	b.d.l.	b.d.l.	823.6	129.9	58.4	b.d.l.	b.d.l.	0.0	0.1	1507	6.7	4.8	0.2	0.4	0.0	1.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-17	Core	b.d.l.	5.1	31984.0	b.d.l.	98250	308527	14.9	86891	2568.2	0.6	99.7	b.d.l.	0.8	846.6	132.7	62.1	b.d.l.	b.d.l.	b.d.l.	0.1	1601	7.6	5.1	0.3	0.6	0.0	1.7	0.1	b.d.l.	b.d.l.	b.d.l.
grain15-18	Core	b.d.l.	4.7	30619.3	b.d.l.	92864	308527	15.1	85512	2666.1	0.6	91.5	b.d.l.	0.6	784.2	125.4	59.2	b.d.l.	b.d.l.	b.d.l.	0.1	1513	6.8	4.8	0.2	0.4	b.d.l.	1.5	0.0	b.d.l.	b.d.l.	b.d.l.
grain15-19	Core	5.5	5.0	30866.5	b.d.l.	88720	308527	11.9	82591	2403.0	0.6	87.2	b.d.l.	0.7	771.2	120.5	54.8	b.d.l.	b.d.l.	b.d.l.	0.1	1490	6.8	4.8	0.3	0.4	0.0	1.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-20	Core	6.0	5.1	31460.4	b.d.l.	94170	308527	b.d.l.	83646	2477.2	0.7	88.4	b.d.l.	b.d.l.	768.3	130.2	54.5	b.d.l.	b.d.l.	b.d.l.	0.1	1546	7.0	4.8	0.2	0.4	b.d.l.	1.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-21	Core	6.1	5.1	31648.2	5.9	96909	308527	b.d.l.	86124	2739.6	0.8	88.5	b.d.l.	0.8	841.6	131.9	56.0	b.d.l.	b.d.l.	0.0	0.1	1659	7.1	5.1	0.3	0.5	b.d.l.	1.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-22	Core	b.d.l.	4.7	31385.8	b.d.l.	93458	308527	b.d.l.	84751	2583.5	0.7	99.4	b.d.l.	b.d.l.	830.6	131.9	54.0	b.d.l.	0.0	b.d.l.	0.1	1617	6.9	5.0	0.2	0.3	b.d.l.	1.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-23	Core	b.d.l.	4.8	32294.5	b.d.l.	95775	308527	17.2	88981	2507.7	0.8	91.2	b.d.l.	0.7	826.1	132.9	54.1	b.d.l.	b.d.l.	b.d.l.	0.1	1661	7.0	4.8	0.3	0.4	0.0	1.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-24	Core	b.d.l.	5.0	30588.9	5.6	90150	308527	14.2	82879	2460.0	0.7	94.7	b.d.l.	b.d.l.	838.1	130.2	50.0	b.d.l.	b.d.l.	0.0	0.1	1619	6.3	4.6	0.2	0.4	b.d.l.	1.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-25	Core	b.d.l.	4.9	30899.5	b.d.l.	94437	308527	23.3	83110	2555.3	0.6	90.9	b.d.l.	0.7	788.4	126.5	52.9	b.d.l.	b.d.l.	b.d.l.	0.1	1750	7.1	5.0	0.3	0.5	0.0	1.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-26	Core	b.d.l.	5.2	30738.7	b.d.l.	95525	308527	18.3	87971	2785.4	0.9	90.8	b.d.l.	0.6	805.2	134.9	54.5	b.d.l.	b.d.l.	b.d.l.	0.1	1858	7.2	5.2	0.2	0.5	0.0	1.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-27	Core	b.d.l.	5.1	30581.5	b.d.l.	92956	308527	16.3	86291	2748.3	0.8	92.2	b.d.l.	0.6	822.1	129.5	51.6	b.d.l.	b.d.l.	b.d.l.	0.1	1903	7.0	4.8	0.2	0.4	0.0	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-28	Core	b.d.l.	5.3	30067.0	b.d.l.	91625	308527	b.d.l.	85497	2609.1	0.7	91.8	b.d.l.	0.8	796.6	128.3	49.2	0.0	b.d.l.	b.d.l.	0.1	1945	6.4	4.5	0.2	0.4	0.0	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-29	Core	6.3	5.5	31377.7	b.d.l.	94883	308527	29.5	85813	2470.3	0.9	90.1	b.d.l.	0.7	846.6	132.2	49.4	0.0	b.d.l.	b.d.l.	0.1	2073	6.4	4.7	0.2	0.4	b.d.l.	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-30	Core	b.d.l.	5.5	32413.8	b.d.l.	93627	308527	25.9	84189	2977.2	0.6	98.6	b.d.l.	0.6	853.6	126.1	58.6	b.d.l.	b.d.l.	b.d.l.	0.1	2519	8.9	6.4	0.3	0.7	0.0	1.8	b.d.l.	0.0	b.d.l.	b.d.l.
grain15-31	Core	b.d.l.	5.8	31178.3	b.d.l.	93478	308527	16.4	84063	3239.1	0.9	101.7	b.d.l.	0.8	792.5	124.5	57.8	b.d.l.	b.d.l.	b.d.l.	0.1	2609	8.5	6.2	0.3	0.6	0.0	1.6	b.d.l.	0.0	b.d.l.	b.d.l.
grain15-32	Core	b.d.l.	6.0	31564.8	b.d.l.	93981	308527	14.0	82628	2976.7	0.6	97.5	b.d.l.	0.7	835.9	129.8	56.6	0.0	b.d.l.	b.d.l.	0.1	2618	8.2	5.9	0.3	0.4	b.d.l.	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-33	Core	b.d.l.	5.7	31186.6	b.d.l.	93872	308527	16.4	82353	2825.7	0.7	96.2	b.d.l.	b.d.l.	800.4	126.4	53.9	b.d.l.	b.d.l.	0.0	0.1	2620	7.7	5.6	0.3	0.5	0.0	1.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	36.2	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	36.2	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	35.4	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	34.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	34.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.2	b.d.l.	37.7	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	35.9	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.1	b.d.l.	35.1	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	35.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	36.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	34.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	37.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	34.3	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	29.5	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	30.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	29.4	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	28.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.3	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	28.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	29.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	28.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	28.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	30.5	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.4	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	30.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.5	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	28.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	28.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	27.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	30.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	29.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.3	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	33.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	32.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	33.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.7	b.d.l.	0.0

Table A1.5: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
grain15-34	Core	b.d.l.	6.0	31849.4	b.d.l.	96326	308527	17.9	84731	2866.0	0.6	87.9	b.d.l.	b.d.l.	794.8	134.0	55.7	b.d.l.	b.d.l.	0.0	0.1	2632	7.7	5.7	0.3	0.5	b.d.l.	1.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-35	Core	7.8	6.0	30800.8	5.4	91481	308527	12.8	81239	2630.3	0.6	93.7	b.d.l.	0.7	855.1	130.2	53.3	0.0	b.d.l.	b.d.l.	b.d.l.	2417	7.3	5.3	0.3	0.4	0.0	1.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-36	Core	b.d.l.	6.0	30492.9	9.2	92038	308527	17.3	82123	2855.0	0.6	94.9	b.d.l.	0.7	826.7	125.2	53.6	0.0	b.d.l.	b.d.l.	0.1	2374	7.4	5.0	0.2	0.5	0.1	1.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-37	Core	b.d.l.	5.7	30830.3	b.d.l.	92927	308527	15.0	83866	2938.9	0.7	84.6	b.d.l.	0.8	813.5	126.5	55.4	b.d.l.	b.d.l.	0.0	0.1	2330	7.7	5.5	0.3	0.4	0.0	1.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-38	Rim	b.d.l.	4.5	31207.5	5.6	92960	308527	25.6	86782	2997.3	0.5	91.5	b.d.l.	b.d.l.	799.2	129.8	58.5	b.d.l.	0.2	b.d.l.	0.1	2260	7.9	5.6	0.3	0.6	0.0	1.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain15-39	Rim	b.d.l.	2.8	32974.2	b.d.l.	90882	308527	37.7	86568	2958.8	0.4	91.4	b.d.l.	1.0	793.2	128.5	56.9	0.0	b.d.l.	0.0	0.1	2134	7.6	5.5	0.3	0.4	0.0	1.6	b.d.l.	0.0	b.d.l.	b.d.l.
grain15-40	Rim	b.d.l.	1.5	31077.7	b.d.l.	94305	308527	16.7	84774	2929.4	0.6	86.5	b.d.l.	1.0	810.4	128.9	58.2	b.d.l.	b.d.l.	b.d.l.	0.1	2071	7.7	5.3	0.3	0.4	0.0	1.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
Sanidine grain 16 - Line 1																																
grain16-1	Rim	b.d.l.	4.8	31208.6	b.d.l.	97028	308527	18.8	85812	2556.4	0.4	67.0	b.d.l.	b.d.l.	672.3	122.9	88.8	b.d.l.	b.d.l.	b.d.l.	0.1	499	6.4	4.4	0.2	0.4	0.0	2.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-2	Rim	b.d.l.	4.7	30582.2	b.d.l.	96772	308527	b.d.l.	85250	2848.6	0.4	68.5	b.d.l.	b.d.l.	660.5	121.3	88.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	522	6.6	4.3	0.2	0.4	b.d.l.	2.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-3	Rim	b.d.l.	5.1	30820.8	b.d.l.	97863	308527	15.4	84653	2587.3	0.8	63.9	b.d.l.	0.7	700.4	122.8	87.8	b.d.l.	b.d.l.	b.d.l.	0.1	554	6.7	4.6	0.2	0.5	b.d.l.	2.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-4	Rim	b.d.l.	5.0	31300.8	b.d.l.	97210	308527	18.0	87247	2489.5	0.7	67.8	b.d.l.	b.d.l.	655.4	124.1	83.9	b.d.l.	b.d.l.	b.d.l.	0.1	584	6.6	4.4	0.2	0.5	b.d.l.	2.2	0.0	b.d.l.	b.d.l.	b.d.l.
grain16-5	Rim	b.d.l.	5.0	32591.3	b.d.l.	100568	308527	b.d.l.	86550	2940.2	0.7	65.7	b.d.l.	0.6	722.3	126.5	83.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.	622	6.7	4.3	0.2	0.4	b.d.l.	2.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-6	Core	b.d.l.	5.2	30727.7	b.d.l.	98197	308527	15.3	84654	2897.3	0.7	62.7	b.d.l.	b.d.l.	734.6	123.7	82.3	b.d.l.	b.d.l.	0.0	0.1	663	6.5	4.5	0.2	0.4	0.0	2.1	0.0	b.d.l.	b.d.l.	b.d.l.
grain16-7	Core	b.d.l.	5.2	31438.5	b.d.l.	93273	308527	b.d.l.	85753	2803.0	0.6	76.8	b.d.l.	0.7	718.1	122.2	79.0	b.d.l.	b.d.l.	b.d.l.	0.1	693	6.6	4.6	0.2	0.5	0.0	2.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-8	Core	6.5	5.2	31809.2	b.d.l.	95455	308527	24.2	87114	2916.1	0.7	73.3	b.d.l.	b.d.l.	754.9	124.7	77.3	b.d.l.	b.d.l.	b.d.l.	0.1	725	6.4	4.4	0.2	0.4	0.0	2.0	b.d.l.	0.0	b.d.l.	b.d.l.
grain16-9	Core	b.d.l.	5.1	30380.9	b.d.l.	92045	308527	b.d.l.	83307	2836.3	0.6	62.9	b.d.l.	0.7	705.7	117.5	72.7	b.d.l.	b.d.l.	0.0	0.1	713	5.9	4.1	0.2	0.4	0.0	1.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-10	Core	b.d.l.	5.7	32812.1	b.d.l.	95724	308527	33.0	89106	2452.1	0.7	69.5	b.d.l.	0.8	730.9	125.7	78.4	b.d.l.	b.d.l.	b.d.l.	0.1	783	6.6	4.4	0.2	0.4	b.d.l.	2.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-11	Core	b.d.l.	4.9	32182.6	b.d.l.	94353	308527	b.d.l.	88166	2701.8	0.5	73.1	b.d.l.	b.d.l.	726.4	123.3	75.5	b.d.l.	b.d.l.	0.0	0.1	796	6.3	4.5	0.2	0.4	b.d.l.	2.1	0.0	b.d.l.	0.0	b.d.l.
grain16-12	Core	b.d.l.	4.4	31164.5	b.d.l.	91331	308527	20.9	83948	2747.4	0.4	67.2	b.d.l.	b.d.l.	730.7	118.2	72.9	b.d.l.	b.d.l.	0.0	0.1	797	6.5	4.7	0.2	0.4	b.d.l.	1.9	b.d.l.	b.d.l.	0.0	b.d.l.
grain16-13	Core	b.d.l.	4.5	31700.3	9.4	96648	308527	23.4	86900	2597.2	0.4	74.3	b.d.l.	b.d.l.	727.6	124.4	74.2	0.0	b.d.l.	b.d.l.	0.1	819	6.6	4.5	0.2	0.4	b.d.l.	1.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-14	Core	b.d.l.	4.5	30938.9	b.d.l.	94158	308527	31.8	85475	2583.8	0.4	68.9	b.d.l.	b.d.l.	719.6	122.1	71.0	b.d.l.	b.d.l.	b.d.l.	0.1	792	6.4	4.3	0.2	0.4	0.0	2.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-15	Core	b.d.l.	4.7	30172.5	b.d.l.	93937	308527	29.4	84991	2670.9	0.7	71.8	b.d.l.	1.0	730.0	120.6	71.8	b.d.l.	b.d.l.	b.d.l.	0.1	792	6.4	4.5	0.2	0.3	b.d.l.	1.8	0.0	b.d.l.	b.d.l.	b.d.l.
grain16-16	Core	b.d.l.	4.9	31152.5	b.d.l.	94863	308527	b.d.l.	84703	2888.5	0.6	70.7	b.d.l.	b.d.l.	713.3	125.7	73.4	b.d.l.	b.d.l.	0.0	0.1	766	7.0	5.1	0.2	0.4	b.d.l.	1.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-17	Core	6.1	5.1	30440.9	7.3	90318	308527	15.0	88631	2491.9	0.7	71.8	b.d.l.	0.8	732.8	125.3	62.5	b.d.l.	b.d.l.	b.d.l.	0.1	651	5.5	4.0	0.2	0.4	0.0	1.8	b.d.l.	0.0	b.d.l.	b.d.l.
grain16-18	Core	6.0	5.3	32599.8	b.d.l.	96994	308527	13.6	85353	3026.1	0.6	71.5	b.d.l.	0.7	742.8	122.8	71.0	b.d.l.	b.d.l.	b.d.l.	0.1	662	7.1	4.9	0.2	0.5	b.d.l.	1.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-19	Core	b.d.l.	5.1	31051.3	b.d.l.	92231	308527	b.d.l.	84677	2536.8	0.6	76.7	b.d.l.	0.7	732.4	125.0	63.0	b.d.l.	b.d.l.	b.d.l.	0.1	548	6.0	4.3	0.2	0.3	b.d.l.	1.7	b.d.l.	0.0	b.d.l.	b.d.l.
grain16-20	Core	b.d.l.	4.8	31554.0	b.d.l.	95709	308527	b.d.l.	86406	2766.1	0.8	69.5	b.d.l.	0.8	711.0	128.7	59.5	0.0	b.d.l.	b.d.l.	0.1	498	5.6	3.9	0.2	0.5	b.d.l.	1.6	0.1	b.d.l.	b.d.l.	0.0
grain16-21	Core	b.d.l.	4.2	30678.3	b.d.l.	94393	308527	20.2	84305	2759.9	0.7	68.6	b.d.l.	b.d.l.	693.7	121.0	58.2	b.d.l.	b.d.l.	b.d.l.	0.1	430	5.3	3.9	0.2	0.3	0.0	1.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-22	Core	b.d.l.	4.2	31461.0	b.d.l.	97396	308527	b.d.l.	88474	2734.4	0.9	72.0	b.d.l.	0.7	739.6	125.4	59.3	b.d.l.	b.d.l.	b.d.l.	0.1	392	5.3	4.1	0.2	0.2	b.d.l.	1.5	0.0	b.d.l.	b.d.l.	b.d.l.
grain16-23	Core	6.7	4.5	31657.2	b.d.l.	95481	308527	19.2	90877	2711.6	0.5	71.4	b.d.l.	0.7	767.6	124.4	57.1	b.d.l.	b.d.l.	b.d.l.	0.1	336	5.5	3.8	0.2	0.3	b.d.l.	1.5	b.d.l.	0.0	b.d.l.	b.d.l.
grain16-24	Core	b.d.l.	4.3	31743.1	b.d.l.	95237	308527	b.d.l.	86872	2331.9	0.8	69.8	b.d.l.	0.7	747.2	125.0	57.2	b.d.l.	b.d.l.	b.d.l.	0.1	301	5.7	3.9	0.2	0.3	0.0	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-25	Core	6.3	4.0	29334.3	b.d.l.	92426	308527	b.d.l.	85319	2664.2	0.5	73.0	b.d.l.	0.6	729.1	132.4	53.5	b.d.l.	b.d.l.	b.d.l.	0.1	258	5.3	3.6	0.2	0.3	b.d.l.	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-26	Core	b.d.l.	4.0	31650.3	b.d.l.	93273	308527	b.d.l.	84420	2702.7	1.1	73.1	b.d.l.	0.8	758.6	125.1	53.2	b.d.l.	b.d.l.	b.d.l.	0.1	236	5.4	3.8	0.2	0.4	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-27	Core	b.d.l.	4.0	31321.8	b.d.l.	93437	308527	b.d.l.	85202	2691.7	0.6	77.5	b.d.l.	b.d.l.	739.9	127.4	52.8	b.d.l.	b.d.l.	b.d.l.	0.1	224	5.6	3.8	0.2	0.3	0.0	1.3	b.d.l.	b.d.l.	0.0	b.d.l.
grain16-28	Core	b.d.l.	4.3	31754.0	6.1	92782	308527	b.d.l.	85254	3068.0	0.7	78.7	b.d.l.	b.d.l.	736.7	122.8	51.8	b.d.l.	b.d.l.	0.0	0.1	215	5.7	3.9	0.2	0.3	b.d.l.	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-29	Core	b.d.l.	4.7	31113.0	b.d.l.	93711	308527	25.5	84890	2723.3	b.d.l.	73.8	b.d.l.	0.6	760.3	127.9	51.6	b.d.l.	b.d.l.	0.0	0.1	212	5.6	4.1	0.2	0.3	b.d.l.	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-30	Core	b.d.l.	5.1	30664.3	b.d.l.	93883	308527	b.d.l.	84998	2662.1	0.7	73.0	b.d.l.	b.d.l.	729.7	123.8	48.8	b.d.l.	b.d.l.	0.0	0.1	208	5.6	3.8	0.2	0.3	0.0	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-31	Core	7.1	6.8	31866.1	b.d.l.	95606	308527	27.2	87278	2649.7	1.0	72.5	b.d.l.	b.d.l.	753.2	128.0	50.8	b.d.l.	b.d.l.	0.0	0.1	211	6.0	4.0	0.2	0.3	b.d.l.	1.3	0.0	b.d.l.	b.d.l.	b.d.l.
grain16-32	Core	b.d.l.	6.5	31187.8	b.d.l.	94333	308527	b.d.l.	93028	2781.0	0.6	76.6	b.d.l.	b.d.l.	753.9	128.7	50.9	b.d.l.	b.d.l.	b.d.l.	0.1	227	6.1	4.4	0.2	0.3	0.0	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-33	Core	b.d.l.	5.9	32070.2	b.d.l.	97712	308527	20.8	87712	2425.8	0.9	76.0	b.d.l.	0.6	780.5	129.7	49.6	b.d.l.	b.d.l.	b.d.l.	0.1	227	6.2	4.1	0.2	0.3	b.d.l.	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-34	Core	6.9	5.7	31746.8	b.d.l.	96994	308527	b.d.l.	89615	2500.2	0.6	78.9	b.d.l.	0.8	803.2	128.4	47.3	b.d.l.	b.d.l.	0.0	0.1	228	6.0	4.2	0.2	0.4	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-35	Core	6.2	5.4	30668.9	5.7	94193	308527	b.d.l.	84675	2506.6	0.7	77.8	b.d.l.	0.7	783.9	128.1	48.5	b.d.l.	b.d.l.	b.d.l.	0.1	235	6.0	4.2	0.2	0.4	b.d.l.	1.2	b.d.l.	0.0	b.d.l.	b.d.l.
grain16-36	Core	b.d.l.	5.2	31851.8	b.d.l.	96955	308527	b.d.l.	85725	2713.5	0.4	80.4	b.d.l.	0.7	797.0	126.1	47.2	b.d.l.	b.d.l.	b.d.l.	0.1	251	6.3	4.4	0.2	0.4	b.d.l.	1.4	b.d.l.	0.0	b.d.l.	b.d.l.
grain16-37	Core	b.d.l.	5.2	30582.1	b.d.l.	94739	308527	b.d.l.	86331	2700.9	0.6	79.8	b.d.l.	b.d.l.	834.4	126.4	46.7	b.d.l.	b.d.l.	0.0	0.1	253	6.1	4.2	0.2	0.4	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-38	Core	b.d.l.	5.1	31302.2	b.d.l.	93474	308527	b.d.l.	87342	2886.6	0.7	80.0	b.d.l.	b.d.l.	774.4	126.9	46.1	b.d.l.	b.d.l.	b.d.l.	0.1	266	6.1	4.4	0.2	0.4	b.d.l.	1.3	0.0	0.0	b.d.l.	b.d.l.
grain16-39	Core	b.d.l.	5.5	30244.8	b.d.l.	96599	308527	17.2	89087	2497.8	b.d.l.	75.4	b.d.l.	b.d.l.	799.7	128.1	46.1	0.0	b.d.l.	0.0	0.1	276	5.9	4.4	0.2	0.3	b.d.l.	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-40	Core	6.5	5.0	30447.2	b.d.l.	94773	308527	b.d.l.	84992	2615.9	0.8	79.8	b.d.l.	0.6	770.6	126.7	45.9	b.d.l.	b.d.l.	0.0	0.1	289	6.4	4.3	0.2	0.5	b.d.l.	1.2	b.d.l.	0.0	b.d.l.	b.d.l.
grain16-41	Core	b.d.l.	5.4	33502.7	b.d.l.	96955	308527	b.d.l.	86989	2747.6	0.7	87.2	b.d.l.	b.d.l.	801.2	126.9	46.9	b.d.l.	b.d.l.	b.d.l.	0.1	290	6.3	4.5	0.2	0.5	0.0	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-42	Core	b.d.l.	5.5	32781.4	5.2	99665	308527	14.7	86903	2668.4	0.6	80.4	b.d.l.	0.9	779.4	131.2	45.6	b.d.l.	b.d.l.	b.d.l.	0.1	304	6.5	4.5	0.2	0.4	b.d.l.	1.3	b.d.l.	0.0	b.d.l.	b.d.l.
grain16-43	Core	b.d.l.	5.3	30568.8	b.d.l.	92317	308527	b.d.l.	83494	2611.6	0.5	86.2	b.d.l.	b.d.l.	796.9	123.7	42.3	b.d.l.	b.d.l.	b.d.l.	0.1	296	5.9	4.1	0.2	0.4	0.0	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-44	Core	b.d.l.	5.0	29863.5	5.9	93310	308527	13.6	83790	2578.7	0.6	85.3	b.d.l.	b.d.l.	786.6	126.8	45.1	b.d.l.	b.d.l.	0.0	0.1	323	6.6	4.4	0.2	0.4	0.0	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-45	Core	b.d.l.	5.3	31136.1	b.d.l.	94509	308527	b.d.l.	86018	2492.0	0.4	85.2	b.d.l.	0.6	795.3	122.0	44.5	b.d.l.	b.d.l.	b.d.l.	0.1	343	6.1	4.5	0.2	0.3	0.0	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	31.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	31.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.5	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.0	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	28.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	26.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.4	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.6	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	29.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	0.0	30.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.0	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	31.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	28.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.6	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	29.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.5	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.6	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	31.4	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	31.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.6	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.5	b.d.l.	b.d.l.

Table A1.5: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
grain16-46	Core	6.3	5.4	31525.8	b.d.l.	97409	308527	20.0	89567	2418.2	0.9	85.3	b.d.l.	b.d.l.	800.1	130.6	44.5	b.d.l.	b.d.l.	0.0	0.1	362	6.3	4.4	0.2	0.3	0.0	1.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-47	Core	b.d.l.	5.3	31164.9	b.d.l.	94603	308527	b.d.l.	87715	2348.4	1.0	90.6	b.d.l.	b.d.l.	821.5	126.6	44.7	b.d.l.	b.d.l.	0.0	0.1	367	6.3	4.4	0.2	0.4	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-48	Core	b.d.l.	5.7	31011.3	b.d.l.	96959	308527	b.d.l.	87272	3080.7	0.6	86.2	b.d.l.	0.8	821.0	124.8	45.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.	390	6.5	4.7	0.2	0.5	0.0	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-49	Core	6.5	5.4	31810.2	5.5	96205	308527	b.d.l.	88114	2835.5	0.5	88.7	b.d.l.	b.d.l.	832.0	129.4	45.8	b.d.l.	b.d.l.	b.d.l.	0.1	420	6.5	4.7	0.2	0.4	0.1	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-50	Core	b.d.l.	5.2	31109.3	b.d.l.	91866	308527	b.d.l.	85355	2589.5	0.6	81.5	b.d.l.	0.8	839.5	125.3	44.4	b.d.l.	b.d.l.	0.0	0.1	430	6.4	4.6	0.2	0.4	b.d.l.	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-51	Core	6.3	5.2	31989.5	b.d.l.	93887	308527	b.d.l.	85701	2559.3	0.7	84.9	b.d.l.	b.d.l.	804.7	123.2	44.3	b.d.l.	b.d.l.	b.d.l.	0.1	438	6.5	4.9	0.3	0.5	b.d.l.	1.2	b.d.l.	0.0	b.d.l.	b.d.l.
grain16-52	Core	b.d.l.	5.5	31657.8	b.d.l.	95537	308527	b.d.l.	86593	2484.8	0.6	86.1	b.d.l.	b.d.l.	811.5	125.0	45.3	b.d.l.	b.d.l.	b.d.l.	0.1	438	6.9	5.0	0.2	0.5	0.1	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-53	Core	b.d.l.	5.6	31706.6	b.d.l.	96064	308527	20.8	86876	2762.2	0.7	86.3	b.d.l.	b.d.l.	822.2	123.4	45.0	b.d.l.	b.d.l.	b.d.l.	0.1	449	6.8	4.8	0.2	0.3	b.d.l.	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-54	Core	b.d.l.	5.0	31456.9	6.6	92897	308527	b.d.l.	84963	2745.8	0.9	88.4	b.d.l.	b.d.l.	850.3	121.6	43.8	b.d.l.	b.d.l.	0.0	b.d.l.	451	6.5	4.5	0.2	0.4	b.d.l.	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-55	Core	b.d.l.	5.2	31539.5	b.d.l.	93427	308527	19.3	83375	2708.8	0.7	90.1	b.d.l.	b.d.l.	820.0	124.5	43.6	b.d.l.	b.d.l.	0.0	0.1	445	6.5	4.7	0.2	0.4	b.d.l.	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-56	Core	b.d.l.	5.8	32111.8	b.d.l.	98177	308527	21.9	87894	3046.4	0.7	84.7	b.d.l.	b.d.l.	873.0	128.5	45.1	b.d.l.	b.d.l.	b.d.l.	0.1	488	6.9	4.7	0.2	0.5	0.0	1.2	b.d.l.	0.0	b.d.l.	b.d.l.
grain16-57	Core	b.d.l.	4.9	31603.1	b.d.l.	96659	308527	17.0	93907	3077.8	0.8	80.1	b.d.l.	b.d.l.	869.5	127.9	44.7	0.0	b.d.l.	b.d.l.	0.1	495	6.8	4.8	0.2	0.4	b.d.l.	1.2	b.d.l.	0.0	b.d.l.	b.d.l.
grain16-58	Core	b.d.l.	5.4	31273.0	b.d.l.	99363	308527	22.1	90474	2765.4	0.4	86.2	b.d.l.	b.d.l.	850.4	127.6	45.3	b.d.l.	b.d.l.	b.d.l.	0.1	499	6.5	4.5	0.2	0.4	b.d.l.	1.3	0.0	0.0	b.d.l.	b.d.l.
grain16-59	Core	b.d.l.	5.1	30495.9	8.2	95064	308527	20.3	86369	3117.5	b.d.l.	87.8	b.d.l.	b.d.l.	871.1	126.4	46.3	b.d.l.	b.d.l.	0.0	0.1	492	6.4	4.5	0.2	0.4	0.0	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-60	Core	b.d.l.	5.3	31030.6	b.d.l.	94062	308527	18.0	84100	2311.9	0.5	83.2	b.d.l.	0.7	822.3	122.3	46.5	b.d.l.	b.d.l.	b.d.l.	0.1	504	6.4	4.5	0.2	0.4	b.d.l.	1.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-61	Core	b.d.l.	5.3	32112.6	b.d.l.	94425	308527	b.d.l.	88791	2724.8	0.6	80.4	b.d.l.	b.d.l.	869.0	125.3	47.8	b.d.l.	b.d.l.	b.d.l.	0.1	515	6.3	4.4	0.2	0.5	0.0	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-62	Core	b.d.l.	5.2	31075.9	b.d.l.	94149	308527	b.d.l.	87521	2875.8	0.7	80.8	b.d.l.	b.d.l.	842.9	127.1	48.9	0.0	b.d.l.	b.d.l.	0.1	513	6.5	4.5	0.2	0.4	b.d.l.	1.3	b.d.l.	b.d.l.	0.0	b.d.l.
grain16-63	Core	b.d.l.	5.4	31561.8	b.d.l.	95213	308527	b.d.l.	86735	2510.9	0.7	77.4	b.d.l.	1.0	810.5	126.5	48.0	b.d.l.	b.d.l.	b.d.l.	0.1	515	6.0	4.1	0.2	0.5	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-64	Core	7.5	5.6	32661.0	7.1	99146	308527	21.7	91406	2724.9	0.6	88.6	b.d.l.	b.d.l.	871.6	133.0	50.6	b.d.l.	b.d.l.	b.d.l.	0.1	522	6.6	4.4	0.2	0.4	b.d.l.	1.2	b.d.l.	b.d.l.	0.0	b.d.l.
grain16-65	Core	b.d.l.	5.9	31376.2	b.d.l.	96590	308527	13.7	86587	2126.0	0.7	83.1	b.d.l.	b.d.l.	860.2	124.9	48.7	b.d.l.	b.d.l.	b.d.l.	0.1	517	6.1	4.1	0.2	0.3	b.d.l.	1.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-66	Core	b.d.l.	6.0	30574.3	b.d.l.	94031	308527	b.d.l.	86813	2521.7	0.7	84.1	b.d.l.	0.7	879.1	125.9	48.5	b.d.l.	b.d.l.	b.d.l.	0.1	488	6.1	4.2	0.2	0.3	0.0	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-67	Core	b.d.l.	6.2	31858.9	b.d.l.	95471	308527	16.2	91349	2591.9	0.8	85.6	b.d.l.	b.d.l.	879.5	126.0	51.0	b.d.l.	b.d.l.	b.d.l.	0.1	496	6.1	4.1	0.2	0.3	0.0	1.3	0.1	b.d.l.	b.d.l.	b.d.l.
grain16-68	Core	b.d.l.	5.7	30560.8	b.d.l.	96629	308527	b.d.l.	86090	2381.0	0.7	87.2	b.d.l.	b.d.l.	879.7	124.6	50.9	b.d.l.	b.d.l.	b.d.l.	0.1	467	6.2	4.1	0.2	0.3	0.0	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-69	Core	b.d.l.	5.8	39101.0	b.d.l.	101009	308527	b.d.l.	69730	8758.7	0.6	71.2	b.d.l.	2.4	903.3	89.7	54.9	b.d.l.	b.d.l.	b.d.l.	0.0	347	8.0	6.9	0.4	0.9	b.d.l.	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain16-70	Core	b.d.l.	5.7	32960.0	6.6	97313	308527	b.d.l.	88758	2684.4	0.8	85.3	b.d.l.	0.8	892.4	125.4	52.8	b.d.l.	b.d.l.	b.d.l.	0.1	475	6.5	4.5	0.2	0.4	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
Sanidine grain 17 - Line 1																																
grain17-1	Core	b.d.l.	4.6	30415.1	b.d.l.	99669	303853	b.d.l.	83160	2655.4	0.6	97.0	b.d.l.	0.9	823.3	111.1	207.9	b.d.l.	b.d.l.	b.d.l.	0.1	7457	9.8	7.1	0.4	0.7	b.d.l.	5.3	b.d.l.	b.d.l.	b.d.l.	0.0
grain17-2	Core	7.3	4.7	30294.9	b.d.l.	99619	303853	28.3	83463	3226.5	0.6	96.3	b.d.l.	b.d.l.	828.8	111.7	227.2	0.1	0.1	b.d.l.	0.1	8125	10.1	6.9	0.4	0.8	b.d.l.	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-3	Core	b.d.l.	5.2	30423.6	b.d.l.	101225	303853	20.2	83710	3243.6	0.6	94.9	b.d.l.	b.d.l.	888.4	110.7	247.7	b.d.l.	b.d.l.	b.d.l.	0.1	8285	10.5	7.4	0.4	0.8	0.1	6.3	0.1	b.d.l.	b.d.l.	b.d.l.
grain17-4	Core	b.d.l.	5.3	31218.1	8.4	102635	303853	19.2	83666	4010.0	0.6	109.3	b.d.l.	b.d.l.	912.0	104.7	285.5	b.d.l.	b.d.l.	b.d.l.	0.0	10577	13.2	9.6	0.6	1.1	b.d.l.	7.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-5	Core	b.d.l.	4.8	30933.7	7.1	98308	303853	b.d.l.	83622	3570.1	0.5	112.4	b.d.l.	1.0	837.6	100.6	290.8	b.d.l.	b.d.l.	0.0	0.1	10981	10.5	7.8	0.4	0.6	0.0	7.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-6	Core	b.d.l.	4.9	30530.5	b.d.l.	96939	303853	20.6	84497	3509.6	0.8	89.8	b.d.l.	0.7	831.2	101.1	250.7	0.0	b.d.l.	b.d.l.	b.d.l.	7982	7.9	5.6	0.3	0.6	b.d.l.	6.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-7	Core	b.d.l.	4.8	30934.9	b.d.l.	100220	303853	b.d.l.	87874	3525.6	0.5	89.1	b.d.l.	0.7	879.0	102.4	257.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.	8183	8.1	5.8	0.3	0.6	0.0	7.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-8	Core	b.d.l.	4.7	30741.5	b.d.l.	97542	303853	b.d.l.	84216	3395.6	0.8	84.2	b.d.l.	b.d.l.	852.2	98.3	239.8	0.0	b.d.l.	b.d.l.	0.1	7392	7.4	5.4	0.3	0.6	0.0	6.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-9	Core	b.d.l.	5.1	31039.2	b.d.l.	98936	303853	15.9	83571	3492.1	0.4	85.3	b.d.l.	0.7	850.2	100.9	236.5	0.0	b.d.l.	b.d.l.	0.1	6424	7.7	5.3	0.3	0.5	b.d.l.	6.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-10	Core	b.d.l.	5.1	29379.0	b.d.l.	98210	303853	b.d.l.	84245	3256.7	0.7	88.6	b.d.l.	b.d.l.	847.5	99.5	238.8	b.d.l.	b.d.l.	b.d.l.	0.1	7277	7.4	5.6	0.3	0.3	b.d.l.	6.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-11	Core	b.d.l.	4.9	31683.8	b.d.l.	99143	303853	b.d.l.	84137	3406.8	0.7	88.1	b.d.l.	0.7	826.0	98.4	245.0	0.0	b.d.l.	b.d.l.	b.d.l.	7879	8.0	5.6	0.3	0.6	0.0	6.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-12	Core	b.d.l.	4.8	30455.4	7.8	96232	303853	14.7	83885	3087.0	0.4	86.5	b.d.l.	0.6	867.2	99.2	242.3	b.d.l.	b.d.l.	b.d.l.	0.1	7922	7.6	5.5	0.3	0.4	0.0	7.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-13	Core	b.d.l.	5.4	30586.8	b.d.l.	99982	303853	b.d.l.	87329	3252.1	0.6	90.2	b.d.l.	0.6	858.8	101.6	252.5	0.0	b.d.l.	0.0	0.0	8674	8.0	5.6	0.3	0.5	0.0	7.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-14	Core	b.d.l.	5.7	30500.9	b.d.l.	95875	303853	b.d.l.	83268	3239.1	0.7	88.0	b.d.l.	0.7	855.0	96.2	258.5	0.0	b.d.l.	b.d.l.	0.1	9686	8.0	5.8	0.3	0.8	0.0	7.2	b.d.l.	0.0	b.d.l.	b.d.l.
grain17-15	Core	b.d.l.	5.2	30971.1	8.6	99415	303853	b.d.l.	82976	3065.0	0.7	91.9	b.d.l.	b.d.l.	870.8	100.3	258.8	0.1	b.d.l.	b.d.l.	0.1	9663	8.3	6.1	0.3	0.5	0.0	7.2	b.d.l.	0.0	b.d.l.	b.d.l.
grain17-16	Core	6.4	5.4	31137.3	10.6	99190	303853	b.d.l.	85009	3610.8	0.6	89.5	b.d.l.	0.9	875.7	95.5	246.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.	9247	8.4	5.8	0.3	0.7	b.d.l.	7.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-17	Core	b.d.l.	5.1	31860.6	b.d.l.	99753	303853	b.d.l.	85358	3694.8	0.7	92.6	b.d.l.	b.d.l.	882.0	98.9	254.2	0.0	b.d.l.	b.d.l.	0.1	10645	8.3	6.2	0.3	0.6	b.d.l.	7.2	b.d.l.	0.0	b.d.l.	b.d.l.
grain17-18	Core	b.d.l.	5.3	32308.4	b.d.l.	99769	303853	19.5	83618	3652.8	0.9	97.2	b.d.l.	0.7	844.5	99.5	258.9	0.1	b.d.l.	b.d.l.	0.1	9848	8.6	6.0	0.3	0.5	0.0	7.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-19	Core	b.d.l.	5.6	31488.7	6.5	98186	303853	b.d.l.	85868	3327.0	0.5	87.2	0.1	b.d.l.	863.4	103.1	239.6	b.d.l.	b.d.l.	b.d.l.	0.1	6639	8.1	5.6	0.3	0.6	0.0	6.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-20	Core	b.d.l.	5.6	32228.4	b.d.l.	97386	303853	b.d.l.	84997	3408.1	1.0	82.8	b.d.l.	0.7	860.2	97.3	229.3	b.d.l.	0.1	b.d.l.	0.1	5247	7.8	5.6	0.3	0.5	0.0	6.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-21	Core	b.d.l.	5.6	31330.1	b.d.l.	94062	303853	b.d.l.	83078	3415.3	b.d.l.	78.6	b.d.l.	b.d.l.	824.2	95.5	219.1	0.0	b.d.l.	b.d.l.	b.d.l.	5111	7.4	5.3	0.3	0.5	0.0	5.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-22	Core	b.d.l.	5.6	30819.8	b.d.l.	95308	303853	20.5	83851	3411.1	0.6	78.2	b.d.l.	b.d.l.	799.2	92.2	225.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.	6459	7.7	5.6	0.3	0.6	0.0	6.2	0.0	0.0	b.d.l.	b.d.l.
grain17-23	Core	b.d.l.	6.1	30698.0	b.d.l.	96458	303853	17.2	80775	3217.4	0.8	81.0	b.d.l.	b.d.l.	817.3	95.1	220.6	0.0	b.d.l.	0.0	0.1	5324	7.1	5.3	0.3	0.5	0.1	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-24	Core	7.2	6.3	30859.6	b.d.l.	95784	303853	b.d.l.	82703	3367.2	0.6	75.4	b.d.l.	b.d.l.	823.0	94.7	222.2	0.0	b.d.l.	0.0	0.1	3796	7.5	5.1	0.3	0.6	b.d.l.	6.0	0.0	b.d.l.	b.d.l.	b.d.l.
grain17-25	Core	7.6	6.8	31566.0	b.d.l.	99301	303853	17.9	86449	3465.4	0.7	84.4	b.d.l.	b.d.l.	858.4	98.3	234.2	b.d.l.	b.d.l.	b.d.l.	0.1	6019	8.1	5.9	0.3	0.4	0.1	6.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-26	Rim	b.d.l.	6.6	32587.3	b.d.l.	98144	303853	21.2	82123	3459.6	0.9	89.4	b.d.l.	0.9	849.2	93.8	241.9	0.0	b.d.l.	0.0	0.1	8570	8.3	6.0	0.3	0.7	b.d.l.	6.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-27	Rim	b.d.l.	6.8	33697.0	b.d.l.	100070	303853	b.d.l.	83274	3505.0	0.8	91.5	b.d.l.	b.d.l.	839.5	99.8	245.7	0.0	b.d.l.	0.0	0.1	8504	8.1	6.1	0.3	0.7	b.d.l.	6.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	31.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	32.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	33.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	32.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	33.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	31.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	30.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	25.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	23.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	22.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.5	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	21.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	21.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	22.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	22.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	22.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	23.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	22.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	22.4	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	24.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.8	b.d.l.	b.d.l.

Table A1.5: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
grain17-28	Rim	b.d.l.	6.0	31581.4	b.d.l.	97137	303853	19.2	85626	3207.1	0.7	87.2	b.d.l.	b.d.l.	904.6	101.6	247.3	0.0	b.d.l.	b.d.l.	0.1	8220	8.4	6.3	0.3	0.5	0.0	7.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain17-29	Rim	b.d.l.	4.7	31771.7	b.d.l.	100272	303853	b.d.l.	88168	3204.2	0.8	92.4	b.d.l.	b.d.l.	894.0	99.5	248.3	b.d.l.	b.d.l.	b.d.l.	0.1	9167	8.9	6.4	0.3	0.9	b.d.l.	7.0	b.d.l.	0.0	b.d.l.	b.d.l.
grain17-30	Rim	b.d.l.	3.3	33312.8	b.d.l.	100113	303853	16.4	80321	3705.6	0.9	100.6	b.d.l.	0.9	878.8	94.0	255.0	0.1	0.1	0.0	0.0	11068	8.7	6.5	0.4	0.7	0.0	7.0	0.1	b.d.l.	b.d.l.	b.d.l.
grain17-31	Rim	b.d.l.	1.4	33257.0	b.d.l.	98834	303853	15.7	84532	4028.8	0.6	94.5	b.d.l.	b.d.l.	914.1	96.7	247.7	0.0	b.d.l.	0.0	0.1	10386	8.8	6.5	0.3	0.6	b.d.l.	7.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
Sanidine grain 17 - Line 2																																
MFT-San17 - 1	Rim	2.9	3.0	30626.1	4.0	109218	308527	b.d.l.	74245	3579.5	b.d.l.	73.8	b.d.l.	b.d.l.	759.2	113.6	168.7	0.3	b.d.l.	0.0	0.1	5052	8.9	6.0	0.3	0.3	b.d.l.	4.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 2	Core	4.2	4.4	31770.2	4.4	116247	308527	b.d.l.	78235	4759.4	b.d.l.	111.7	b.d.l.	b.d.l.	896.3	114.5	203.5	0.7	b.d.l.	b.d.l.	b.d.l.	9077	9.7	8.2	0.5	0.8	b.d.l.	5.8	b.d.l.	b.d.l.	0.1	0.0
MFT-San17 - 3	Core	5.5	4.6	29082.7	2.3	105554	308527	b.d.l.	73511	3603.6	b.d.l.	89.4	b.d.l.	b.d.l.	764.2	109.4	174.3	0.5	b.d.l.	b.d.l.	b.d.l.	6564	9.3	6.5	0.3	0.6	0.1	4.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 4	Core	5.8	5.0	31098.0	b.d.l.	111874	308527	59.6	78467	3678.5	b.d.l.	89.3	b.d.l.	b.d.l.	841.4	114.9	204.4	0.4	b.d.l.	b.d.l.	0.1	7928	10.3	7.4	0.4	0.6	b.d.l.	5.5	0.1	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 5	Core	4.9	5.3	31067.5	3.1	111727	308527	b.d.l.	80355	3951.8	b.d.l.	85.8	b.d.l.	b.d.l.	825.4	117.8	246.8	0.4	0.0	0.0	0.1	8344	10.3	7.6	0.3	0.5	b.d.l.	7.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 6	Core	4.1	4.7	31030.9	3.9	112361	308527	73.5	74557	5231.8	b.d.l.	110.8	b.d.l.	b.d.l.	805.0	104.6	297.7	0.4	0.1	b.d.l.	b.d.l.	10564	15.2	11.3	0.7	1.1	b.d.l.	7.8	0.1	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 7	Core	5.0	4.9	30810.6	3.8	112885	308527	b.d.l.	77427	4428.1	b.d.l.	104.8	b.d.l.	b.d.l.	877.3	100.3	287.1	0.5	b.d.l.	0.0	0.1	10191	10.4	7.7	0.5	0.7	0.1	7.7	b.d.l.	b.d.l.	0.0	b.d.l.
MFT-San17 - 8	Core	5.6	4.6	28366.8	1.3	102258	308527	b.d.l.	71143	3412.4	b.d.l.	77.3	b.d.l.	b.d.l.	868.5	92.7	254.8	0.4	0.0	b.d.l.	0.1	7277	7.7	5.6	0.3	0.6	0.1	5.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 9	Core	7.0	5.3	31106.4	3.2	108233	308527	65.9	80913	3951.6	b.d.l.	78.0	b.d.l.	b.d.l.	889.5	99.6	257.7	0.4	b.d.l.	b.d.l.	b.d.l.	7866	7.9	5.9	0.3	0.5	b.d.l.	7.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 10	Core	5.9	5.5	30422.0	4.3	110743	308527	b.d.l.	77486	3901.5	b.d.l.	84.0	b.d.l.	b.d.l.	857.3	95.0	257.6	0.4	b.d.l.	0.0	b.d.l.	8004	7.7	5.4	0.2	0.6	b.d.l.	7.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 11	Core	6.0	5.3	30287.1	1.9	110750	308527	40.5	75530	3905.4	0.8	76.6	b.d.l.	b.d.l.	852.7	98.1	253.1	0.4	b.d.l.	b.d.l.	b.d.l.	7504	7.8	5.7	0.3	0.6	b.d.l.	7.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 12	Core	5.9	5.7	30316.4	4.0	107949	308527	b.d.l.	74628	3838.6	0.5	83.0	b.d.l.	b.d.l.	879.2	94.6	245.3	0.3	0.1	b.d.l.	b.d.l.	7361	8.0	5.8	0.3	0.5	0.1	7.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 13	Core	5.9	5.6	30262.9	3.5	109972	308527	b.d.l.	74523	3652.8	0.5	79.5	b.d.l.	b.d.l.	870.8	93.2	244.2	0.3	b.d.l.	b.d.l.	0.1	7539	8.3	5.5	0.3	0.6	b.d.l.	7.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 14	Core	8.0	6.6	29991.7	4.2	106403	308527	b.d.l.	74187	4185.6	0.8	82.0	b.d.l.	b.d.l.	902.9	93.7	249.4	0.4	0.1	0.0	b.d.l.	8101	8.0	5.8	0.3	0.5	b.d.l.	6.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 15	Core	10.3	10.3	31373.1	1.6	105168	308527	b.d.l.	75688	4060.9	0.5	89.0	0.9	b.d.l.	887.8	92.8	257.5	0.4	0.1	b.d.l.	b.d.l.	8553	8.2	5.8	0.3	0.6	b.d.l.	7.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 17	Core	13.4	11.9	31296.6	3.0	110401	308527	b.d.l.	79970	4102.5	b.d.l.	81.1	b.d.l.	b.d.l.	961.2	104.5	265.1	0.8	b.d.l.	0.1	b.d.l.	9300	8.3	5.9	0.4	0.5	b.d.l.	7.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 18	Core	7.2	7.5	30578.9	3.2	107214	308527	65.5	77839	3791.8	b.d.l.	94.1	b.d.l.	b.d.l.	901.7	102.8	256.2	0.7	0.3	0.3	b.d.l.	9708	8.0	5.8	0.3	0.4	b.d.l.	7.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 19	Core	6.4	5.9	29768.8	4.8	106948	308527	b.d.l.	80478	3887.5	b.d.l.	92.3	b.d.l.	b.d.l.	943.9	95.9	249.8	0.7	0.1	0.3	0.0	10354	8.4	7.5	0.4	1.3	b.d.l.	7.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 20	Core	8.0	5.8	30141.6	4.9	101412	308527	b.d.l.	76364	3595.0	b.d.l.	81.8	b.d.l.	b.d.l.	851.6	96.0	219.8	0.4	0.1	b.d.l.	b.d.l.	8346	7.4	5.6	0.2	0.5	0.1	6.3	0.1	0.0	b.d.l.	b.d.l.
MFT-San17 - 21	Core	6.5	5.9	30931.5	4.9	104198	308527	49.2	79370	3393.0	b.d.l.	74.8	b.d.l.	12.7	928.6	101.1	213.7	0.2	0.1	0.2	0.0	6009	7.0	5.2	0.2	0.5	b.d.l.	6.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 22	Core	5.8	5.5	31808.4	2.3	106330	308527	52.7	78808	3687.4	b.d.l.	78.4	b.d.l.	b.d.l.	926.6	99.7	218.4	0.3	0.1	b.d.l.	b.d.l.	5538	7.2	5.5	0.3	0.5	b.d.l.	6.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 23	Core	7.1	5.9	31483.3	1.8	113706	308527	39.9	79417	3836.3	b.d.l.	81.0	b.d.l.	b.d.l.	875.4	100.7	232.1	0.2	0.1	b.d.l.	b.d.l.	5734	7.8	5.8	0.3	0.5	b.d.l.	6.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 24	Core	5.6	5.3	31259.1	2.6	108662	308527	b.d.l.	75632	3963.0	b.d.l.	86.9	b.d.l.	9.3	841.3	98.5	230.2	0.4	0.0	0.0	b.d.l.	7653	8.3	5.9	0.3	0.7	b.d.l.	6.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 25	Core	4.8	5.7	30113.2	1.8	105665	308527	b.d.l.	76453	3557.9	b.d.l.	82.5	b.d.l.	12.0	792.5	93.5	217.5	0.3	b.d.l.	b.d.l.	0.1	4318	7.4	5.4	0.2	0.5	b.d.l.	6.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 26	Core	6.6	5.8	30800.9	4.5	113197	308527	b.d.l.	79918	4104.1	b.d.l.	82.1	b.d.l.	b.d.l.	853.7	98.9	233.5	0.3	b.d.l.	b.d.l.	b.d.l.	5628	7.7	6.0	0.4	0.4	b.d.l.	6.5	0.1	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 27	Core	5.2	5.3	30294.5	1.9	106778	308527	b.d.l.	75672	3883.8	1.1	91.0	b.d.l.	b.d.l.	880.0	97.0	229.9	0.5	0.0	0.1	b.d.l.	8400	7.7	5.9	0.2	0.5	b.d.l.	6.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 28	Core	5.2	5.7	32605.2	2.4	108672	308527	47.6	78504	4594.9	b.d.l.	81.5	b.d.l.	b.d.l.	889.9	93.4	246.6	0.4	b.d.l.	b.d.l.	b.d.l.	9362	8.7	6.7	0.3	0.5	b.d.l.	6.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 29	Core	5.5	6.1	31291.1	1.9	111694	308527	b.d.l.	78053	4095.3	b.d.l.	81.7	b.d.l.	b.d.l.	895.0	91.0	246.9	0.5	0.1	b.d.l.	0.1	8764	8.4	6.2	0.3	0.5	0.1	7.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 30	Core	5.8	5.5	30088.3	3.1	106466	308527	66.3	73981	4142.4	b.d.l.	93.9	b.d.l.	b.d.l.	855.3	86.5	243.0	0.7	b.d.l.	b.d.l.	0.0	8595	8.3	6.2	0.4	0.6	b.d.l.	7.1	0.1	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 31	Core	7.4	6.4	31742.6	1.5	108470	308527	b.d.l.	76744	4152.9	b.d.l.	92.8	b.d.l.	b.d.l.	828.8	96.4	254.8	0.4	0.0	b.d.l.	b.d.l.	10581	8.6	6.6	0.3	0.6	b.d.l.	7.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 32	Core	7.5	6.4	29753.0	2.2	105927	308527	b.d.l.	70077	3838.7	b.d.l.	78.4	b.d.l.	b.d.l.	828.2	84.7	251.8	0.6	b.d.l.	b.d.l.	0.1	10723	8.4	6.4	0.3	0.5	b.d.l.	7.4	0.1	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 33	Core	6.6	6.2	31593.3	4.3	108840	308527	b.d.l.	74812	4697.9	b.d.l.	99.2	b.d.l.	b.d.l.	927.3	90.7	273.2	0.6	b.d.l.	0.1	b.d.l.	12922	8.3	7.0	0.3	0.9	b.d.l.	7.5	b.d.l.	0.0	b.d.l.	b.d.l.
MFT-San17 - 34	Core	6.2	5.6	31507.8	3.3	111114	308527	b.d.l.	73572	4618.5	b.d.l.	110.6	b.d.l.	b.d.l.	837.7	91.4	264.7	0.8	b.d.l.	b.d.l.	b.d.l.	12368	9.6	7.1	0.4	0.6	b.d.l.	7.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 35	Core	5.3	4.7	30522.5	2.0	108656	308527	b.d.l.	73981	3503.7	1.0	85.9	b.d.l.	b.d.l.	830.8	93.1	224.1	0.3	0.0	b.d.l.	0.1	5285	9.2	6.2	0.3	0.3	b.d.l.	6.6	0.1	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 36	Core	3.4	3.2	30779.1	4.8	107455	308527	b.d.l.	72851	3991.9	b.d.l.	83.9	b.d.l.	b.d.l.	841.3	88.9	225.2	0.2	b.d.l.	b.d.l.	0.0	5321	9.0	6.4	0.3	0.6	b.d.l.	6.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San17 - 37	Core	b.d.l.	1.8	31216.0	3.7	105521	308527	b.d.l.	73718	3366.7	1.1	83.5	b.d.l.	b.d.l.	794.5	93.4	224.2	0.4	0.1	b.d.l.	b.d.l.	5644	9.1	6.3	0.3	0.8	b.d.l.	6.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
Sanidine grain 18 - Line 1																																
grain18-1	Rim																															
grain18-2	Rim	b.d.l.	2.7	30349.8	b.d.l.	96915	303853	b.d.l.	85968	2527.3	0.6	66.5	b.d.l.	b.d.l.	741.5	125.2	116.2	b.d.l.	b.d.l.	b.d.l.	0.0	3109	5.9	4.1	0.2	0.3	0.0	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-3	Core	b.d.l.	4.4	31083.8	b.d.l.	99282	303853	26.5	85661	3469.9	0.7	79.3	b.d.l.	b.d.l.	775.1	119.4	141.5	0.0	b.d.l.	b.d.l.	0.1	4386	8.5	5.9	0.3	0.5	0.0	4.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-4	Core	b.d.l.	6.6	32110.9	7.3	101498	303853	18.8	86105	3460.1	0.7	88.6	b.d.l.	0.8	802.4	121.5	146.2	0.0	b.d.l.	b.d.l.	b.d.l.	5066	9.1	6.5	0.3	0.7	0.0	4.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-5	Core	8.0	8.9	31726.7	b.d.l.	98962	303853	15.5	84276	3100.6	0.7	90.3	b.d.l.	b.d.l.	782.1	123.1	149.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.	5344	9.3	6.5	0.3	0.6	b.d.l.	4.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-6	Core	10.8	9.8	30893.2	b.d.l.	96369	303853	b.d.l.	83627	3015.4	0.7	84.4	b.d.l.	0.9	809.8	119.2	152.2	0.0	b.d.l.	0.0	0.1	5364	9.2	6.8	0.4	0.5	b.d.l.	4.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-7	Core	12.3	10.2	30819.9	5.1	97568	303853	b.d.l.	84860	3361.7	0.6	78.7	b.d.l.	b.d.l.	784.5	119.6	150.6	0.1	0.1	0.0	0.1	5359	8.3	6.2	0.3	0.6	b.d.l.	4.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-8	Core	11.5	10.0	33614.7	6.7	100943	308527	b.d.l.	86412	3485.0	0.7	95.5	b.d.l.	b.d.l.	825.8	118.0	172.9	0.1	0.1	0.0	0.1	5542	9.0	6.5	0.3	0.7	0.0	4.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-9	Core	13.2	11.2	33777.9	b.d.l.	99954	303853	b.d.l.	83880	4388.5	0.5	66.2	b.d.l.	2.1	872.1	118.5	172.8	0.5	1.1	0.3	0.1	4566	9.2	7.8	0.5	1.3	0.1	4.7	0.2	0.0	0.1	0.0
grain18-10	Core	10.2	10.0	30884.4	b.d.l.	98107	303853	b.d.l.	89857	2749.8	0.5	58.3	b.d.l.	b.d.l.	821.7	124.3	140.0	0.0	b.d.l.	0.0	0.1	2719	6.3	4.5	0.2	0.4	b.d.l.	3.9	b.d.l.	b.d.l.	0.0	b.d.l.
grain18-11	Core	10.5	9.4	31761.2	b.d.l.	97139	303853	b.d.l.	87051	2711.6	0.8	68.4	b.d.l.	0.8	734.8	123.4	138.5	b.d.l.	b.d.l.	b.d.l.	0.1	1731	6.6	4.6	0.2	0.4	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-12	Core	10.4	8.9	31638.8	6.6	94723	308527	28.5	91038	2606.8	0.5	67.5	b.d.l.	0.8	787.3	125.3	140.3	b.d.l.	b.d.l.	0.0	0.1	1147	6.0	4.0	0.2	0.5	b.d.l.	3.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	22.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	23.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	23.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	23.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	34.5	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	26.2	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	0.1	0.0	27.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.6	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	24.9	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	22.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	23.1	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.4	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.2	0.0	22.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	22.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.4	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	21.5	0.0	0.0
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.3	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	23.0	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	24.4	0.1	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	22.6	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.0	21.9	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	23.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	24.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	25.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	24.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.1	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.2	b.d.l.	22.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	0.1	0.0	25.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	0.0	21.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	23.5	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	21.3	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.2	b.d.l.	26.5	0.0	0.0
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	24.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	20.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	22.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.1	23.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.8	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	29.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	28.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	25.5	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	28.1	0.0	b.d.l.
0.0	0.0	0.1	b.d.l.	0.0	0.1	27.7	0.2	0.1
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	23.9	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.6	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.8	b.d.l.	b.d.l.

Table A1.5: continued

Info	Position	Li^6	Li	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
grain18-13	Core	7.0	7.4	30171.9	b.d.l.	96727	308527	b.d.l.	85601	2760.2	0.6	64.7	b.d.l.	b.d.l.	718.7	122.8	142.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.	818	6.1	4.2	0.2	0.4	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-14	Core	b.d.l.	6.7	31379.6	7.2	95977	308527	b.d.l.	87767	2686.3	0.5	67.7	b.d.l.	b.d.l.	751.6	127.4	145.5	b.d.l.	b.d.l.	b.d.l.	0.1	657	6.1	4.4	0.2	0.4	b.d.l.	3.7	0.0	b.d.l.	b.d.l.	b.d.l.
grain18-15	Core	b.d.l.	6.7	30732.7	b.d.l.	95199	308527	20.0	86156	3170.9	0.6	69.4	b.d.l.	b.d.l.	738.8	123.0	144.1	b.d.l.	b.d.l.	b.d.l.	0.1	610	6.2	4.3	0.2	0.4	0.0	3.6	b.d.l.	b.d.l.	0.0	b.d.l.
grain18-16	Core	b.d.l.	6.3	31666.7	b.d.l.	97597	308527	19.8	85657	3145.2	0.7	75.4	b.d.l.	b.d.l.	781.0	121.5	149.7	b.d.l.	b.d.l.	0.0	b.d.l.	646	6.7	4.7	0.2	0.4	0.0	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-17	Core	7.5	6.6	31387.1	b.d.l.	96111	308527	20.3	86527	3137.8	0.9	75.4	b.d.l.	b.d.l.	733.4	123.5	145.3	b.d.l.	b.d.l.	b.d.l.	0.1	687	6.6	4.7	0.2	0.4	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-18	Core	7.5	7.2	33544.5	b.d.l.	95424	308527	19.9	89309	2836.7	0.5	77.3	b.d.l.	b.d.l.	764.6	125.0	142.7	b.d.l.	b.d.l.	b.d.l.	0.1	706	6.4	4.5	0.2	0.4	b.d.l.	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-19	Core	7.9	7.2	31276.1	b.d.l.	95036	308527	b.d.l.	86966	3011.5	0.5	72.9	b.d.l.	b.d.l.	725.1	122.6	145.3	b.d.l.	b.d.l.	b.d.l.	0.1	715	6.9	4.8	0.2	0.3	b.d.l.	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-20	Core	8.4	7.1	32194.1	b.d.l.	95932	308527	22.9	85132	3009.3	0.5	73.6	b.d.l.	0.9	703.1	120.3	141.9	b.d.l.	b.d.l.	0.0	0.1	727	6.8	4.7	0.2	0.4	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-21	Core	b.d.l.	6.7	32365.1	7.4	96524	308527	20.5	89446	2588.0	0.6	78.5	b.d.l.	b.d.l.	732.5	116.6	139.6	b.d.l.	b.d.l.	b.d.l.	0.1	722	6.7	4.7	0.2	0.4	b.d.l.	3.4	b.d.l.	0.0	b.d.l.	b.d.l.
grain18-22	Core	6.8	6.5	29988.0	b.d.l.	94122	308527	b.d.l.	86510	2847.9	0.7	83.6	b.d.l.	b.d.l.	742.2	114.0	134.4	b.d.l.	b.d.l.	0.0	0.1	696	6.6	4.5	0.2	0.4	0.0	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-23	Core	b.d.l.	6.3	32894.0	b.d.l.	99347	308527	b.d.l.	88829	3006.2	0.7	80.6	b.d.l.	b.d.l.	765.1	122.2	143.4	b.d.l.	b.d.l.	b.d.l.	0.1	712	7.1	5.0	0.2	0.4	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-24	Core	b.d.l.	6.3	30376.3	b.d.l.	97095	308527	19.6	88957	2399.3	0.6	78.1	b.d.l.	b.d.l.	751.6	116.2	134.9	b.d.l.	b.d.l.	b.d.l.	0.1	679	6.6	4.5	0.2	0.4	b.d.l.	3.2	0.0	b.d.l.	b.d.l.	b.d.l.
grain18-25	Core	b.d.l.	5.7	31760.9	5.7	99022	308527	20.8	85007	2621.1	0.7	75.3	b.d.l.	b.d.l.	751.5	116.8	132.7	0.0	b.d.l.	b.d.l.	0.1	663	6.8	4.8	0.3	0.3	0.0	3.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-26	Core	b.d.l.	6.5	30970.2	8.5	96862	308527	18.2	90684	2817.8	0.6	74.4	b.d.l.	0.9	772.2	122.0	134.8	b.d.l.	b.d.l.	b.d.l.	0.1	662	6.5	4.6	0.2	0.4	b.d.l.	3.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-27	Core	b.d.l.	6.1	32160.1	b.d.l.	94695	308527	b.d.l.	85793	2659.3	0.7	75.2	b.d.l.	b.d.l.	735.1	120.1	128.3	b.d.l.	b.d.l.	b.d.l.	0.1	633	6.1	4.3	0.2	0.5	b.d.l.	2.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-28	Core	b.d.l.	6.3	32143.2	8.7	94770	308527	b.d.l.	87131	2751.3	0.6	76.8	b.d.l.	b.d.l.	730.5	119.8	128.3	0.0	b.d.l.	b.d.l.	b.d.l.	620	6.3	4.4	0.2	0.3	b.d.l.	3.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-29	Core	b.d.l.	5.9	30694.8	b.d.l.	92195	308527	17.1	83490	2562.5	0.5	68.9	b.d.l.	b.d.l.	707.1	114.4	125.6	b.d.l.	b.d.l.	b.d.l.	0.1	613	6.2	4.2	0.2	0.5	b.d.l.	3.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-30	Core	b.d.l.	6.3	33865.9	b.d.l.	95122	308527	b.d.l.	89514	2978.3	0.5	77.7	b.d.l.	b.d.l.	718.9	122.9	138.5	0.0	b.d.l.	b.d.l.	0.0	678	6.9	4.8	0.2	0.4	b.d.l.	3.3	0.0	b.d.l.	b.d.l.	b.d.l.
grain18-31	Core	b.d.l.	6.3	33111.9	6.4	98280	308527	21.0	85802	3235.3	0.6	85.6	b.d.l.	b.d.l.	777.3	116.7	144.1	b.d.l.	b.d.l.	0.0	0.0	696	7.0	4.7	0.2	0.4	0.1	3.5	b.d.l.	0.0	b.d.l.	b.d.l.
grain18-32	Core	7.3	6.6	33445.9	b.d.l.	94961	308527	18.8	85399	2744.3	0.7	78.9	b.d.l.	0.8	767.8	117.2	143.5	b.d.l.	b.d.l.	b.d.l.	0.1	706	7.0	4.6	0.2	0.5	0.0	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-33	Core	8.1	6.5	34189.1	7.0	99608	308527	26.1	85889	3085.5	0.5	78.8	b.d.l.	b.d.l.	747.4	123.7	144.9	b.d.l.	b.d.l.	b.d.l.	0.1	705	7.0	5.0	0.3	0.5	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-34	Core	7.6	6.5	31891.1	b.d.l.	95019	308527	b.d.l.	89266	2511.9	0.5	75.3	b.d.l.	b.d.l.	763.2	120.8	139.4	b.d.l.	b.d.l.	0.0	0.1	693	6.7	4.9	0.3	0.3	0.0	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-35	Core	6.7	6.1	32387.7	6.0	98650	308527	22.9	87413	2927.0	0.7	85.8	b.d.l.	0.8	745.0	131.7	143.7	b.d.l.	b.d.l.	b.d.l.	0.1	700	6.8	4.8	0.2	0.5	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-36	Core	6.3	5.8	30567.7	8.2	93187	308527	b.d.l.	83435	2541.4	0.5	74.6	b.d.l.	b.d.l.	729.0	114.3	135.4	b.d.l.	b.d.l.	b.d.l.	0.1	686	6.6	4.6	0.2	0.4	0.0	3.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-37	Core	b.d.l.	5.8	32962.6	8.4	98522	308527	b.d.l.	87867	3269.6	0.6	78.2	b.d.l.	b.d.l.	757.7	122.2	144.7	0.0	b.d.l.	b.d.l.	0.1	735	7.0	4.7	0.2	0.4	0.0	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-38	Core	b.d.l.	5.9	32920.3	6.2	96417	308527	b.d.l.	86800	3034.3	b.d.l.	81.1	b.d.l.	0.7	749.4	119.6	145.6	b.d.l.	0.1	b.d.l.	0.1	737	6.9	5.3	0.3	0.3	0.0	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-39	Core	b.d.l.	6.0	31006.8	b.d.l.	95343	308527	15.6	88931	2662.6	0.8	77.2	b.d.l.	b.d.l.	727.1	120.3	140.2	b.d.l.	b.d.l.	0.0	0.1	711	6.6	4.5	0.2	0.4	b.d.l.	3.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-40	Core	b.d.l.	6.0	31373.4	b.d.l.	92335	308527	23.2	86291	2619.9	0.9	76.7	b.d.l.	0.7	755.8	122.4	136.5	b.d.l.	b.d.l.	b.d.l.	0.1	685	6.1	4.3	0.2	0.4	b.d.l.	3.3	0.1	b.d.l.	b.d.l.	b.d.l.
grain18-41	Core	b.d.l.	6.1	32127.1	b.d.l.	96594	308527	18.2	86901	2733.4	b.d.l.	74.8	b.d.l.	0.9	746.5	122.7	142.7	b.d.l.	0.1	b.d.l.	0.1	719	6.4	4.4	0.2	0.3	0.0	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-42	Core	b.d.l.	6.4	32889.4	b.d.l.	97451	308527	b.d.l.	86371	2640.5	0.7	77.1	b.d.l.	b.d.l.	756.8	121.0	141.9	b.d.l.	b.d.l.	b.d.l.	0.1	724	6.4	4.6	0.2	0.5	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-43	Core	b.d.l.	6.1	32733.6	b.d.l.	99618	308527	15.6	89593	3012.4	0.8	79.1	b.d.l.	b.d.l.	758.2	122.3	150.9	b.d.l.	b.d.l.	0.0	0.1	748	6.9	4.6	0.3	0.4	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-44	Core	b.d.l.	5.9	32074.3	6.6	98657	308527	26.4	87994	2992.1	0.6	77.5	b.d.l.	b.d.l.	740.8	123.8	151.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.	777	6.9	4.9	0.2	0.4	0.0	3.7	b.d.l.	0.0	b.d.l.	b.d.l.
grain18-45	Core	b.d.l.	6.1	30622.4	b.d.l.	95675	308527	16.9	89571	2769.3	0.6	73.7	b.d.l.	b.d.l.	717.1	120.7	148.6	b.d.l.	b.d.l.	0.0	0.1	735	6.4	4.6	0.3	0.3	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-46	Core	b.d.l.	5.8	31988.8	5.6	97785	308527	b.d.l.	90496	2976.8	0.6	73.5	b.d.l.	0.8	799.2	125.9	153.6	0.0	b.d.l.	0.0	0.1	764	6.8	4.7	0.2	0.4	b.d.l.	3.9	b.d.l.	b.d.l.	0.0	b.d.l.
grain18-47	Core	b.d.l.	6.0	31695.2	b.d.l.	95632	308527	b.d.l.	87113	2857.6	b.d.l.	78.3	b.d.l.	b.d.l.	742.9	119.5	149.3	b.d.l.	b.d.l.	0.0	0.1	739	6.2	4.6	0.2	0.3	0.0	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-48	Core	b.d.l.	5.5	31795.9	b.d.l.	87140	308527	b.d.l.	83834	2490.0	0.5	72.9	b.d.l.	b.d.l.	738.9	121.1	141.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.	715	5.9	4.3	0.2	0.3	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-49	Core	b.d.l.	6.2	32568.5	5.5	100350	308527	14.8	86168	2766.1	0.8	78.4	b.d.l.	b.d.l.	733.5	126.9	152.4	b.d.l.	b.d.l.	b.d.l.	0.1	779	6.6	4.3	0.2	0.4	b.d.l.	3.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-50	Core	7.3	6.2	32627.0	b.d.l.	95006	308527	b.d.l.	88720	3183.3	0.9	76.3	b.d.l.	0.7	775.8	127.9	151.2	b.d.l.	b.d.l.	b.d.l.	0.1	793	6.5	4.5	0.2	0.4	b.d.l.	3.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-51	Core	b.d.l.	6.0	31815.9	b.d.l.	93388	308527	b.d.l.	84596	2480.6	0.4	75.6	b.d.l.	0.8	718.7	124.0	145.5	b.d.l.	b.d.l.	b.d.l.	0.1	815	6.7	4.7	0.2	0.4	b.d.l.	3.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-52	Core	b.d.l.	5.7	31919.4	b.d.l.	94985	308527	b.d.l.	88406	2528.5	0.6	72.0	b.d.l.	0.6	759.2	121.6	143.0	b.d.l.	b.d.l.	b.d.l.	0.1	950	6.1	4.5	0.2	0.4	0.1	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-53	Core	b.d.l.	5.6	31063.9	b.d.l.	96450	308527	b.d.l.	83680	3025.9	0.7	73.1	b.d.l.	b.d.l.	745.4	121.1	137.8	b.d.l.	b.d.l.	b.d.l.	0.1	1075	6.3	4.5	0.2	0.4	0.0	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-54	Core	b.d.l.	5.8	32022.9	b.d.l.	97099	308527	14.9	86268	2657.8	0.8	67.4	b.d.l.	0.7	753.9	127.2	135.5	0.0	b.d.l.	0.0	0.1	1225	6.3	4.3	0.2	0.4	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-55	Core	b.d.l.	5.8	31938.4	b.d.l.	98444	308527	b.d.l.	87293	2892.7	0.5	72.4	b.d.l.	0.7	773.0	128.1	143.7	b.d.l.	b.d.l.	0.0	0.1	1492	6.2	4.2	0.2	0.4	0.0	3.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-56	Core	b.d.l.	5.9	34039.3	b.d.l.	96572	308527	b.d.l.	89603	2568.3	0.7	72.0	b.d.l.	b.d.l.	754.9	127.5	144.2	b.d.l.	b.d.l.	b.d.l.	0.1	1973	6.7	4.5	0.2	0.4	b.d.l.	3.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-57	Core	b.d.l.	6.7	30468.0	11.2	94785	308527	15.0	85247	2431.4	0.6	64.3	b.d.l.	1.1	751.0	123.6	133.9	b.d.l.	b.d.l.	0.0	0.1	2556	6.0	4.1	0.2	0.3	0.1	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-58	Rim	b.d.l.	7.0	31180.2	8.3	95575	308527	17.3	82766	3206.2	0.7	72.1	b.d.l.	0.7	745.7	120.7	160.0	b.d.l.	b.d.l.	0.0	0.1	3946	7.5	5.2	0.3	0.5	0.1	4.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain18-59	Rim	8.0	7.2	31771.9	b.d.l.	96529	308527	b.d.l.	85720	3557.6	0.7	84.1	b.d.l.	b.d.l.	802.9	116.7	183.3	0.0	b.d.l.	0.0	0.1	4747	9.1	6.5	0.3	0.6	b.d.l.	5.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
Sanidine grain 18 - Line 2																																
MFT-San18 - 1	Core	6.5	6.3	30315.7	6.6	106474	308527	b.d.l.	77036	3087.3	b.d.l.	74.7	b.d.l.	b.d.l.	747.7	118.4	124.3	0.2	0.1	b.d.l.	0.1	285	6.4	4.0	0.2	0.6	b.d.l.	2.8	b.d.l.	0.0	b.d.l.	0.0
MFT-San18 - 2	Core	7.3	6.1	31189.4	3.7	109745	308527	b.d.l.	77961	2946.3	0.8	73.7	b.d.l.	b.d.l.	749.4	117.7	126.3	0.0	b.d.l.	b.d.l.	0.1	280	6.5	4.2	0.3	0.3	b.d.l.	2.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 3	Core	7.3	5.6	30332.4	0.8	107129	308527	b.d.l.	77000	2811.0	b.d.l.	67.2	0.7	b.d.l.	762.7	115.2	124.9	0.1	b.d.l.	b.d.l.	0.1	271	5.8	4.1	0.2	0.4	b.d.l.	2.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 4	Core	7.0	5.7	30543.1	2.2	108638	308527	b.d.l.	78518	2967.7	b.d.l.	89.3	b.d.l.	b.d.l.	777.5	119.2	124.4	0.0	b.d.l.	b.d.l.	b.d.l.	260	6.4	4.2	0.2	0.5	0.1	2.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 5	Core	5.9	5.5	29806.4	2.1	106893	308527	94.5	75976	2686.0	0.6	73.8	b.d.l.	b.d.l.	697.4	114.0	118.1	b.d.l.	0.0	b.d.l.	0.1	247	6.0	4.0	0.2	0.3	b.d.l.	2.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	23.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	23.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.2	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	25.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	26.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	26.8	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	25.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	25.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	26.5	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.2	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.1	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	27.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	25.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.6	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	23.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	23.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	23.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	23.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	20.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	24.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	27.1	0.1	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	27.9	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	27.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.	b.d.l.	25.6	b.d.l.	b.d.l.

Table A1.5: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-San18 - 6	Core	5.4	5.6	31228.6	4.0	109558	308527	b.d.l.	78352	3389.0	b.d.l.	70.3	b.d.l.	b.d.l.	743.8	118.3	126.5	0.1	0.1	b.d.l.	0.1	248	6.3	4.4	0.2	0.3	b.d.l.	2.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 7	Core	5.1	5.6	31906.0	1.3	111465	308527	b.d.l.	79819	2772.9	0.9	71.4	1.0	b.d.l.	766.7	116.9	126.2	0.0	b.d.l.	0.1	b.d.l.	250	6.1	4.4	0.3	0.5	b.d.l.	2.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 8	Core	6.0	5.8	30692.7	2.3	108850	308527	b.d.l.	77767	2424.9	b.d.l.	64.7	b.d.l.	b.d.l.	732.2	118.7	119.2	b.d.l.	b.d.l.	b.d.l.	0.1	234	5.6	3.7	0.2	0.4	b.d.l.	2.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 9	Core	6.6	5.5	29780.6	1.3	106366	308527	b.d.l.	76490	2703.6	0.9	69.6	b.d.l.	b.d.l.	683.8	113.6	122.8	b.d.l.	b.d.l.	b.d.l.	0.1	238	5.3	3.6	0.2	b.d.l.	b.d.l.	2.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 10	Core	6.3	5.6	30281.0	b.d.l.	106725	308527	b.d.l.	76385	3033.0	b.d.l.	64.5	b.d.l.	b.d.l.	735.1	112.8	125.9	0.0	0.2	b.d.l.	0.1	262	5.5	3.9	0.1	0.3	b.d.l.	2.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 11	Core	7.4	5.9	31774.0	3.0	113063	308527	b.d.l.	81916	3155.1	b.d.l.	77.3	b.d.l.	b.d.l.	786.0	120.6	132.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.	293	6.1	4.4	0.3	0.4	b.d.l.	3.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 12	Core	5.4	6.0	30520.0	0.5	109600	308527	b.d.l.	78471	2801.5	b.d.l.	79.1	b.d.l.	b.d.l.	703.0	116.8	128.6	b.d.l.	0.1	b.d.l.	0.2	317	5.7	3.7	0.2	0.3	b.d.l.	2.9	0.1	b.d.l.	b.d.l.	0.0
MFT-San18 - 13	Core	5.7	5.5	30552.9	2.3	108016	308527	b.d.l.	76675	3166.0	b.d.l.	80.9	b.d.l.	b.d.l.	724.2	118.7	125.0	b.d.l.	b.d.l.	b.d.l.	0.1	355	5.8	3.8	0.2	0.2	b.d.l.	3.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 14	Core	6.9	6.0	30515.3	2.4	109566	308527	90.4	78613	2541.7	b.d.l.	68.9	b.d.l.	b.d.l.	752.8	119.4	122.1	0.0	b.d.l.	0.0	0.1	395	5.5	3.5	0.2	0.3	b.d.l.	2.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 15	Core	6.4	5.6	30123.0	1.9	107169	308527	b.d.l.	76054	2962.4	1.2	65.5	b.d.l.	b.d.l.	767.5	114.4	126.7	0.1	b.d.l.	b.d.l.	b.d.l.	494	6.1	4.1	0.2	b.d.l.	b.d.l.	2.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 16	Core	6.8	5.8	30687.1	1.3	109348	308527	62.0	77818	3306.7	b.d.l.	78.4	b.d.l.	b.d.l.	690.0	118.6	128.4	b.d.l.	b.d.l.	0.0	b.d.l.	545	6.1	4.4	0.2	0.4	b.d.l.	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 17	Core	5.1	5.9	30879.8	b.d.l.	108878	308527	b.d.l.	77469	3059.7	b.d.l.	69.1	b.d.l.	b.d.l.	719.9	118.2	129.9	b.d.l.	b.d.l.	0.0	b.d.l.	561	6.0	4.0	0.2	0.3	b.d.l.	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 18	Core	6.8	5.7	30466.1	2.1	107637	308527	b.d.l.	75492	3146.7	0.6	72.5	b.d.l.	b.d.l.	756.1	112.6	138.2	b.d.l.	0.0	b.d.l.	b.d.l.	675	7.2	4.5	0.2	0.4	b.d.l.	3.0	b.d.l.	b.d.l.	0.0	b.d.l.
MFT-San18 - 19	Core	6.9	5.8	30531.3	2.4	106480	308527	b.d.l.	75315	3002.9	b.d.l.	82.4	b.d.l.	b.d.l.	701.6	113.1	136.2	0.1	b.d.l.	0.0	0.1	683	6.5	4.7	0.2	0.4	0.1	3.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 20	Core	4.5	6.0	31505.7	b.d.l.	112109	308527	b.d.l.	78030	3306.0	b.d.l.	64.8	b.d.l.	11.8	694.2	119.6	147.7	0.1	0.0	b.d.l.	b.d.l.	752	7.0	4.9	0.2	0.4	b.d.l.	3.4	b.d.l.	b.d.l.	0.0	0.0
MFT-San18 - 21	Core	8.9	5.5	30352.8	1.7	106730	308527	b.d.l.	75128	3169.4	b.d.l.	68.6	b.d.l.	b.d.l.	663.6	114.6	137.8	0.1	b.d.l.	0.0	b.d.l.	718	6.1	4.2	0.2	0.3	0.1	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 22	Core	7.2	5.9	30040.8	3.1	107348	308527	b.d.l.	74694	2999.5	b.d.l.	74.5	b.d.l.	b.d.l.	728.3	111.8	144.5	0.0	b.d.l.	b.d.l.	0.2	682	6.5	4.7	0.2	0.6	b.d.l.	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 23	Core	4.8	5.5	30612.2	2.0	106826	308527	56.2	75267	3336.9	b.d.l.	65.6	0.6	b.d.l.	697.9	116.8	145.6	0.0	b.d.l.	0.0	b.d.l.	623	6.9	4.5	0.2	0.5	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 24	Core	6.8	6.3	31203.5	b.d.l.	109189	308527	b.d.l.	77680	2920.5	0.7	70.1	0.6	b.d.l.	805.9	118.8	148.0	b.d.l.	b.d.l.	0.0	0.1	601	6.3	4.2	0.2	0.4	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 25	Core	6.0	6.1	30679.8	2.1	108513	308527	b.d.l.	77558	3154.0	b.d.l.	70.4	b.d.l.	b.d.l.	661.4	122.0	142.0	0.0	b.d.l.	b.d.l.	b.d.l.	575	6.6	4.3	0.2	0.3	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 26	Core	8.6	6.0	30553.0	b.d.l.	108296	308527	b.d.l.	76167	3238.2	b.d.l.	62.8	b.d.l.	b.d.l.	726.7	115.1	148.7	0.0	0.0	b.d.l.	b.d.l.	669	6.2	4.1	0.2	0.3	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 27	Core	7.4	6.0	30225.6	2.5	107240	308527	b.d.l.	76164	2928.7	b.d.l.	65.7	b.d.l.	b.d.l.	741.8	118.3	147.4	b.d.l.	b.d.l.	b.d.l.	0.1	866	6.6	4.4	0.2	0.4	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 28	Core	4.9	6.8	30344.0	3.4	108338	308527	b.d.l.	77735	2832.5	b.d.l.	67.2	b.d.l.	b.d.l.	671.8	117.6	140.1	0.1	b.d.l.	b.d.l.	b.d.l.	1228	6.3	4.1	0.2	0.3	b.d.l.	3.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 29	Core	8.3	7.5	29865.9	1.3	111878	308527	b.d.l.	77795	2991.1	b.d.l.	57.9	b.d.l.	b.d.l.	709.2	124.6	141.0	0.1	0.0	b.d.l.	b.d.l.	1885	6.9	4.9	0.2	0.6	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 30	Core	6.7	7.6	29002.6	3.4	106692	308527	b.d.l.	78273	2594.0	b.d.l.	68.3	b.d.l.	b.d.l.	699.6	121.0	130.1	0.1	0.1	b.d.l.	0.1	2583	6.0	4.0	0.2	0.5	b.d.l.	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 31	Core	6.6	7.4	30791.9	3.8	105504	308527	b.d.l.	71930	4571.0	0.8	72.2	b.d.l.	b.d.l.	736.7	105.4	179.4	0.2	b.d.l.	b.d.l.	b.d.l.	3924	9.2	6.5	0.4	0.6	b.d.l.	4.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 32	Core	8.4	8.7	31472.0	2.1	110635	308527	b.d.l.	75032	3684.3	b.d.l.	87.2	b.d.l.	b.d.l.	767.8	111.8	179.1	0.3	b.d.l.	0.1	b.d.l.	5125	9.4	6.6	0.4	0.6	b.d.l.	4.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 33	Core																															
MFT-San18 - 34	Core	9.1	8.1	31395.1	1.8	112856	308527	b.d.l.	78413	3691.4	0.6	84.0	b.d.l.	b.d.l.	786.3	119.8	163.5	0.4	b.d.l.	0.0	0.1	5667	9.5	6.6	0.3	0.8	b.d.l.	4.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 35	Core	8.9	6.8	31121.5	2.1	112783	308527	b.d.l.	76846	3933.5	0.9	82.3	b.d.l.	b.d.l.	847.4	114.9	164.1	0.3	0.1	b.d.l.	0.0	5612	9.4	6.6	0.3	0.6	b.d.l.	4.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 36	Core	4.1	5.7	29754.3	2.5	106930	308527	60.1	73446	3976.6	0.6	84.6	b.d.l.	b.d.l.	824.3	114.8	156.5	0.3	b.d.l.	0.0	0.1	5028	9.1	6.5	0.3	0.6	b.d.l.	4.2	0.1	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 37	Core	4.5	4.5	30840.9	1.2	111072	308527	b.d.l.	76716	3466.2	b.d.l.	89.7	b.d.l.	b.d.l.	763.7	118.9	159.8	0.4	b.d.l.	b.d.l.	0.1	4780	9.4	6.5	0.4	0.6	b.d.l.	4.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 38	Rim	3.4	3.0	31035.5	3.8	115032	308527	b.d.l.	80904	3210.5	0.9	74.0	b.d.l.	b.d.l.	830.3	130.9	134.4	0.2	b.d.l.	0.0	0.0	3695	6.4	4.3	0.2	0.3	0.1	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San18 - 39	Rim	2.2	1.9	30513.2	2.1	111698	308527	62.2	79555	2361.5	b.d.l.	58.0	b.d.l.	b.d.l.	721.8	127.4	118.9	0.2	b.d.l.	b.d.l.	0.1	3104	6.0	3.7	0.2	0.3	b.d.l.	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
Sanidine grain 19 - Line 1																																
grain19-1	Rim	b.d.l.	2.2	31572.6	b.d.l.	100202	303853	b.d.l.	82960	3554.2	0.5	80.9	b.d.l.	b.d.l.	821.9	118.6	176.4	0.1	b.d.l.	b.d.l.	b.d.l.	8270	7.4	5.6	0.3	0.5	b.d.l.	5.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-2	Rim	b.d.l.	4.3	32137.8	8.0	100495	303853	20.0	81609	3646.6	b.d.l.	90.6	b.d.l.	b.d.l.	810.7	113.5	188.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.	8844	8.7	6.2	0.3	0.8	b.d.l.	5.7	b.d.l.	0.0	b.d.l.	b.d.l.
grain19-3	Rim	7.4	5.7	31152.8	b.d.l.	98660	303853	b.d.l.	81645	3568.4	b.d.l.	90.7	b.d.l.	0.8	789.1	115.6	177.5	0.0	b.d.l.	0.0	0.1	8809	8.1	5.8	0.3	0.4	b.d.l.	5.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-4	Core	b.d.l.	6.7	30556.4	b.d.l.	99085	303853	21.9	80938	3166.5	0.6	91.6	b.d.l.	b.d.l.	792.5	116.7	174.8	0.0	0.1	b.d.l.	0.1	9044	8.3	5.5	0.3	0.8	b.d.l.	5.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-5	Core	b.d.l.	7.4	30997.9	b.d.l.	98762	303853	30.8	82854	2655.3	0.8	96.8	b.d.l.	0.8	848.9	118.4	174.1	0.0	b.d.l.	b.d.l.	0.1	9340	8.2	6.0	0.3	0.6	0.0	5.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-6	Core	8.2	7.3	29387.6	b.d.l.	93390	299178	25.5	77989	2976.8	0.4	91.1	b.d.l.	b.d.l.	860.7	114.8	165.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.	9161	7.6	5.6	0.3	0.3	b.d.l.	5.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-7	Core	b.d.l.	7.7	29739.2	b.d.l.	95709	303853	14.5	81867	3279.6	0.8	87.8	b.d.l.	b.d.l.	837.8	114.9	174.6	0.1	b.d.l.	0.0	0.1	9569	8.4	5.8	0.3	0.7	0.1	5.6	0.1	b.d.l.	b.d.l.	b.d.l.
grain19-8	Core	7.8	8.1	30384.4	b.d.l.	98211	303853	b.d.l.	82652	3237.2	0.6	104.1	b.d.l.	0.8	863.5	119.3	172.5	0.0	b.d.l.	0.0	0.0	9986	8.3	5.9	0.3	0.5	0.0	5.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-9	Core	7.8	7.5	31586.4	b.d.l.	99956	303853	b.d.l.	83393	3411.4	0.8	99.5	b.d.l.	b.d.l.	863.2	123.7	181.5	0.0	0.1	b.d.l.	0.1	10556	8.6	6.2	0.3	0.5	b.d.l.	5.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-10	Core	9.3	7.5	32709.6	b.d.l.	99272	303853	15.4	85528	3188.7	0.5	93.9	b.d.l.	b.d.l.	889.0	118.2	183.2	0.1	b.d.l.	b.d.l.	0.1	10610	8.5	6.0	0.3	0.5	0.0	5.5	0.0	b.d.l.	0.0	b.d.l.
grain19-11	Core	8.9	7.7	31095.5	b.d.l.	100633	303853	b.d.l.	82276	3792.4	0.4	92.8	b.d.l.	0.6	840.3	114.8	188.8	0.0	b.d.l.	b.d.l.	0.0	11094	8.7	6.3	0.4	0.8	0.0	5.5	b.d.l.	0.0	b.d.l.	b.d.l.
grain19-12	Core	b.d.l.	8.0	31747.0	b.d.l.	98626	299178	b.d.l.	80935	3423.4	0.7	101.0	b.d.l.	b.d.l.	785.7	116.1	192.6	0.0	b.d.l.	b.d.l.	b.d.l.	11504	8.5	6.2	0.3	0.8	0.1	5.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-13	Core	8.2	7.0	31576.2	6.4	96917	299178	b.d.l.	78658	3839.6	0.7	97.2	b.d.l.	0.6	771.4	110.6	193.6	0.0	b.d.l.	b.d.l.	0.1	11511	8.6	6.3	0.3	0.6	0.0	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-14	Core	7.5	7.2	31086.8	b.d.l.	100177	303853	b.d.l.	79854	3963.9	0.5	107.1	b.d.l.	b.d.l.	871.9	111.3	201.5	0.0	0.1	b.d.l.	0.0	12406	8.5	6.1	0.4	0.8	0.0	6.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-15	Core	8.3	7.8	31374.8	7.2	97252	303853	16.4	77304	3808.3	0.5	107.4	b.d.l.	0.9	858.5	110.4	204.6	0.1	b.d.l.	0.0	b.d.l.	12039	7.8	5.9	0.3	0.6	0.0	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-16	Core	8.6	8.2	33373.0	b.d.l.	97922	299178	b.d.l.	78696	4375.8	0.8	118.3	b.d.l.	0.7	814.6	109.5	217.1	0.1	b.d.l.	b.d.l.	0.1	12254	7.8	6.0	0.3	0.7	0.0	6.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-17	Core	9.6	8.6	32811.6	5.5	102443	299178	b.d.l.	79124	5797.6	0.5	128.6	b.d.l.	0.7	876.4	105.5	225.9	0.1	b.d.l.	b.d.l.	0.1	12828	7.9	6.3	0.4	0.9	0.1	6.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-18	Core	9.1	9.4	33333.8	b.d.l.	102576	299178	16.1	77395	5944.8	0.9	124.2	b.d.l.	1.0	805.7	102.8	223.5	0.1	0.1	0.0	0.0	12086	8.0	6.7	0.5	1.0	0.1	6.6	b.d.l.	0.0	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	27.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	27.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.2	b.d.l.	0.0
b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.	b.d.l.	28.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	28.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	27.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	0.0	25.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	26.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	26.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.9	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	25.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	29.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.	b.d.l.	24.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	27.1	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.3	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	24.6	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.0	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	23.8	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	21.1	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	28.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	27.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	28.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	29.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	27.4	b.d.l.	0.0
0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.4	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	27.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	24.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	26.2	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.3	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	27.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	27.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	28.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	30.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	33.2	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	34.5	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.4	b.d.l.	b.d.l.

Table A1.5: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
grain19-19	Core	7.9	9.8	34530.9	b.d.l.	101015	299178	b.d.l.	72531	5838.5	0.5	131.1	b.d.l.	1.3	849.8	102.6	224.1	0.1	b.d.l.	0.0	0.1	11482	9.3	8.3	0.5	1.3	0.1	6.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-20	Core	9.1	9.2	31384.9	b.d.l.	100535	299178	b.d.l.	82589	4116.8	0.6	136.0	b.d.l.	b.d.l.	813.3	117.2	184.8	0.0	b.d.l.	0.0	0.1	11416	6.9	5.5	0.3	0.7	0.1	5.5	0.0	b.d.l.	b.d.l.	b.d.l.
grain19-21	Core	8.1	8.5	33592.9	b.d.l.	98997	299178	27.2	74677	5259.8	0.5	121.1	b.d.l.	1.0	807.3	108.4	216.6	0.1	b.d.l.	0.0	0.1	11541	9.0	7.5	0.5	0.8	0.2	6.3	b.d.l.	b.d.l.	b.d.l.	0.0
grain19-22	Core	11.0	8.5	32861.2	b.d.l.	99817	299178	b.d.l.	76728	6464.4	b.d.l.	128.8	b.d.l.	1.1	833.7	109.1	227.4	0.1	0.1	0.0	b.d.l.	11813	8.9	8.2	0.5	1.2	0.0	7.2	b.d.l.	b.d.l.	0.0	b.d.l.
grain19-23	Core	8.5	8.0	32565.6	b.d.l.	97207	299178	17.0	78172	5725.1	b.d.l.	120.0	b.d.l.	0.9	836.0	103.3	220.0	0.1	b.d.l.	0.0	b.d.l.	11596	8.9	8.1	0.5	1.1	b.d.l.	6.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-24	Core	8.7	8.4	33028.7	6.5	100069	299178	b.d.l.	74590	6328.5	0.8	128.5	b.d.l.	1.1	843.5	103.6	221.5	b.d.l.	0.1	b.d.l.	0.1	11602	8.6	8.1	0.5	1.1	0.1	7.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-25	Core	10.5	8.2	34362.6	b.d.l.	101906	299178	b.d.l.	79665	5711.3	0.6	130.4	b.d.l.	1.3	843.5	110.6	225.3	0.1	b.d.l.	0.0	0.0	11902	9.4	8.1	0.5	1.0	0.2	6.8	b.d.l.	b.d.l.	b.d.l.	0.0
grain19-26	Core	9.6	8.6	33671.9	b.d.l.	101635	299178	b.d.l.	74370	6342.2	0.6	132.8	b.d.l.	1.3	824.8	104.5	235.8	0.1	b.d.l.	0.0	0.1	11945	9.4	8.5	0.6	1.1	0.1	7.2	b.d.l.	b.d.l.	0.0	b.d.l.
grain19-27	Core	11.1	8.4	36014.5	6.3	102858	299178	b.d.l.	76789	6067.5	0.7	131.4	b.d.l.	1.0	769.4	103.3	236.3	0.1	0.1	0.0	b.d.l.	12766	8.9	8.0	0.5	0.8	b.d.l.	7.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-28	Core	10.5	8.6	33392.5	6.0	100959	299178	b.d.l.	76566	6282.3	0.5	124.3	b.d.l.	1.4	860.9	104.7	237.4	0.0	b.d.l.	b.d.l.	0.1	12541	8.9	7.9	0.4	0.9	0.1	7.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-29	Core	7.4	8.0	31988.6	8.3	96880	299178	18.6	79050	4349.2	0.7	115.3	b.d.l.	1.0	789.7	110.4	217.1	0.1	b.d.l.	b.d.l.	0.1	12345	7.9	6.0	0.3	0.7	0.0	6.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-30	Core	7.7	8.1	32610.3	8.4	96960	299178	16.4	78690	4098.6	0.4	112.7	b.d.l.	b.d.l.	807.4	111.7	213.8	0.1	b.d.l.	b.d.l.	0.0	12190	8.4	5.9	0.3	0.7	b.d.l.	6.7	b.d.l.	b.d.l.	b.d.l.	0.0
grain19-31	Core	8.2	7.9	33456.8	5.4	100145	299178	b.d.l.	79011	3952.2	0.5	105.3	b.d.l.	0.7	810.9	112.8	219.4	0.1	0.1	b.d.l.	0.1	12479	8.1	6.1	0.3	0.7	b.d.l.	6.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-32	Core	8.3	8.4	32343.3	5.5	99022	299178	24.8	81363	4440.8	0.6	113.7	b.d.l.	0.7	798.9	113.3	218.7	0.1	0.1	b.d.l.	0.0	12732	8.6	6.4	0.3	0.6	0.1	6.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-33	Core	8.7	7.9	32530.1	8.4	100042	299178	b.d.l.	77752	3786.4	0.7	105.1	b.d.l.	0.7	798.5	110.5	218.4	0.1	b.d.l.	b.d.l.	0.1	12942	8.9	6.5	0.3	0.9	b.d.l.	6.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-34	Core	8.6	8.1	32595.0	7.5	99716	299178	b.d.l.	79419	4082.3	0.9	104.5	b.d.l.	b.d.l.	816.5	111.7	219.9	0.0	0.1	b.d.l.	0.1	13036	9.2	7.0	0.4	0.7	0.0	6.8	b.d.l.	0.0	b.d.l.	0.0
grain19-35	Core	b.d.l.	7.3	31916.0	b.d.l.	99909	299178	b.d.l.	82393	4020.5	0.8	109.6	b.d.l.	b.d.l.	820.2	113.9	216.4	0.1	b.d.l.	0.0	0.1	13504	9.8	7.8	0.4	0.8	0.1	6.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-36	Core	b.d.l.	6.8	31118.9	7.7	102052	299178	24.5	82281	4312.4	0.4	119.1	b.d.l.	0.8	816.1	115.2	218.9	0.1	b.d.l.	0.0	0.1	13702	10.3	7.9	0.4	0.9	b.d.l.	6.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-37	Core	8.2	6.3	33460.0	b.d.l.	100901	299178	b.d.l.	83343	4518.1	0.5	118.1	b.d.l.	b.d.l.	826.7	115.7	224.0	0.1	b.d.l.	0.0	0.1	13745	9.7	7.8	0.4	0.9	b.d.l.	6.7	b.d.l.	0.0	b.d.l.	b.d.l.
grain19-38	Core	10.0	7.1	33440.6	b.d.l.	102159	303853	17.3	84463	4549.7	b.d.l.	121.0	0.1	0.9	761.2	114.8	232.1	0.1	b.d.l.	b.d.l.	0.0	13376	9.1	7.1	0.4	0.6	b.d.l.	6.8	b.d.l.	b.d.l.	b.d.l.	0.0
grain19-39	Core	8.1	8.6	32459.4	b.d.l.	98715	299178	b.d.l.	80362	3974.1	0.7	113.0	b.d.l.	0.9	788.8	113.0	220.0	0.0	b.d.l.	b.d.l.	0.0	12924	8.7	6.5	0.3	0.7	0.0	6.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-40	Core	9.9	9.0	31149.0	b.d.l.	96071	299178	24.2	78684	4031.8	0.5	111.1	b.d.l.	b.d.l.	830.4	107.4	213.4	0.0	b.d.l.	0.0	0.0	12861	8.9	6.5	0.3	0.7	0.1	6.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-41	Core	10.3	9.8	32986.8	b.d.l.	103831	299178	b.d.l.	82942	4728.3	0.7	118.3	b.d.l.	0.7	914.6	110.7	232.3	0.0	0.1	0.0	0.1	12554	9.5	7.1	0.4	0.8	b.d.l.	7.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-42	Core	10.1	10.4	32729.3	b.d.l.	101700	303853	15.6	79258	4979.3	0.5	116.9	b.d.l.	b.d.l.	913.0	110.5	240.4	0.1	b.d.l.	b.d.l.	0.1	11983	9.1	7.0	0.4	0.7	0.1	7.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-43	Core	10.5	11.5	32142.8	b.d.l.	99357	299178	b.d.l.	77776	5162.1	0.6	119.6	b.d.l.	0.9	886.1	105.5	241.6	0.0	b.d.l.	b.d.l.	b.d.l.	10681	9.0	7.4	0.4	0.7	b.d.l.	7.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-44	Core	12.1	11.8	33383.3	b.d.l.	104638	303853	18.9	79787	5628.9	0.7	129.8	b.d.l.	0.9	931.3	106.3	249.3	0.1	b.d.l.	0.0	0.1	10851	9.1	7.4	0.4	0.8	0.1	7.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-45	Core	11.9	11.3	31346.3	b.d.l.	98958	299178	15.3	75024	4907.1	0.6	119.6	b.d.l.	0.7	860.3	99.7	232.1	0.1	b.d.l.	0.0	0.1	11025	8.6	6.8	0.4	0.9	0.0	7.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
grain19-46	Core	9.5	9.9	32051.3	b.d.l.	103132	303853	b.d.l.	78001	5508.0	0.7	123.4	b.d.l.	4.4	941.3	105.1	233.5	0.2	0.6	0.2	0.0	10724	9.2	7.8	0.4	0.8	0.1	6.9	b.d.l.	b.d.l.	b.d.l.	0.0
grain19-47	Core	8.3	7.0	31318.6	5.5	99922	303853	b.d.l.	79467	4677.0	0.7	102.9	b.d.l.	1.1	790.7	113.5	193.3	0.0	0.1	b.d.l.	b.d.l.	7133	9.8	7.9	0.4	0.9	0.1	5.7	b.d.l.	b.d.l.	0.0	b.d.l.
grain19-48	Rim	b.d.l.	4.7	30615.5	6.7	100125	303853	18.5	84474	2640.5	0.6	77.9	b.d.l.	0.7	772.0	125.3	128.6	0.0	b.d.l.	0.0	0.1	4614	6.6	4.4	0.2	0.5	b.d.l.	3.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
Sanidine grain 19 - Line 2																																
MFT-San19 - 1	Core	2.7	2.6	31249.1	1.4	113989	308527	63.4	76185	3910.1	0.8	79.5	b.d.l.	11.6	850.2	118.1	191.9	0.4	b.d.l.	b.d.l.	0.1	7617	7.9	5.6	0.3	0.6	b.d.l.	5.9	b.d.l.	b.d.l.	b.d.l.	0.0
MFT-San19 - 2	Core	3.2	4.1	30716.4	3.4	111291	308527	79.9	76556	3479.5	b.d.l.	86.7	b.d.l.	b.d.l.	912.5	110.9	173.8	0.4	b.d.l.	0.1	b.d.l.	7984	7.9	5.4	0.3	0.7	b.d.l.	5.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 3	Core	5.8	5.1	29947.7	2.9	108986	308527	b.d.l.	72797	3595.7	b.d.l.	85.1	b.d.l.	b.d.l.	894.3	110.6	187.0	0.7	0.0	b.d.l.	b.d.l.	8672	8.1	5.7	0.3	0.7	0.1	5.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 4	Core	6.8	6.5	31721.0	7.1	114234	308527	b.d.l.	76234	4407.2	0.9	76.5	b.d.l.	b.d.l.	839.0	111.5	218.2	0.4	b.d.l.	b.d.l.	0.1	10459	9.7	7.1	0.3	0.7	b.d.l.	7.3	b.d.l.	0.0	b.d.l.	b.d.l.
MFT-San19 - 5	Core	8.2	6.9	31981.7	2.7	117071	308527	90.1	77324	3939.3	b.d.l.	95.8	b.d.l.	b.d.l.	910.5	117.0	211.7	0.6	b.d.l.	b.d.l.	0.0	11089	9.5	6.8	0.3	0.8	b.d.l.	6.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 6	Core	7.8	6.9	30954.6	2.1	111860	308527	b.d.l.	75550	3614.2	b.d.l.	94.6	b.d.l.	b.d.l.	864.3	114.8	192.8	0.6	b.d.l.	b.d.l.	b.d.l.	11089	8.8	6.3	0.3	0.7	b.d.l.	5.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 7	Core	6.5	7.3	30260.7	2.9	111359	308527	b.d.l.	72912	3978.5	b.d.l.	88.2	b.d.l.	b.d.l.	886.9	110.4	198.6	0.5	0.1	0.0	b.d.l.	11397	9.1	6.4	0.3	0.6	b.d.l.	6.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 8	Core	8.3	7.1	30648.0	b.d.l.	112210	308527	b.d.l.	72138	4100.5	b.d.l.	95.3	0.7	11.1	827.8	106.5	221.2	0.8	b.d.l.	0.0	0.1	12669	8.6	6.3	0.3	0.6	b.d.l.	6.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 9	Core	7.3	8.0	33002.4	4.4	122876	308527	b.d.l.	76811	5297.2	b.d.l.	111.2	b.d.l.	b.d.l.	856.6	113.1	265.1	0.8	b.d.l.	b.d.l.	b.d.l.	15180	9.8	8.0	0.4	0.6	0.2	8.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 10	Core	7.5	8.4	32665.4	2.9	120248	308527	64.7	76078	5266.6	b.d.l.	134.1	b.d.l.	b.d.l.	868.7	112.9	252.8	0.8	0.2	b.d.l.	b.d.l.	14775	9.6	7.4	0.4	0.9	0.1	7.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 11	Core	7.1	8.5	31791.1	3.8	118360	308527	b.d.l.	74868	4717.7	1.0	119.7	b.d.l.	b.d.l.	878.5	109.1	245.6	0.6	b.d.l.	0.0	0.1	14192	9.4	6.9	0.3	0.8	0.1	7.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 12	Core	7.7	8.5	33115.9	3.4	120821	308527	b.d.l.	78405	5072.6	b.d.l.	117.1	b.d.l.	b.d.l.	872.5	115.6	250.5	0.7	0.0	0.0	0.1	14122	9.1	6.9	0.4	0.8	b.d.l.	7.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 13	Core	8.3	8.5	32183.7	3.1	115312	308527	b.d.l.	75718	4425.5	1.0	121.9	b.d.l.	b.d.l.	869.3	113.3	236.3	0.4	0.1	b.d.l.	0.0	13298	8.8	6.0	0.3	0.8	b.d.l.	6.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 14	Core	8.7	8.1	30606.7	2.5	115313	308527	b.d.l.	75645	3957.4	b.d.l.	132.0	b.d.l.	b.d.l.	791.4	118.6	201.7	0.9	0.1	0.1	b.d.l.	12755	6.5	5.2	0.2	0.5	b.d.l.	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 15	Core	9.8	9.1	33952.7	3.1	118187	308527	b.d.l.	72391	7008.9	b.d.l.	114.5	b.d.l.	b.d.l.	893.2	103.9	256.7	0.8	0.2	0.0	0.1	13301	8.1	7.0	0.4	1.1	0.3	7.4	b.d.l.	b.d.l.	0.0	0.0
MFT-San19 - 16	Core	7.0	8.5	32159.6	4.4	112532	308527	62.4	68836	5949.8	b.d.l.	130.5	b.d.l.	b.d.l.	839.0	96.3	246.0	0.5	b.d.l.	b.d.l.	0.0	12400	7.6	6.8	0.4	0.8	b.d.l.	7.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 17	Core	9.5	8.2	33664.9	2.1	119753	308527	b.d.l.	76856	5116.9	b.d.l.	106.9	b.d.l.	b.d.l.	898.5	111.6	253.7	0.4	0.0	0.0	b.d.l.	13212	8.3	6.4	0.4	0.8	b.d.l.	7.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 18	Core	8.0	8.1	32380.9	5.5	117384	308527	b.d.l.	77175	4933.3	b.d.l.	114.1	b.d.l.	b.d.l.	881.5	113.9	225.7	0.7	b.d.l.	b.d.l.	b.d.l.	12394	8.2	6.5	0.3	0.6	b.d.l.	7.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 19	Core	8.2	7.3	32348.3	4.3	112100	308527	b.d.l.	75175	4402.6	b.d.l.	93.6	b.d.l.	b.d.l.	866.1	116.0	210.5	0.7	0.0	0.1	b.d.l.	11511	8.7	6.2	0.3	0.7	b.d.l.	6.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 20	Core	6.2	7.7	32125.5	2.4	114695	308527	b.d.l.	77410	3587.9	b.d.l.	95.3	b.d.l.	b.d.l.	912.5	118.5	200.2	0.4	b.d.l.	b.d.l.	0.0	10920	8.0	5.8	0.3	0.5	0.1	5.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.4	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	28.5	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	32.1	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	31.8	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.9	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	30.8	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	31.9	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	31.3	0.0
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.5	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	31.3	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	29.4	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	29.3	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.1	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.8	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	30.5	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	31.6	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	31.7	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	32.7	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	33.3	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.4	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.9	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	35.5	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	36.1	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	37.1	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	0.0	39.6	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	0.0	0.0	36.6	0.0
0.0	b.d.l.	0.0	0.0	0.0	b.d.l.	38.7	0.1
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	33.6	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	24.8	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	24.4	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	23.3	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	24.3	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	29.4	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.2	b.d.l.	28.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	27.4	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	27.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.3	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	34.1	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	31.7	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.2	b.d.l.	31.7	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	32.5	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	32.5	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.2	b.d.l.	26.6	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	34.4	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	32.5	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	35.6	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.2	0.1	32.5	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	31.4	0.0
b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.	0.0	28.7	b.d.l.

Table A1.5: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-San19 - 21	Core	9.5	6.5	29538.2	3.0	104716	308527	b.d.l.	75328	3789.2	0.7	85.7	b.d.l.	b.d.l.	821.3	121.5	172.5	0.4	b.d.l.	b.d.l.	b.d.l.	9635	7.4	5.3	0.3	0.5	b.d.l.	5.7	b.d.l.	b.d.l.	b.d.l.	0.0
MFT-San19 - 22	Core	6.6	6.8	31841.7	3.6	114094	308527	b.d.l.	79088	3714.9	b.d.l.	97.2	b.d.l.	b.d.l.	858.7	121.5	194.6	0.6	b.d.l.	0.0	0.1	9987	8.5	5.9	0.3	0.4	b.d.l.	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 23	Core	7.0	6.6	31107.2	3.4	113271	308527	b.d.l.	77753	3476.6	0.9	80.8	b.d.l.	b.d.l.	850.9	116.5	184.9	0.6	0.0	0.0	0.2	9369	8.4	5.5	0.3	0.4	b.d.l.	5.7	b.d.l.	b.d.l.	b.d.l.	0.0
MFT-San19 - 24	Core	6.5	6.9	31182.3	2.9	116382	308527	130.8	80193	3184.2	b.d.l.	93.5	b.d.l.	b.d.l.	762.1	120.9	174.4	0.5	0.0	b.d.l.	0.1	8902	7.8	5.1	0.3	0.4	b.d.l.	5.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 25	Core	7.5	6.8	30916.2	0.4	111241	308527	b.d.l.	75438	3619.5	b.d.l.	76.5	b.d.l.	b.d.l.	803.9	118.3	176.8	0.5	b.d.l.	b.d.l.	0.0	8712	8.4	6.3	0.3	0.7	b.d.l.	5.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 26	Core	7.4	7.1	30717.9	2.0	110524	308527	b.d.l.	77218	4258.4	0.9	77.7	b.d.l.	b.d.l.	838.4	117.5	168.6	0.3	b.d.l.	b.d.l.	b.d.l.	8252	7.4	5.2	0.2	0.5	b.d.l.	5.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 27	Core	6.6	6.9	30315.8	3.0	112076	308527	b.d.l.	76409	4003.3	b.d.l.	85.8	b.d.l.	b.d.l.	830.8	113.1	171.9	0.6	b.d.l.	b.d.l.	b.d.l.	7966	7.7	5.6	0.3	0.6	b.d.l.	5.3	b.d.l.	b.d.l.	0.0	b.d.l.
MFT-San19 - 28	Core	5.5	6.3	30047.4	1.2	110109	308527	67.1	75498	3580.5	b.d.l.	79.9	b.d.l.	b.d.l.	829.9	117.7	166.2	0.3	0.1	b.d.l.	0.0	7372	8.3	6.1	0.3	0.8	b.d.l.	4.8	b.d.l.	b.d.l.	b.d.l.	0.0
MFT-San19 - 29	Core	5.3	5.3	31346.2	2.9	113488	308527	b.d.l.	77099	3694.3	b.d.l.	76.1	b.d.l.	b.d.l.	850.1	117.7	168.1	0.4	0.1	b.d.l.	b.d.l.	7067	8.6	5.7	0.3	1.1	b.d.l.	5.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 30	Core	4.0	3.4	30646.1	2.9	110079	308527	b.d.l.	75820	3679.6	b.d.l.	85.2	b.d.l.	b.d.l.	796.0	116.0	158.7	0.4	b.d.l.	0.0	0.0	6180	8.1	5.8	0.3	0.8	b.d.l.	4.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San19 - 31	Rim	b.d.l.	2.2	31206.8	3.7	111697	308527	b.d.l.	78766	3961.3	b.d.l.	79.1	b.d.l.	b.d.l.	784.8	117.4	167.5	0.3	b.d.l.	b.d.l.	0.1	6040	7.7	5.9	0.2	0.5	b.d.l.	4.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
Sanidine grain 22 - Line 1																																
MFT-San22 - 1	Core	2.6	1.7	29782.8	3.2	108495	308527	b.d.l.	78093	2444.4	b.d.l.	62.7	b.d.l.	b.d.l.	813.4	121.8	103.9	0.2	b.d.l.	b.d.l.	b.d.l.	2877	5.0	2.6	0.1	0.2	b.d.l.	3.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 2	Core	2.3	2.3	30461.9	2.6	109121	308527	54.5	81812	2458.9	b.d.l.	73.0	b.d.l.	b.d.l.	782.5	133.2	107.4	0.2	b.d.l.	0.0	0.0	3059	4.9	3.2	0.1	0.4	b.d.l.	3.0	0.1	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 3	Core	2.3	2.5	28834.6	1.9	105962	308527	b.d.l.	74449	2059.7	b.d.l.	66.1	b.d.l.	b.d.l.	762.4	118.5	113.3	0.3	b.d.l.	0.0	b.d.l.	3265	5.3	3.4	0.1	b.d.l.	b.d.l.	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 4	Core	3.8	3.3	30629.1	b.d.l.	108017	308527	b.d.l.	80092	2364.8	b.d.l.	57.4	b.d.l.	b.d.l.	792.2	125.8	117.9	0.2	b.d.l.	b.d.l.	0.1	3451	5.7	3.6	0.2	0.3	b.d.l.	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 5	Core	4.6	3.8	29905.9	0.8	104826	308527	b.d.l.	81173	2615.4	0.6	64.0	b.d.l.	b.d.l.	749.0	121.9	147.5	0.1	b.d.l.	b.d.l.	0.1	3849	7.7	5.4	0.3	0.3	b.d.l.	4.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 6	Core	4.8	4.1	29694.1	1.3	104431	308527	b.d.l.	76634	2500.0	1.0	76.4	b.d.l.	b.d.l.	734.5	115.1	137.3	0.2	b.d.l.	b.d.l.	0.1	3720	6.4	4.4	0.2	0.5	b.d.l.	4.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 7	Core	4.1	4.5	31426.8	3.2	108562	308527	73.4	79792	2378.5	0.7	79.4	b.d.l.	b.d.l.	814.0	121.2	142.9	0.2	0.0	0.0	b.d.l.	3594	5.9	4.0	0.2	0.4	b.d.l.	3.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 8	Core	6.7	4.3	29479.0	1.2	106592	308527	b.d.l.	73345	3286.0	b.d.l.	76.3	b.d.l.	b.d.l.	778.2	109.3	160.8	0.2	b.d.l.	b.d.l.	0.1	3851	5.9	4.0	0.2	0.3	b.d.l.	4.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 9	Core	5.6	5.4	32048.5	5.6	110319	308527	52.4	73808	4521.8	0.8	95.3	0.7	b.d.l.	806.5	107.6	240.8	0.4	b.d.l.	0.0	0.1	5836	9.8	7.4	0.4	0.9	b.d.l.	6.6	b.d.l.	b.d.l.	b.d.l.	0.0
MFT-San22 - 10	Core	5.0	5.7	30294.8	3.5	107432	308527	b.d.l.	71725	4407.6	b.d.l.	84.6	b.d.l.	b.d.l.	776.5	102.1	218.0	0.4	b.d.l.	b.d.l.	b.d.l.	5407	7.7	5.7	0.3	0.6	b.d.l.	6.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 11	Core	6.4	6.5	31962.7	3.6	108863	308527	56.7	74416	4597.2	b.d.l.	84.1	b.d.l.	b.d.l.	844.2	105.4	223.4	0.3	b.d.l.	b.d.l.	0.1	5852	8.0	5.9	0.3	0.6	b.d.l.	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 12	Core	6.3	6.5	32216.5	2.1	110195	308527	b.d.l.	75265	4887.3	b.d.l.	80.6	b.d.l.	b.d.l.	861.9	103.0	220.6	0.2	0.1	0.0	0.1	6642	8.1	6.0	0.3	0.6	b.d.l.	6.1	b.d.l.	b.d.l.	b.d.l.	0.0
MFT-San22 - 13	Core	6.3	6.7	31336.5	2.0	110597	308527	b.d.l.	75061	3828.8	b.d.l.	83.3	b.d.l.	b.d.l.	811.3	100.9	216.7	0.3	0.1	b.d.l.	b.d.l.	6906	8.5	6.3	0.4	0.6	b.d.l.	6.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 14	Core	8.8	6.6	30568.0	2.1	108961	308527	b.d.l.	73519	3713.0	b.d.l.	78.9	b.d.l.	b.d.l.	849.9	99.4	206.5	0.3	0.0	b.d.l.	b.d.l.	7040	8.6	6.5	0.3	0.6	b.d.l.	5.5	b.d.l.	0.0	b.d.l.	b.d.l.
MFT-San22 - 15	Core	8.2	7.1	29983.9	2.6	103625	308527	b.d.l.	70714	3217.9	0.5	67.8	b.d.l.	b.d.l.	784.4	116.4	179.8	0.3	b.d.l.	b.d.l.	0.1	6559	7.8	5.7	0.2	0.5	b.d.l.	5.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 16	Core	7.0	6.0	29833.0	2.9	101347	308527	b.d.l.	70800	3201.7	b.d.l.	82.7	b.d.l.	b.d.l.	794.9	95.8	177.1	0.3	b.d.l.	b.d.l.	0.1	6521	7.2	5.0	0.3	0.5	b.d.l.	5.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 17	Core	6.3	6.8	30722.5	b.d.l.	108596	308527	83.0	75006	3992.3	b.d.l.	80.4	b.d.l.	b.d.l.	837.5	102.6	183.8	0.4	b.d.l.	b.d.l.	0.1	7146	7.4	5.2	0.2	0.3	b.d.l.	5.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 18	Core	5.6	6.4	32117.2	3.9	111584	308527	81.7	77805	3710.6	b.d.l.	97.2	b.d.l.	b.d.l.	900.6	108.8	220.8	0.6	b.d.l.	b.d.l.	0.0	8443	8.8	6.6	0.4	0.8	b.d.l.	6.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 19	Core	6.2	6.0	31143.7	2.1	109367	308527	b.d.l.	74695	4259.5	b.d.l.	92.8	b.d.l.	b.d.l.	926.9	106.9	195.8	0.4	b.d.l.	0.0	b.d.l.	8245	8.6	6.1	0.3	0.6	b.d.l.	5.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 20	Core	6.8	6.8	30631.7	b.d.l.	106734	308527	56.7	74970	3570.3	b.d.l.	98.1	b.d.l.	b.d.l.	868.6	117.8	193.0	0.4	b.d.l.	b.d.l.	b.d.l.	7904	7.9	5.4	0.3	0.4	b.d.l.	5.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 21	Core	7.6	6.2	30766.5	1.7	110816	308527	b.d.l.	74263	3932.6	b.d.l.	71.3	b.d.l.	b.d.l.	873.2	109.7	205.6	0.5	b.d.l.	0.0	b.d.l.	8548	8.1	6.0	0.3	0.7	b.d.l.	5.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 22	Core	6.8	6.0	31402.3	1.6	114030	308527	b.d.l.	76026	4377.6	b.d.l.	91.4	b.d.l.	b.d.l.	856.3	111.4	224.2	0.5	0.0	b.d.l.	0.1	9692	9.0	6.3	0.3	0.6	b.d.l.	6.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 23	Core	6.0	6.1	30859.8	2.0	110901	308527	63.3	76193	3661.1	b.d.l.	94.6	b.d.l.	b.d.l.	928.0	112.1	192.4	0.5	b.d.l.	b.d.l.	0.1	8569	6.8	5.2	0.3	0.4	b.d.l.	5.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 24	Core	7.0	6.0	31172.4	3.7	107700	308527	47.1	73824	4342.1	0.6	88.9	b.d.l.	b.d.l.	877.4	113.5	216.2	0.4	b.d.l.	0.0	0.1	9922	8.7	7.2	0.4	0.8	b.d.l.	6.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 25	Core	6.9	5.9	30442.0	3.1	110361	308527	91.0	74308	3643.3	b.d.l.	93.7	b.d.l.	b.d.l.	796.8	110.4	215.1	0.5	0.1	b.d.l.	0.1	9587	8.5	5.9	0.3	0.9	b.d.l.	6.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 26	Core	7.1	6.5	33023.5	b.d.l.	112291	308527	b.d.l.	83769	4718.7	0.5	105.3	b.d.l.	b.d.l.	854.8	113.5	222.1	0.5	b.d.l.	b.d.l.	0.1	9984	8.9	6.9	0.3	0.7	b.d.l.	6.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 27	Core	7.3	5.9	30133.2	1.8	102819	308527	105.0	75824	3694.5	0.6	100.0	b.d.l.	b.d.l.	834.9	112.0	183.6	0.4	0.2	b.d.l.	0.1	8362	7.0	5.0	0.2	0.4	b.d.l.	5.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 28	Core	6.1	6.1	29743.8	3.6	106895	308527	b.d.l.	78182	3734.6	0.9	90.9	b.d.l.	b.d.l.	921.3	119.7	189.2	0.4	0.0	b.d.l.	b.d.l.	8590	7.8	5.7	0.3	0.6	b.d.l.	5.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 29	Core	7.8	6.0	30484.0	1.7	110252	308527	b.d.l.	75454	3819.1	b.d.l.	86.7	b.d.l.	b.d.l.	864.1	113.5	204.2	0.6	0.0	b.d.l.	0.1	9295	8.8	6.2	0.3	0.8	b.d.l.	5.8	b.d.l.	0.0	b.d.l.	b.d.l.
MFT-San22 - 30	Core	6.8	5.7	30595.3	2.0	111377	308527	80.4	74830	3999.9	b.d.l.	92.0	b.d.l.	b.d.l.	855.5	113.9	202.4	0.4	b.d.l.	b.d.l.	b.d.l.	8761	8.4	6.0	0.3	0.7	b.d.l.	5.9	b.d.l.	0.0	b.d.l.	b.d.l.
MFT-San22 - 31	Core	6.8	6.7	31835.5	4.2	111500	308527	b.d.l.	78575	3638.8	b.d.l.	79.3	b.d.l.	b.d.l.	783.8	119.4	201.0	0.6	b.d.l.	b.d.l.	0.1	8907	8.6	6.2	0.3	0.3	b.d.l.	5.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 32	Core	6.1	6.2	30513.7	1.8	110999	308527	b.d.l.	75998	3455.3	b.d.l.	79.8	b.d.l.	b.d.l.	846.8	114.3	186.3	0.5	b.d.l.	0.1	b.d.l.	8094	7.3	5.5	0.3	0.6	b.d.l.	5.8	b.d.l.	b.d.l.	b.d.l.	0.0
MFT-San22 - 33	Core	7.1	6.0	29962.4	1.9	108156	308527	b.d.l.	74792	3422.3	b.d.l.	85.3	b.d.l.	b.d.l.	867.8	112.3	193.9	0.3	b.d.l.	0.0	b.d.l.	8066	7.8	5.9	0.3	0.5	b.d.l.	5.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 34	Core	4.4	5.9	30879.4	b.d.l.	107876	308527	b.d.l.	75543	3989.1	b.d.l.	78.0	b.d.l.	b.d.l.	859.7	109.8	195.0	0.4	0.0	0.0	b.d.l.	8164	8.2	6.0	0.4	0.6	b.d.l.	5.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 35	Core	6.7	6.4	33232.2	2.3	117186	308527	b.d.l.	81585	4147.3	b.d.l.	82.5	b.d.l.	b.d.l.	843.4	120.0	206.8	0.5	0.2	b.d.l.	0.2	8454	8.8	6.4	0.3	0.8	b.d.l.	5.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 36	Core	6.8	6.3	30616.6	2.3	111157	308527	75.5	76160	3759.1	0.9	79.1	b.d.l.	b.d.l.	839.2	116.8	191.6	0.3	b.d.l.	b.d.l.	b.d.l.	7520	8.1	5.6	0.3	0.5	b.d.l.	5.8	b.d.l.	0.0	b.d.l.	b.d.l.
MFT-San22 - 37	Core	6.6	5.8	30723.5	2.0	112518	308527	b.d.l.	78084	3456.0	b.d.l.	84.3	b.d.l.	b.d.l.	802.0	115.7	193.5	0.4	b.d.l.	b.d.l.	b.d.l.	7492	8.8	6.0	0.3	0.7	b.d.l.	5.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 38	Core	5.7	5.8	32027.5	2.1	115131	308527	b.d.l.	79933	3456.2	1.0	98.6	b.d.l.	b.d.l.	832.4	122.7	188.5	0.4	0.1	b.d.l.	b.d.l.	7178	8.7	6.2	0.3	0.5	b.d.l.	6.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 39	Core	5.7	6.2	32129.8	2.3	111780	308527	b.d.l.	86255	3559.8	b.d.l.	81.7	b.d.l.	b.d.l.	877.8	119.0	172.2	0.2	b.d.l.	b.d.l.	0.1	6645	8.1	5.4	0.3	0.4	0.2	5.1	0.1	b.d.l.	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.2	0.1	28.3	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	28.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	26.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	28.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.	0.0	30.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	27.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	30.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.8	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	30.1	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	28.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	20.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	19.5	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	24.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	25.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	0.0	21.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	22.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	22.3	0.0	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	31.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	28.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	0.1	0.0	29.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	31.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.2	b.d.l.	27.0	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	27.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	22.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	24.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	29.7	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	27.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	25.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	26.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.2	b.d.l.	27.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	26.1	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	30.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	26.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.1	28.3	b.d.l.	0.0
0.0	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	25.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	25.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	28.6	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	25.9	0.0	b.d.l.
b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.	0.0	28.1	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	0.1	b.d.l.	27.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	27.9	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.5	b.d.l.	0.0
b.d.l.	b.d.l.	0.1	b.d.l.	0.1	b.d.l.	28.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.	b.d.l.	29.2	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	29.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	28.9	b.d.l.	0.0

Table A1.5: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-San22 - 40	Rim	5.2	5.1	32275.1	1.7	116963	308527	b.d.l.	81667	3727.7	b.d.l.	78.8	b.d.l.	b.d.l.	871.3	119.3	178.9	0.2	0.1	b.d.l.	0.2	6090	8.5	5.5	0.3	0.7	b.d.l.	4.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 41	Rim	4.4	4.5	30606.4	1.6	111635	308527	b.d.l.	78370	3309.0	b.d.l.	80.6	b.d.l.	b.d.l.	829.1	119.5	160.4	0.2	b.d.l.	0.0	0.1	5447	7.3	5.3	0.3	0.6	b.d.l.	4.7	b.d.l.	b.d.l.	0.0	b.d.l.
MFT-San22 - 42	Rim	2.2	3.5	30693.9	b.d.l.	109075	308527	b.d.l.	77824	3153.0	b.d.l.	81.0	b.d.l.	b.d.l.	781.9	116.4	158.3	0.1	b.d.l.	b.d.l.	b.d.l.	5106	7.6	5.2	0.2	0.7	b.d.l.	4.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 43	Rim	3.9	2.5	30744.0	1.3	110826	308527	b.d.l.	77562	3073.1	b.d.l.	78.2	b.d.l.	b.d.l.	770.2	118.6	155.5	0.3	0.1	b.d.l.	0.1	4786	7.3	5.4	0.3	0.5	b.d.l.	4.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 44	Rim	2.3	1.9	30279.7	1.9	109617	308527	65.1	77750	3176.9	0.6	61.3	b.d.l.	b.d.l.	732.6	117.4	146.9	0.3	0.0	b.d.l.	b.d.l.	4329	7.2	4.7	0.3	0.4	b.d.l.	4.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San22 - 45	Rim	b.d.l.	1.1	30203.1	2.4	105895	308527	b.d.l.	76764	2891.0	0.7	72.3	b.d.l.	b.d.l.	798.9	123.3	139.0	0.2	b.d.l.	b.d.l.	b.d.l.	4008	6.8	5.0	0.2	0.5	b.d.l.	4.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
Sanidine grain 27 - Line 1																																
MFT-San27 - 2	Rim	3.2	1.8	30215.0	2.9	107862	308527	b.d.l.	76124	3540.2	1.1	71.2	b.d.l.	b.d.l.	739.8	119.9	125.2	0.1	b.d.l.	b.d.l.	0.1	3421	6.6	4.3	0.2	0.5	b.d.l.	3.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 3	Core	4.0	3.2	29171.8	3.6	107644	308527	b.d.l.	74405	2985.6	b.d.l.	64.2	b.d.l.	b.d.l.	729.3	114.5	124.1	0.1	b.d.l.	b.d.l.	b.d.l.	3456	6.1	4.2	0.2	0.4	0.1	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 4	Core	5.2	4.5	32402.1	2.7	117634	308527	b.d.l.	81004	3248.3	b.d.l.	78.9	b.d.l.	b.d.l.	777.2	126.5	147.4	0.3	b.d.l.	b.d.l.	b.d.l.	3783	6.9	4.8	0.3	0.5	b.d.l.	4.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 5	Core	6.3	5.7	32159.5	1.8	117263	308527	b.d.l.	82066	3152.5	b.d.l.	78.9	b.d.l.	13.1	788.6	122.9	148.2	0.2	b.d.l.	0.1	0.1	3601	6.6	4.6	0.2	0.3	b.d.l.	4.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 6	Core	6.3	5.9	31226.5	1.3	113207	308527	b.d.l.	78023	3484.8	0.6	70.8	b.d.l.	b.d.l.	774.7	122.7	155.1	0.4	b.d.l.	0.0	0.1	3612	6.8	4.6	0.2	0.5	b.d.l.	4.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 7	Core	7.1	6.2	31521.5	2.2	113465	308527	b.d.l.	76384	3879.6	b.d.l.	63.9	b.d.l.	b.d.l.	753.5	114.7	163.6	0.3	b.d.l.	b.d.l.	0.1	3657	7.4	5.1	0.2	0.5	b.d.l.	4.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 8	Core	6.1	6.3	32680.9	2.6	117970	308527	79.4	80605	3454.0	b.d.l.	72.4	b.d.l.	b.d.l.	821.7	123.3	154.9	0.1	b.d.l.	b.d.l.	b.d.l.	3404	7.0	5.2	0.2	0.5	b.d.l.	4.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 9	Core	5.0	7.2	31980.0	1.9	118079	308527	b.d.l.	82458	2655.8	b.d.l.	80.8	b.d.l.	b.d.l.	767.0	131.8	132.0	0.2	b.d.l.	b.d.l.	0.0	3005	6.6	3.9	0.2	0.4	b.d.l.	3.6	b.d.l.	b.d.l.	0.0	b.d.l.
MFT-San27 - 10	Core	5.7	6.1	30678.6	2.1	110666	308527	b.d.l.	77936	2808.3	b.d.l.	69.8	b.d.l.	b.d.l.	707.1	120.7	126.8	0.1	b.d.l.	b.d.l.	0.0	2699	6.4	4.4	0.2	0.3	b.d.l.	3.7	b.d.l.	0.0	b.d.l.	b.d.l.
MFT-San27 - 11	Core	5.8	6.1	29816.1	2.4	110392	308527	b.d.l.	76391	3179.6	b.d.l.	71.6	b.d.l.	b.d.l.	700.3	115.5	126.3	b.d.l.	b.d.l.	b.d.l.	0.1	2548	6.1	4.1	0.2	0.4	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 12	Core	6.6	5.8	30094.5	4.6	109175	308527	70.8	75594	2699.9	b.d.l.	73.9	b.d.l.	b.d.l.	712.7	114.3	132.0	0.1	b.d.l.	b.d.l.	0.1	2376	6.2	4.3	0.2	0.4	b.d.l.	4.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 13	Core	7.4	5.7	30302.5	2.6	110229	308527	b.d.l.	76727	3001.8	b.d.l.	61.6	b.d.l.	b.d.l.	618.3	120.4	134.1	0.1	0.1	b.d.l.	b.d.l.	2236	6.0	4.4	0.2	0.4	b.d.l.	3.6	b.d.l.	b.d.l.	0.0	b.d.l.
MFT-San27 - 14	Core	6.5	5.8	30930.0	2.1	111925	308527	b.d.l.	78059	2517.9	b.d.l.	59.6	b.d.l.	b.d.l.	726.3	122.0	126.5	0.1	b.d.l.	0.0	b.d.l.	2068	5.8	3.8	0.2	0.4	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 15	Core	6.4	6.4	30097.1	2.6	110948	308527	88.7	76814	2778.2	b.d.l.	63.8	b.d.l.	b.d.l.	722.8	120.3	128.7	0.1	b.d.l.	b.d.l.	0.1	1949	5.8	3.8	0.2	0.3	b.d.l.	3.9	b.d.l.	0.0	b.d.l.	0.0
MFT-San27 - 16	Core	7.4	6.1	30132.5	1.3	111540	308527	b.d.l.	76026	2560.6	0.9	67.2	b.d.l.	b.d.l.	696.6	117.6	129.9	b.d.l.	0.1	b.d.l.	b.d.l.	1936	6.3	4.4	0.2	0.4	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 17	Core	6.5	6.0	29280.9	0.4	107207	308527	b.d.l.	74475	2568.4	b.d.l.	70.2	b.d.l.	b.d.l.	714.6	115.3	125.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.	1742	5.4	3.5	0.2	0.3	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 18	Core	6.8	6.2	30408.7	2.1	109631	308527	b.d.l.	76054	2864.1	b.d.l.	62.8	b.d.l.	b.d.l.	639.0	115.7	144.4	0.2	0.1	0.0	0.1	1841	6.3	4.4	0.2	0.5	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 19	Core	6.1	6.3	30546.1	3.6	109410	308527	b.d.l.	75940	3527.5	0.8	67.0	b.d.l.	b.d.l.	671.1	115.4	144.3	0.1	b.d.l.	0.0	0.1	1777	6.4	4.4	0.2	0.7	0.1	3.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 20	Core	7.6	5.9	29123.4	1.2	103667	308527	b.d.l.	71097	2986.2	b.d.l.	70.4	b.d.l.	b.d.l.	647.0	108.2	139.9	0.1	b.d.l.	0.0	0.1	1693	6.5	4.3	0.2	0.5	b.d.l.	3.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 21	Core	6.2	6.3	31890.0	1.8	113671	308527	b.d.l.	80022	3242.0	b.d.l.	61.0	1.0	b.d.l.	718.4	121.1	140.5	0.1	b.d.l.	b.d.l.	0.0	1649	6.2	4.5	0.2	0.4	b.d.l.	3.5	b.d.l.	b.d.l.	0.0	b.d.l.
MFT-San27 - 22	Core	5.6	5.6	30681.5	2.6	111732	308527	b.d.l.	76097	2972.5	1.2	64.4	b.d.l.	12.6	699.2	120.7	126.5	0.1	b.d.l.	b.d.l.	0.2	1491	5.9	3.9	0.2	0.3	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 23	Core	7.1	5.1	30135.9	1.3	109545	308527	b.d.l.	76039	3145.3	b.d.l.	65.5	b.d.l.	b.d.l.	627.3	118.6	127.7	0.1	0.0	b.d.l.	0.1	1378	6.2	3.9	0.2	b.d.l.	0.1	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 24	Core	4.6	4.4	31255.1	1.3	113692	308527	b.d.l.	80764	2379.9	0.9	76.6	b.d.l.	b.d.l.	732.7	125.0	132.8	b.d.l.	b.d.l.	b.d.l.	0.1	1326	5.9	4.0	0.2	0.3	b.d.l.	3.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 25	Core	3.3	3.3	30769.2	1.8	110403	308527	b.d.l.	77140	3043.7	0.8	68.2	b.d.l.	b.d.l.	698.3	121.3	126.4	b.d.l.	b.d.l.	b.d.l.	0.0	1132	6.4	4.1	0.2	0.5	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
MFT-San27 - 26	Rim	2.5	2.1	31417.7	1.5	112008	308527	95.1	78328	2329.9	b.d.l.	66.7	b.d.l.	b.d.l.	774.0	122.6	129.6	0.1	b.d.l.	0.0	b.d.l.	1006	6.5	4.3	0.2	0.5	b.d.l.	3.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-1-1	Rim	4.1	3.7	30174.3	b.d.l.	99512	303853	24.2	91426	3025.7	0.6	80.7	b.d.l.	0.6	800.8	98.2	240.5	0.0	b.d.l.	0.0	b.d.l.	3156	7.7	5.4	0.3	0.5	b.d.l.	6.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-1-2	Rim	6.4	4.9	30960.9	b.d.l.	102877	303853	25.1	87024	4135.6	0.6	114.0	b.d.l.	0.7	927.7	99.1	272.1	0.1	0.1	0.0	0.0	11669	9.0	6.3	0.3	0.8	0.0	8.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-1-4	Core	5.7	4.8	30626.6	3.0	102141	303853	23.6	88475	3603.1	0.6	98.7	b.d.l.	0.6	894.3	97.8	265.5	0.0	b.d.l.	0.0	0.0	9222	8.8	6.2	0.3	0.6	0.0	7.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-5-3	Rim	5.4	3.0	30500.7	b.d.l.	98827	303853	21.8	88864	2741.5	0.7	71.3	b.d.l.	0.4	752.2	116.1	118.9	0.0	b.d.l.	0.0	0.1	2335	6.2	4.3	0.2	0.3	b.d.l.	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-6-1	Rim	7.1	7.1	31796.0	4.7	101815	303853	21.9	86291	4061.9	0.6	97.9	b.d.l.	0.7	908.2	112.5	115.9	0.1	b.d.l.	b.d.l.	0.1	7139	8.8	6.6	0.3	0.7	0.0	3.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-6-2	Core	8.0	7.8	31086.0	b.d.l.	99879	303853	20.5	87061	3694.5	0.6	94.4	b.d.l.	0.5	837.1	122.7	127.6	0.0	b.d.l.	0.0	0.1	6854	7.2	5.4	0.3	0.5	0.0	4.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-6-3	Rim	9.6	7.5	30805.3	b.d.l.	100325	303853	22.1	87174	3726.6	0.6	95.0	b.d.l.	0.7	828.7	126.8	133.8	0.0	b.d.l.	0.0	0.1	7261	7.6	5.7	0.3	0.6	0.0	4.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-10-1	Rim	5.9	6.2	30580.7	6.0	102072	303853	20.7	89545	3497.0	0.4	93.7	b.d.l.	0.4	829.3	113.1	190.4	0.0	b.d.l.	0.0	0.1	7660	8.2	6.0	0.3	0.6	0.1	5.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-10-2	Core	5.6	6.1	31246.3	3.3	102882	303853	20.4	89246	3577.9	0.5	92.3	b.d.l.	0.6	854.9	110.3	191.2	b.d.l.	0.1	b.d.l.	b.d.l.	6167	7.8	5.7	0.3	0.5	0.0	5.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-10-3	Rim	5.0	5.9	30433.6	b.d.l.	100648	303853	19.5	90867	2704.9	0.4	101.3	b.d.l.	0.6	868.7	114.3	151.2	0.0	b.d.l.	0.0	0.1	4356	7.8	5.6	0.2	0.4	b.d.l.	4.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-10-4	Rim	5.5	4.9	30753.1	3.2	103177	303853	23.1	90384	3457.2	0.4	100.0	b.d.l.	0.7	838.8	106.2	257.2	b.d.l.	b.d.l.	0.0	0.0	8355	8.0	6.2	0.3	0.5	b.d.l.	7.5	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-10-5	Rim	5.4	5.1	31216.4	b.d.l.	102659	303853	22.3	90049	3101.3	0.4	90.2	b.d.l.	0.5	893.7	102.9	226.6	0.0	b.d.l.	0.0	b.d.l.	6827	7.7	5.6	0.3	0.6	b.d.l.	6.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-14-1	Rim	5.7	5.3	30920.2	b.d.l.	101509	303853	16.8	93718	2743.4	0.4	80.8	b.d.l.	0.7	796.8	132.4	53.1	b.d.l.	b.d.l.	b.d.l.	0.1	751	6.4	4.5	0.2	0.4	b.d.l.	1.6	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-14-2	Rim	5.9	5.0	30890.5	4.2	100049	303853	21.3	92884	2733.5	0.6	90.0	b.d.l.	0.6	798.4	140.9	38.6	b.d.l.	b.d.l.	b.d.l.	0.1	825	6.6	4.9	0.2	0.5	0.0	1.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-14-3	Core	5.6	4.9	30857.1	b.d.l.	100812	303853	20.7	92784	2667.9	0.5	72.8	b.d.l.	0.5	731.2	141.2	36.7	b.d.l.	b.d.l.	0.0	0.1	452	6.2	4.4	0.2	0.4	b.d.l.	1.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-14-4	Core	4.4	4.9	30650.1	3.5	100342	303853	20.4	91968	2605.8	0.3	74.1	b.d.l.	0.6	744.4	142.1	37.8	b.d.l.	b.d.l.	0.0	0.1	463	6.4	4.6	0.2	0.4	0.0	1.1	b.d.l.	0.0	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	28.1	b.d.l.	0.0
b.d.l.	b.d.l.	0.1	b.d.l.	0.1	b.d.l.	28.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	27.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	28.4	0.0	0.0
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	26.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	25.1	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	26.8	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.1	b.d.l.	25.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.1	b.d.l.	0.0	b.d.l.	28.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.9	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	30.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	32.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	27.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.7	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	24.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	23.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	23.0	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	24.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	25.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.1	0.0	b.d.l.	b.d.l.	23.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.	24.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	24.4	b.d.l.	0.0
0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	25.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.8	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.8	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	24.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	23.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	25.1	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	26.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	26.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	37.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	33.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	32.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	27.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	26.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	21.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	23.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	22.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	33.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	34.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	34.3	b.d.l.	b.d.l.

Table A1.5: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
mount2-14-5	Core	4.7	4.9	31044.9	3.2	101272	303853	20.8	93143	2934.8	0.4	83.6	b.d.l.	0.3	763.5	141.2	41.7	b.d.l.	b.d.l.	0.0	0.1	778	6.7	4.6	0.2	0.4	b.d.l.	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-14-6	Rim	5.4	4.5	30770.9	b.d.l.	101327	303853	22.5	92807	2846.1	0.4	79.0	b.d.l.	0.5	741.1	145.1	27.5	0.0	b.d.l.	b.d.l.	0.1	261	6.7	4.7	0.2	0.4	b.d.l.	1.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-15-1	Rim	5.6	5.4	30484.1	4.6	99650	303853	28.5	91627	2872.5	0.5	102.4	b.d.l.	0.6	859.8	120.8	78.9	b.d.l.	b.d.l.	0.0	0.1	1389	7.5	5.3	0.3	0.5	b.d.l.	2.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-16-1	Rim	4.1	5.5	30755.5	3.1	98941	303853	24.4	91174	2853.1	0.6	93.4	b.d.l.	0.7	828.0	120.6	44.0	b.d.l.	b.d.l.	0.0	0.1	571	6.7	4.9	0.2	0.4	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-16-2	Core	6.0	4.2	30504.8	2.8	97036	303853	19.8	92249	2730.9	0.5	85.7	b.d.l.	0.5	808.6	120.9	67.8	0.0	b.d.l.	b.d.l.	0.1	649	5.8	4.2	0.2	0.4	b.d.l.	1.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-16-3	Rim	6.9	7.8	30679.1	4.1	97789	303853	21.3	91703	2803.3	0.6	78.7	b.d.l.	0.5	758.3	118.7	83.0	b.d.l.	b.d.l.	0.0	0.1	683	5.9	3.9	0.2	0.3	0.0	2.1	b.d.l.	b.d.l.	b.d.l.	0.0
mount1-17-2	Core	5.6	4.9	29461.9	b.d.l.	99718	303853	23.6	89032	3309.0	0.5	94.1	b.d.l.	0.5	845.0	95.0	250.4	0.0	b.d.l.	0.0	b.d.l.	8605	7.5	5.6	0.3	0.6	0.0	7.2	b.d.l.	b.d.l.	b.d.l.	0.0
mount1-18-2	Core	5.2	5.7	30853.7	b.d.l.	98501	303853	21.0	91276	3216.5	0.6	84.0	b.d.l.	0.6	737.3	114.7	138.9	0.0	b.d.l.	0.0	0.1	725	6.4	4.6	0.2	0.5	0.0	3.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-19-2	Core	7.7	7.5	31155.0	b.d.l.	102766	303853	26.3	87706	4348.4	0.6	155.5	b.d.l.	0.7	839.5	108.0	210.7	0.0	b.d.l.	0.0	0.0	11077	8.0	6.9	0.4	0.8	0.0	6.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-22-2	Core	5.4	5.5	30875.6	5.4	105960	303853	25.0	91688	3835.3	0.5	103.5	b.d.l.	0.7	901.3	110.5	225.7	0.0	b.d.l.	0.0	0.1	9243	9.1	6.5	0.3	0.8	b.d.l.	6.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount1-27-2	Core	6.6	5.8	30177.4	4.0	99505	303853	26.5	92439	2710.2	0.5	71.4	b.d.l.	0.6	753.2	117.4	132.7	b.d.l.	b.d.l.	0.0	0.1	2358	6.3	4.3	0.2	0.4	b.d.l.	3.8	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-8-4	Rim	6.4	5.8	31222.5	3.7	98718	303853	21.7	91153	2785.3	0.4	90.8	b.d.l.	0.6	835.5	104.1	128.1	0.0	b.d.l.	0.0	0.1	494	6.0	4.3	0.2	0.3	0.0	3.0	0.1	b.d.l.	b.d.l.	b.d.l.
mount2-16-1	Rim	5.5	7.4	31136.8	b.d.l.	101276	303853	18.5	89687	3797.5	0.4	98.9	b.d.l.	0.7	859.4	108.3	230.3	0.0	b.d.l.	0.0	0.1	8448	8.4	6.2	0.3	0.7	b.d.l.	6.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-16-2	Rim	6.3	7.3	30791.4	b.d.l.	100401	303853	24.1	92636	3170.2	0.3	83.7	b.d.l.	0.4	830.4	115.6	163.4	0.0	b.d.l.	0.0	0.1	4709	7.1	5.2	0.3	0.5	b.d.l.	4.8	b.d.l.	b.d.l.	0.0	b.d.l.
mount2-16-4	Core	8.0	5.1	30886.7	b.d.l.	98624	303853	23.8	91876	3030.3	0.3	99.6	b.d.l.	0.5	874.1	108.7	181.2	b.d.l.	b.d.l.	b.d.l.	0.0	1965	6.9	4.8	0.2	0.4	b.d.l.	5.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-16-5	Core	7.0	5.4	31044.6	b.d.l.	99977	303853	24.8	91792	2786.1	0.4	101.6	b.d.l.	0.6	886.6	110.3	180.0	0.0	b.d.l.	0.0	0.0	2036	7.1	5.1	0.3	0.5	b.d.l.	5.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-16-6	Core	4.3	5.8	31124.1	2.8	101207	303853	22.5	90189	3660.2	0.4	94.3	b.d.l.	0.6	880.8	105.4	233.8	0.0	b.d.l.	0.0	0.0	8553	8.2	6.3	0.3	0.7	b.d.l.	7.0	b.d.l.	b.d.l.	0.0	b.d.l.
mount2-20-1	Rim	4.0	3.7	30686.2	3.6	101789	303853	22.2	93680	2936.3	0.4	78.2	b.d.l.	0.6	757.0	121.8	120.5	0.0	b.d.l.	0.0	0.1	2677	6.1	4.4	0.2	0.4	0.0	3.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-20-2	Core	5.3	5.7	30937.2	4.1	100967	303853	19.1	95856	2778.0	0.4	70.1	b.d.l.	0.6	747.6	124.6	59.5	b.d.l.	b.d.l.	0.0	0.1	489	5.8	4.1	0.2	0.4	b.d.l.	1.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-20-3	Core	5.9	5.1	31563.0	4.5	99582	303853	22.0	93435	2794.2	0.4	76.3	b.d.l.	0.7	736.4	125.9	60.3	b.d.l.	b.d.l.	b.d.l.	0.1	561	6.1	4.7	0.2	0.3	0.0	1.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-20-4	Rim	8.2	6.3	30496.9	b.d.l.	99505	303853	20.3	93469	2749.5	0.4	71.4	b.d.l.	0.6	681.2	121.4	82.0	b.d.l.	b.d.l.	b.d.l.	0.1	1188	6.1	4.3	0.2	0.3	b.d.l.	2.3	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-20-5	Core	4.9	5.2	29937.9	2.2	97660	303853	21.4	92977	2670.7	0.4	74.7	b.d.l.	b.d.l.	733.1	124.1	62.6	b.d.l.	b.d.l.	0.0	0.1	426	5.7	4.1	0.2	0.3	b.d.l.	1.7	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-21-1	Rim	5.0	5.0	30500.4	5.7	100153	303853	22.7	93687	2556.8	0.5	68.1	b.d.l.	0.3	689.4	124.4	77.5	b.d.l.	b.d.l.	0.0	0.1	819	5.4	3.9	0.2	0.3	b.d.l.	2.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-21-2	Core	5.6	4.9	30440.6	6.4	99613	303853	17.8	94423	2685.0	0.3	71.9	b.d.l.	0.3	698.1	126.8	70.6	b.d.l.	b.d.l.	0.0	0.1	887	5.8	4.2	0.2	0.4	0.0	2.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-21-3	Rim	5.6	4.9	30645.9	3.3	99626	303853	15.7	94609	2522.7	0.4	68.3	b.d.l.	0.6	675.8	127.0	69.8	b.d.l.	b.d.l.	0.0	0.1	852	5.9	4.0	0.2	0.3	0.0	1.9	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-22-1	Rim	7.1	5.2	30465.5	4.3	101573	303853	18.5	96303	2558.9	0.4	83.9	b.d.l.	0.6	751.8	129.2	78.1	b.d.l.	b.d.l.	b.d.l.	0.1	3213	6.0	4.2	0.2	0.4	0.0	2.2	0.1	b.d.l.	b.d.l.	b.d.l.
mount2-22-2	Core	5.4	4.8	30978.8	2.9	100495	303853	20.6	96066	2557.1	0.4	65.5	b.d.l.	0.6	702.3	121.5	106.0	b.d.l.	b.d.l.	0.0	0.1	773	5.5	3.8	0.2	0.3	0.0	3.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-22-3	Rim	7.1	5.2	30465.5	4.3	101573	303853	18.5	96303	2558.9	0.4	83.9	b.d.l.	0.6	751.8	129.2	78.1	b.d.l.	b.d.l.	b.d.l.	0.1	3213	6.0	4.2	0.2	0.4	0.0	2.2	0.1	b.d.l.	b.d.l.	b.d.l.
mount2-28-1	Rim	6.6	6.7	31271.4	3.6	102874	303853	27.1	93072	3580.3	0.4	92.6	b.d.l.	0.4	808.1	113.6	185.9	0.0	b.d.l.	0.0	0.1	6101	8.3	5.8	0.3	0.5	b.d.l.	5.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-28-2	Rim	4.7	7.0	30519.8	b.d.l.	100274	303853	21.3	93529	2644.4	0.3	68.0	b.d.l.	0.4	694.3	116.1	145.0	b.d.l.	b.d.l.	0.0	0.1	1685	5.7	3.8	0.2	0.4	0.0	4.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-28-3	Rim	5.0	2.8	31522.1	2.4	101681	303853	20.9	94344	2925.4	0.4	80.7	b.d.l.	0.4	740.5	114.5	156.4	b.d.l.	b.d.l.	b.d.l.	0.0	1324	6.8	4.7	0.2	0.4	b.d.l.	4.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.
mount2-28-6	Core	5.5	5.8	31044.2	4.4	101312	303853	23.8	94125	2810.0	0.5	75.3	b.d.l.	0.6	753.6	114.1	147.4	b.d.l.	b.d.l.	0.0	0.1	1108	6.5	4.3	0.2	0.3	0.0	4.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.

Table A1.5: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	33.5	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	35.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	29.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	33.1	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	22.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	27.5	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	33.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	28.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	27.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	24.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	26.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	21.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	22.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	24.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	28.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	29.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	29.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	31.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	28.4	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	30.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.7	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	27.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	29.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	26.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	22.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	25.4	b.d.l.	b.d.l.

Table A1.6: Major elements - plagioclase

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
MFT-Mount1-plag2-1	Rim	63.6	0.1	22.4	0.2	0.0	4.0	8.1	1.7	0.0	0.0	100.0	19	71	10
MFT-Mount1-plag2-2	Rim	64.1	0.0	22.4	0.2	0.0	3.6	8.2	1.8	0.0	0.0	100.4	18	72	11
MFT-Mount1-plag2-3	Middle	64.1	0.1	22.4	0.2	0.0	3.6	8.1	1.8	0.0	0.0	100.2	18	72	11
MFT-Mount1-plag2-4	Middle	63.9	0.1	22.5	0.2	0.0	3.8	8.2	1.7	0.0	0.0	100.4	19	72	10
MFT-Mount1-plag2-5	Middle	64.0	0.0	22.6	0.2	0.0	3.8	8.1	1.7	0.0	0.0	100.4	18	72	10
MFT-Mount1-plag2-6	Middle	64.0	0.0	22.7	0.2	0.0	3.9	8.1	1.6	0.0	0.0	100.6	19	72	9
MFT-Mount1-plag2-7	Middle	64.0	0.0	22.8	0.2	0.0	3.7	8.2	1.7	0.0	0.0	100.6	18	72	10
MFT-Mount1-plag2-8	Middle	64.1	0.0	22.4	0.2	0.0	3.6	8.1	1.8	0.0	0.0	100.2	18	72	10
MFT-Mount1-plag2-9	Core	64.0	0.0	22.6	0.2	0.0	3.7	8.2	1.7	0.0	0.0	100.5	18	72	10
MFT-Mount1-plag2-10	Core	63.5	0.1	22.8	0.2	0.0	3.8	8.2	1.7	0.0	0.0	100.2	19	72	10
MFT-Mount1-plag2-11	Core	63.7	0.0	22.6	0.1	0.0	3.8	8.0	1.7	0.0	0.0	100.0	19	71	10
MFT-Mount1-plag2-12	Core - close to crack	63.5	0.0	22.9	0.1	0.0	3.8	7.9	1.7	0.0	0.0	100.1	19	71	10
MFT-Mount1-plag2-13	Core - close to crack	63.6	0.0	22.8	0.2	0.0	3.8	8.1	1.7	0.0	0.0	100.3	19	72	10
MFT-Mount1-plag2-14	Core - close to crack	63.5	0.0	23.1	0.2	0.0	4.1	8.2	1.5	0.0	0.0	100.7	20	71	9
MFT-Mount1-plag2-15	Core - close to crack	63.4	0.0	22.5	0.2	0.0	3.9	8.3	1.6	0.0	0.0	100.1	19	72	9
MFT-Mount1-plag2-16	Core - close to crack	63.6	0.0	23.0	0.2	0.0	4.0	8.1	1.6	0.0	0.0	100.5	20	71	9
MFT-Mount1-plag2-17	Core	63.5	0.0	23.0	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.6	20	71	9
MFT-Mount1-plag2-18	Core	63.3	0.0	23.0	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.2	20	71	9
MFT-Mount1-plag2-19	Core	63.1	0.0	23.2	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.4	21	71	9
MFT-Mount1-plag2-20	Core	62.9	0.0	23.1	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.0	21	71	8
MFT-Mount1-plag2-21	Core	62.7	0.0	23.4	0.2	0.0	4.6	8.0	1.4	0.0	0.0	100.2	22	70	8
MFT-Mount1-plag2-22	Core	62.8	0.0	23.4	0.2	0.0	4.6	8.0	1.3	0.0	0.0	100.2	22	70	8
MFT-Mount1-plag2-23	Core	62.9	0.0	23.4	0.2	0.0	4.5	8.1	1.4	0.0	0.0	100.4	22	70	8
MFT-Mount1-plag2-24	Core	62.6	0.0	23.4	0.2	0.0	4.5	7.9	1.4	0.0	0.0	99.9	22	70	8
MFT-Mount1-plag2-25	Core	63.1	0.0	23.3	0.2	0.0	4.4	8.0	1.4	0.0	0.0	100.3	21	71	8
MFT-Mount1-plag2-26	Core	62.8	0.0	23.2	0.2	0.0	4.4	8.1	1.4	0.0	0.0	100.2	21	71	8
MFT-Mount1-plag2-27	Middle	62.9	0.0	23.0	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.0	21	71	8
MFT-Mount1-plag2-28	Middle	63.8	0.0	22.7	0.2	0.0	4.0	8.1	1.6	0.0	0.0	100.4	19	71	9
MFT-Mount1-plag2-29	Middle	63.5	0.0	23.0	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.4	20	71	9
MFT-Mount1-plag2-30	Middle	63.4	0.1	23.2	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.8	21	71	9
MFT-Mount1-plag2-31	Middle - close to crack	63.6	0.1	23.1	0.2	0.0	4.2	8.1	1.5	0.1	0.0	100.9	20	71	9
MFT-Mount1-plag2-32	Middle - close to crack	63.3	0.1	22.8	0.2	0.0	4.0	8.1	1.6	0.0	0.0	100.1	19	71	9
MFT-Mount1-plag2-33	Middle - close to crack	63.6	0.0	22.8	0.2	0.0	4.0	8.2	1.6	0.0	0.0	100.4	19	71	9
MFT-Mount1-plag2-34	Rim - close to crack	63.7	0.0	22.7	0.2	0.0	3.8	8.4	1.7	0.0	0.0	100.5	18	72	10
MFT-Mount1-plag2-35	Rim - close to crack	63.5	0.0	22.9	0.2	0.0	4.0	8.2	1.7	0.0	0.0	100.5	19	71	9
MFT-Mount1-plag2-36	Rim - close to crack	63.7	0.1	22.8	0.2	0.0	3.7	8.2	1.6	0.1	0.0	100.5	18	72	9
grain3-1	Rim	62.4	0.0	23.9	0.2	0.0	4.9	7.9	1.2	0.0	0.0	100.4	24	69	7
grain3-2	Rim	62.5	0.1	23.7	0.2	0.0	4.9	7.9	1.2	0.0	0.0	100.5	24	69	7
grain3-3	Rim	62.4	0.1	23.6	0.2	0.0	5.0	8.0	1.2	0.0	0.0	100.4	24	69	7
grain3-4	Middle	62.3	0.0	23.9	0.2	0.0	5.0	8.0	1.1	0.0	0.0	100.6	24	69	7
grain3-5	Middle	62.4	0.1	23.7	0.2	0.0	4.8	8.0	1.2	0.0	0.0	100.3	23	70	7
grain3-6	Middle	62.2	0.1	23.7	0.2	0.0	5.0	8.0	1.1	0.0	0.0	100.4	24	70	6
grain3-7	Middle	62.3	0.0	23.9	0.2	0.0	5.1	7.9	1.1	0.0	0.0	100.7	24	69	7
grain3-8	Middle	62.2	0.1	23.8	0.2	0.0	5.1	8.0	1.1	0.0	0.0	100.5	24	69	6
grain3-9	Middle	62.9	0.0	23.5	0.2	0.0	4.8	8.1	1.2	0.0	0.0	100.8	23	70	7
grain3-10	Middle	62.6	0.0	23.7	0.2	0.0	4.8	8.1	1.2	0.0	0.0	100.6	23	70	7
grain3-11	Middle	62.5	0.0	23.7	0.2	0.0	5.0	8.0	1.2	0.1	0.0	100.6	24	69	7
grain3-12	Middle	62.3	0.1	23.7	0.2	0.0	4.9	7.9	1.2	0.0	0.1	100.4	24	69	7
grain3-13	Core	62.2	0.0	23.7	0.2	0.0	4.9	8.0	1.2	0.0	0.0	100.2	24	70	7
grain3-14	Core	62.2	0.1	23.8	0.2	0.0	5.1	7.9	1.1	0.0	0.0	100.4	24	69	7
grain3-15	Core	62.5	0.1	23.7	0.2	0.0	4.8	7.9	1.1	0.0	0.0	100.3	23	70	7
grain3-16	Core	62.5	0.0	23.7	0.2	0.0	4.9	8.0	1.2	0.0	0.0	100.5	24	70	7
grain3-17	Core	62.4	0.0	23.7	0.2	0.0	4.8	8.1	1.2	0.0	0.0	100.4	23	70	7
grain3-18	Core	62.2	0.1	23.8	0.2	0.0	5.0	8.0	1.2	0.0	0.0	100.4	24	69	7
grain3-19	Core	62.4	0.1	23.7	0.2	0.0	4.9	8.0	1.2	0.0	0.0	100.6	24	70	7
grain3-20	Core	62.3	0.1	23.8	0.2	0.0	4.9	8.1	1.2	0.0	0.0	100.6	23	70	7
grain3-21	Core	63.0	0.0	23.3	0.2	0.0	4.5	8.0	1.3	0.0	0.0	100.3	22	71	7
grain3-22	Core	62.8	0.1	23.6	0.2	0.0	4.8	8.1	1.2	0.0	0.0	101.0	23	70	7
grain3-23	Core	62.9	0.0	23.3	0.2	0.0	4.4	8.3	1.4	0.0	0.0	100.4	21	71	8
grain3-24	Core	62.6	0.0	23.7	0.2	0.0	4.7	8.2	1.2	0.0	0.0	100.5	22	71	7
grain3-25	Core	62.8	0.0	23.4	0.2	0.0	4.7	8.1	1.3	0.0	0.0	100.5	22	70	7
grain3-26	Core	62.8	0.1	23.5	0.2	0.0	4.7	8.3	1.2	0.0	0.0	100.6	22	71	7
grain3-27	Core	62.8	0.0	23.5	0.2	0.0	4.5	8.2	1.3	0.0	0.0	100.6	22	71	7
grain3-28	Core	62.9	0.1	23.0	0.2	0.0	4.5	8.0	1.3	0.0	0.0	100.0	22	71	8
grain3-29	Core	62.8	0.0	23.2	0.2	0.0	4.4	8.2	1.3	0.1	0.0	100.1	21	71	8
grain3-30	Core	62.8	0.1	23.3	0.2	0.0	4.4	8.2	1.3	0.0	0.0	100.3	21	71	8
grain3-31	Core	62.9	0.0	23.5	0.2	0.0	4.6	8.0	1.3	0.0	0.0	100.6	22	70	7
grain3-32	Core	63.1	0.0	23.3	0.2	0.0	4.5	8.1	1.3	0.1	0.0	100.6	22	71	8
grain3-33	Core	63.3	0.0	23.1	0.2	0.0	4.3	8.2	1.4	0.0	0.0	100.4	21	72	8
grain3-34	Core	63.1	0.0	23.1	0.2	0.0	4.2	8.2	1.4	0.0	0.0	100.3	20	72	8
grain3-35	Core	63.3	0.0	23.0	0.2	0.0	4.2	8.4	1.4	0.0	0.0	100.5	20	72	8
grain3-36	Core	63.4	0.0	22.9	0.2	0.0	4.0	8.3	1.5	0.0	0.0	100.1	19	72	8
grain3-37	Core	63.8	0.0	22.4	0.2	0.0	3.6	8.4	1.6	0.0	0.0	100.0	17	73	9
grain3-38	Core	63.3	0.0	23.1	0.2	0.0	4.1	8.3	1.5	0.0	0.0	100.5	20	72	8
grain3-39	Core	63.6	0.0	22.8	0.2	0.0	3.9	8.3	1.5	0.0	0.0	100.3	19	72	9
grain3-40	Core	63.3	0.0	23.0	0.2	0.0	4.1	8.3	1.5	0.0	0.0	100.4	20	72	9
grain3-41	Core - close to crack	63.3	0.0	23.0	0.2	0.0	4.0	8.2	1.5	0.0	0.0	100.3	19	72	9
grain3-42	Core - close to crack	62.9	0.1	23.1	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.1	21	70	9
grain3-43	Core - close to crack	63.4	0.1	22.6	0.2	0.0	4.0	8.1	1.6	0.0	0.0	100.0	19	71	9
grain3-44	Core	63.0	0.0	23.2	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.2	20	71	8
grain3-45	Core	63.3	0.1	22.8	0.2	0.0	4.0	8.2	1.5	0.0	0.0	100.0	19	72	9
grain3-46	Middle	63.2	0.0	23.1	0.2	0.0	4.1	8.1	1.5	0.1	0.0	100.4	20	71	9
grain3-47	Middle	62.8	0.0	23.2	0.2	0.0	4.2	8.3	1.5	0.0	0.0	100.3	20	72	9
grain3-48	Middle	63.7	0.1	22.9	0.2	0.0	3.9	8.1	1.6	0.0	0.0	100.4	19	72	9
grain3-49	Middle	64.5	0.0	22.4	0.2	0.0	3.3	8.4	1.9	0.0	0.0	100.6	16	73	11
grain3-50	Middle	63.9	0.0	22.8	0.2	0.0	3.8	8.2	1.7	0.0	0.0	100.6	18	72	10

Table A1.6: continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
grain3-51	Middle	63.8	0.0	22.8	0.2	0.0	3.9	8.1	1.6	0.0	0.0	100.5	19	72	9
grain3-52	Middle	63.7	0.0	22.9	0.2	0.0	4.0	8.2	1.6	0.0	0.0	100.5	19	72	9
grain3-53	Rim	63.8	0.0	22.9	0.2	0.0	4.0	8.1	1.6	0.0	0.0	100.7	19	71	9
Mount1-plag4-1	Rim	62.0	0.1	23.8	0.2	0.0	5.1	7.9	1.1	0.0	0.0	100.3	25	69	7
Mount1-plag4-2	Middle	61.9	0.1	23.6	0.2	0.0	4.8	7.9	1.2	0.1	0.0	99.8	23	70	7
Mount1-plag4-3	Middle	61.8	0.1	23.7	0.2	0.0	5.0	8.0	1.2	0.0	0.0	100.0	24	70	7
Mount1-plag4-4	Core	62.0	0.0	23.8	0.2	0.0	4.9	7.9	1.2	0.0	0.0	100.0	24	69	7
Mount1-plag4-5	Core	61.9	0.0	23.6	0.2	0.0	4.9	8.0	1.2	0.0	0.0	99.9	24	70	7
Mount1-plag4-6	Core	62.2	0.0	23.6	0.2	0.0	4.9	8.0	1.2	0.0	0.0	100.1	24	69	7
Mount1-plag4-7	Core	62.0	0.0	23.6	0.2	0.0	4.9	8.0	1.2	0.0	0.0	100.0	23	70	7
Mount1-plag4-8	Core	61.9	0.0	23.6	0.2	0.0	4.8	8.1	1.2	0.1	0.0	100.0	23	70	7
Mount1-plag4-9	Core	62.1	0.1	23.6	0.2	0.0	4.8	8.1	1.2	0.0	0.0	100.1	23	70	7
Mount1-plag4-10	Core	62.3	0.0	23.6	0.2	0.0	4.8	8.0	1.3	0.0	0.0	100.2	23	70	7
Mount1-plag4-11	Core	62.3	0.0	23.5	0.2	0.0	4.8	8.0	1.3	0.0	0.0	100.1	23	70	7
Mount1-plag4-12	Core	62.0	0.0	23.4	0.2	0.0	4.6	8.0	1.3	0.0	0.0	99.7	22	70	8
Mount1-plag4-13	Core	62.6	0.1	23.3	0.3	0.0	4.6	8.0	1.3	0.0	0.0	100.1	22	70	8
Mount1-plag4-14	Core	62.5	0.0	23.4	0.2	0.0	4.6	8.0	1.3	0.0	0.0	100.1	22	70	8
Mount1-plag4-15	Core	62.3	0.1	23.1	0.2	0.0	4.7	8.1	1.3	0.0	0.0	99.7	22	70	7
Mount1-plag4-16	Core	62.6	0.1	23.5	0.2	0.0	4.8	8.0	1.3	0.0	0.0	100.5	23	70	7
Mount1-plag4-17	Core	62.5	0.0	23.5	0.2	0.0	4.6	8.0	1.3	0.0	0.0	100.3	22	70	8
Mount1-plag4-18	Core	62.6	0.0	23.2	0.2	0.0	4.7	8.0	1.3	0.0	0.0	100.0	23	70	7
Mount1-plag4-19	Core	62.3	0.0	23.5	0.2	0.0	4.7	8.0	1.3	0.0	0.0	100.1	23	70	7
Mount1-plag4-20	Core	62.4	0.0	23.2	0.2	0.0	4.7	8.1	1.3	0.1	0.0	100.0	23	70	7
Mount1-plag4-21	Core	62.5	0.0	23.5	0.2	0.0	4.7	8.0	1.3	0.0	0.0	100.2	23	70	7
Mount1-plag4-22	Core	62.7	0.0	23.4	0.2	0.0	4.6	8.0	1.3	0.0	0.0	100.1	22	70	8
Mount1-plag4-23	Core	62.7	0.0	23.3	0.2	0.0	4.6	8.1	1.3	0.0	0.0	100.2	22	70	8
Mount1-plag4-24	Core	62.7	0.0	23.5	0.2	0.0	4.6	8.1	1.3	0.0	0.0	100.5	22	70	8
Mount1-plag4-25	Core	62.7	0.0	23.4	0.2	0.0	4.6	8.0	1.3	0.1	0.0	100.3	22	70	8
Mount1-plag4-26	Core	62.8	0.1	23.5	0.2	0.0	4.6	8.1	1.3	0.1	0.0	100.5	22	70	8
Mount1-plag4-27	Core	62.7	0.0	23.2	0.2	0.0	4.7	7.9	1.3	0.0	0.0	100.0	23	70	8
Mount1-plag4-28	Core	62.4	0.0	23.4	0.2	0.0	4.6	8.0	1.3	0.0	0.0	99.9	22	70	7
Mount1-plag4-29	Core	62.7	0.1	23.4	0.2	0.0	4.4	8.1	1.4	0.0	0.0	100.2	21	71	8
Mount1-plag4-30	Core	62.6	0.0	23.1	0.2	0.0	4.5	8.0	1.4	0.0	0.0	99.7	22	70	8
Mount1-plag4-31	Core	62.6	0.0	23.1	0.2	0.0	4.4	8.0	1.4	0.0	0.0	99.7	22	70	8
Mount1-plag4-32	Core	62.9	0.0	23.4	0.2	0.0	4.5	8.0	1.4	0.0	0.0	100.3	22	70	8
Mount1-plag4-33	Core	62.8	0.1	23.1	0.2	0.0	4.3	8.0	1.4	0.0	0.0	99.9	21	71	8
Mount1-plag4-34	Core	63.1	0.0	23.3	0.2	0.0	4.5	8.0	1.4	0.0	0.0	100.5	22	71	8
Mount1-plag4-35	Core	62.8	0.0	23.1	0.2	0.0	4.4	8.2	1.4	0.0	0.0	100.0	21	71	8
Mount1-plag4-36	Core	62.9	0.0	23.3	0.2	0.0	4.5	8.2	1.3	0.0	0.0	100.4	21	71	8
Mount1-plag4-37	Core	62.9	0.0	23.2	0.2	0.0	4.5	8.0	1.3	0.0	0.0	100.1	22	71	8
Mount1-plag4-38	Core	62.8	0.1	23.4	0.2	0.0	4.4	8.0	1.4	0.0	0.0	100.3	21	70	8
Mount1-plag4-39	Core	62.4	0.0	23.4	0.2	0.0	4.4	8.2	1.4	0.0	0.0	99.9	21	71	8
Mount1-plag4-40	Core	62.6	0.0	23.4	0.2	0.0	4.6	8.0	1.3	0.0	0.0	100.2	22	70	8
Mount1-plag4-41	Core	62.8	0.0	23.4	0.2	0.0	4.6	8.0	1.3	0.0	0.0	100.4	22	70	8
Mount1-plag4-42	Core	62.9	0.0	23.1	0.2	0.0	4.4	8.1	1.4	0.0	0.0	100.2	21	71	8
Mount1-plag4-43	Core	62.9	0.0	23.2	0.2	0.0	4.2	8.0	1.4	0.0	0.0	100.1	21	71	8
Mount1-plag4-44	Core	62.7	0.1	23.0	0.2	0.0	4.3	8.1	1.5	0.0	0.0	99.8	21	71	8
Mount1-plag4-45	Core	62.8	0.0	23.1	0.2	0.0	4.3	8.1	1.4	0.0	0.0	99.9	21	71	8
Mount1-plag4-46	Core	62.7	0.0	23.1	0.2	0.0	4.3	8.1	1.4	0.0	0.0	99.9	21	71	8
Mount1-plag4-47	Core	62.8	0.1	23.2	0.2	0.0	4.4	8.2	1.4	0.0	0.0	100.3	21	71	8
Mount1-plag4-48	Core	62.5	0.0	23.2	0.2	0.0	4.4	8.1	1.4	0.0	0.0	99.8	21	71	8
Mount1-plag4-49	Core	62.7	0.0	23.3	0.2	0.0	4.5	8.1	1.4	0.0	0.0	100.2	22	70	8
Mount1-plag4-50	Core	62.5	0.0	23.4	0.3	0.0	4.4	8.1	1.4	0.0	0.0	100.1	21	71	8
Mount1-plag4-51	Core	62.9	0.0	23.1	0.2	0.0	4.3	8.1	1.4	0.0	0.0	100.0	21	71	8
Mount1-plag4-52	Core	63.0	0.0	23.2	0.2	0.0	4.3	8.2	1.4	0.0	0.0	100.3	21	71	8
Mount1-plag4-53	Core	63.0	0.0	23.1	0.2	0.0	4.3	8.1	1.4	0.0	0.0	100.1	21	71	8
Mount1-plag4-54	Core	63.1	0.1	23.2	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.4	21	71	8
Mount1-plag4-55	Core	63.0	0.0	23.4	0.2	0.0	4.3	8.3	1.4	0.0	0.0	100.7	21	71	8
Mount1-plag4-56	Core	62.8	0.0	23.4	0.2	0.0	4.3	8.2	1.4	0.0	0.0	100.4	21	71	8
Mount1-plag4-57	Core	63.0	0.1	23.0	0.2	0.0	4.3	8.2	1.5	0.0	0.0	100.3	20	71	9
Mount1-plag4-58	Middle	62.9	0.0	23.1	0.2	0.0	4.4	8.0	1.5	0.0	0.0	100.1	21	71	8
Mount1-plag4-59	Middle	63.3	0.0	23.3	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.5	20	71	8
Mount1-plag4-60	Middle	63.1	0.1	23.1	0.2	0.0	4.3	8.2	1.4	0.0	0.0	100.3	21	71	8
Mount1-plag4-61	Middle	63.3	0.1	23.2	0.2	0.0	4.3	8.2	1.5	0.0	0.0	100.7	21	71	9
Mount1-plag4-62	Middle	63.3	0.0	23.2	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.6	21	71	8
grain8-1	Rim	62.9	0.1	23.2	0.2	0.0	4.4	8.4	1.3	0.0	0.0	100.5	21	72	8
grain8-2	Rim	62.7	0.0	23.0	0.2	0.0	4.1	8.3	1.4	0.0	0.0	99.9	20	72	8
grain8-3	Middle	62.5	0.1	23.2	0.2	0.0	4.6	8.1	1.3	0.0	0.0	100.0	22	71	8
grain8-4	Middle	62.5	0.0	23.4	0.2	0.0	4.6	8.2	1.3	0.0	0.0	100.2	22	71	7
grain8-5	Middle	62.4	0.1	23.4	0.2	0.0	4.6	8.2	1.3	0.0	0.0	100.2	22	71	7
grain8-6	Middle	62.3	0.0	23.2	0.2	0.0	4.6	8.2	1.3	0.0	0.0	99.9	22	71	7
grain8-7	Core	62.1	0.0	23.5	0.2	0.0	4.7	8.1	1.2	0.0	0.0	99.8	23	71	7
grain8-8	Core	62.2	0.0	23.3	0.2	0.0	4.7	8.1	1.2	0.0	0.0	99.8	23	71	7
grain8-9	Core	61.8	0.0	23.5	0.2	0.0	4.8	8.0	1.1	0.0	0.0	99.5	23	70	7
grain8-10	Core	61.7	0.1	23.6	0.2	0.0	4.9	8.0	1.1	0.0	0.0	99.6	24	70	6
grain8-11	Core	61.7	0.1	23.8	0.2	0.0	5.0	8.1	1.1	0.0	0.0	100.0	24	70	6
grain8-12	Core	62.0	0.1	23.8	0.2	0.0	5.1	8.0	1.1	0.1	0.0	100.3	25	69	6
grain8-13	Core	61.7	0.1	23.7	0.2	0.0	5.1	7.9	1.1	0.0	0.0	99.8	25	69	6
grain8-14	Core	61.6	0.0	23.8	0.2	0.0	5.1	7.9	1.0	0.0	0.0	99.8	25	69	6
grain8-15	Core	61.8	0.0	23.7	0.2	0.0	5.2	8.0	1.1	0.1	0.0	100.1	25	69	6
grain8-16	Core	61.9	0.0	23.7	0.2	0.0	5.0	7.9	1.1	0.0	0.0	99.9	24	69	6
grain8-17	Core	62.0	0.0	23.5	0.2	0.0	5.1	7.9	1.0	0.0	0.0	99.8	25	69	6
grain8-18	Core	61.9	0.1	23.6	0.2	0.0	5.0	8.0	1.1	0.0	0.0	99.9	24	70	6
grain8-19	Core	62.1	0.0	23.6	0.2	0.0	5.1	8.1	1.0	0.0	0.0	100.2	24	70	6
grain8-20	Core	62.0	0.0	23.8	0.2	0.0	5.1	7.9	1.0	0.0	0.0	100.2	25	69	6

Table A1.6: continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
grain8-21	Core	62.2	0.1	23.7	0.2	0.0	5.2	7.9	1.0	0.0	0.0	100.2	25	69	6
grain8-22	Core	61.9	0.0	23.9	0.2	0.0	5.2	7.9	1.0	0.0	0.0	100.3	25	69	6
grain8-23	Core	62.2	0.1	23.9	0.2	0.0	5.2	7.9	1.0	0.1	0.0	100.6	25	69	6
grain8-24	Core	62.3	0.0	23.9	0.2	0.0	5.2	8.0	1.0	0.0	0.0	100.6	25	69	6
grain8-25	Core	61.9	0.1	23.8	0.2	0.0	5.1	8.0	1.0	0.0	0.1	100.0	24	70	6
grain8-26	Core	62.2	0.0	23.8	0.2	0.0	5.1	7.9	1.0	0.0	0.0	100.3	25	70	6
grain8-27	Core	61.8	0.1	23.7	0.2	0.0	5.1	8.0	1.0	0.1	0.0	100.0	24	70	6
grain8-28	Core	61.9	0.1	23.6	0.2	0.0	5.0	8.0	1.1	0.0	0.0	99.8	24	70	6
grain8-29	Core	62.3	0.0	23.7	0.2	0.0	4.9	8.1	1.1	0.0	0.0	100.4	24	70	6
grain8-30	Core	61.9	0.0	23.6	0.2	0.0	5.0	8.0	1.0	0.1	0.0	99.7	24	70	6
grain8-31	Core	62.0	0.1	23.6	0.2	0.0	5.1	8.0	1.0	0.0	0.0	100.0	24	70	6
grain8-32	Core	62.3	0.0	23.6	0.2	0.0	4.8	7.9	1.1	0.0	0.0	100.0	24	70	6
grain8-33	Core	62.6	0.0	23.3	0.2	0.0	4.5	8.3	1.2	0.0	0.0	100.1	21	72	7
grain8-34	Core	62.2	0.0	23.9	0.2	0.0	5.0	8.0	1.1	0.0	0.0	100.5	24	69	6
grain8-35	Core	62.1	0.1	23.8	0.2	0.0	5.0	8.0	1.1	0.1	0.0	100.4	24	69	6
grain8-36	Core	62.0	0.1	23.6	0.2	0.0	5.0	8.0	1.1	0.0	0.1	100.0	24	70	6
grain8-37	Core	61.9	0.0	23.6	0.2	0.0	5.0	8.0	1.1	0.0	0.0	99.9	24	69	6
grain8-38	Core	61.7	0.1	23.9	0.2	0.0	5.0	8.0	1.1	0.0	0.0	100.0	24	70	6
grain8-39	Core	61.7	0.1	23.9	0.2	0.0	5.1	8.0	1.0	0.0	0.0	100.0	24	70	6
grain8-40	Core	61.8	0.0	23.9	0.2	0.0	5.2	8.0	1.1	0.0	0.0	100.2	25	69	6
grain8-41	Core	61.8	0.1	23.8	0.2	0.0	5.1	7.9	1.1	0.0	0.0	100.1	25	69	6
grain8-42	Core	61.7	0.0	23.9	0.3	0.0	5.2	8.0	1.0	0.0	0.0	100.1	25	69	6
grain8-43	Middle	61.5	0.1	23.8	0.2	0.0	5.3	7.8	1.0	0.1	0.0	99.8	26	68	6
grain8-44	Middle	61.5	0.0	24.0	0.2	0.0	5.2	8.0	1.1	0.0	0.0	100.0	25	69	6
grain8-45	Middle	61.6	0.0	23.6	0.2	0.0	5.2	7.8	1.0	0.0	0.0	99.5	25	69	6
grain8-46	Middle	62.0	0.1	23.7	0.2	0.0	5.2	7.8	1.1	0.0	0.0	100.1	25	68	6
grain8-47	Rim	61.9	0.0	23.8	0.2	0.0	5.3	7.9	1.1	0.1	0.0	100.3	25	69	6
grain8-48	Rim	61.9	0.1	23.8	0.2	0.0	5.1	7.9	1.1	0.0	0.0	100.1	25	69	6
grain8-49	Rim	61.3	0.1	24.1	0.3	0.0	5.2	7.9	1.0	0.0	0.0	99.9	25	69	6
grain8-50	Rim	61.4	0.1	24.1	0.5	0.0	5.3	8.0	1.1	0.0	0.0	100.5	25	69	6
MFT-plag8 - 1	Rim	63.2	0.0	22.5	0.2	0.0	3.7	8.2	1.7	0.0	0.0	99.6	18	72	10
MFT-plag8 - 2	Rim	62.8	0.1	22.9	0.2	0.0	4.0	8.1	1.7	0.0	0.0	99.7	19	71	10
MFT-plag8 - 3	Middle	63.0	0.0	22.6	0.1	0.0	3.7	8.1	1.7	0.0	0.0	99.3	18	72	10
MFT-plag8 - 4	Middle	62.9	0.0	23.1	0.2	0.0	4.0	8.0	1.6	0.0	0.0	99.8	20	71	9
MFT-plag8 - 5	Core	62.4	0.0	22.9	0.2	0.0	4.1	8.0	1.6	0.0	0.0	99.2	20	71	9
MFT-plag8 - 6	Core	62.8	0.0	22.9	0.1	0.0	3.9	8.0	1.6	0.1	0.0	99.5	19	71	10
MFT-plag8 - 7	Core	62.6	0.0	23.1	0.2	0.0	4.1	7.9	1.6	0.0	0.0	99.4	20	71	9
MFT-plag8 - 8	Core	62.4	0.0	23.3	0.2	0.0	4.2	8.0	1.5	0.0	0.0	99.6	20	71	9
MFT-plag8 - 9	Core	62.6	0.0	22.9	0.2	0.0	4.1	7.8	1.5	0.0	0.0	99.2	21	70	9
MFT-plag8 - 10	Core	62.3	0.0	23.1	0.2	0.0	4.2	7.8	1.5	0.1	0.0	99.2	21	70	9
MFT-plag8 - 11	Core	62.5	0.0	22.9	0.2	0.0	4.3	7.9	1.5	0.0	0.0	99.3	21	70	9
MFT-plag8 - 12	Core	62.2	0.0	22.9	0.2	0.0	4.3	7.8	1.5	0.0	0.0	98.9	21	70	9
MFT-plag8 - 13	Core	62.3	0.0	23.3	0.2	0.0	4.3	7.8	1.4	0.1	0.0	99.4	22	70	8
MFT-plag8 - 14	Core	62.0	0.1	23.3	0.2	0.0	4.4	7.7	1.4	0.0	0.0	99.0	22	70	8
MFT-plag8 - 15	Core	62.0	0.1	23.1	0.2	0.0	4.4	7.8	1.4	0.0	0.0	99.0	22	70	8
MFT-plag8 - 16	Core	62.3	0.0	23.2	0.2	0.0	4.3	7.9	1.4	0.0	0.0	99.3	21	71	8
MFT-plag8 - 17	Core	62.0	0.1	23.2	0.2	0.0	4.4	7.8	1.3	0.0	0.0	99.1	22	70	8
MFT-plag8 - 18	Core	62.0	0.1	23.4	0.2	0.0	4.4	7.9	1.3	0.0	0.0	99.2	22	70	8
MFT-plag8 - 19	Core	61.8	0.1	23.5	0.2	0.0	4.6	7.9	1.3	0.0	0.0	99.3	23	70	8
MFT-plag8 - 20	Core	61.6	0.1	23.4	0.2	0.0	4.7	7.8	1.3	0.0	0.0	99.0	23	70	7
MFT-plag8 - 21	Core	61.4	0.0	23.2	0.2	0.0	4.7	7.8	1.2	0.0	0.1	98.7	23	70	7
MFT-plag8 - 22	Core	61.4	0.0	23.5	0.2	0.0	4.7	7.8	1.2	0.0	0.0	99.0	23	70	7
MFT-plag8 - 23	Core	61.4	0.0	23.6	0.2	0.0	4.7	7.7	1.2	0.0	0.0	98.8	23	69	7
MFT-plag8 - 24	Core	61.3	0.0	23.5	0.2	0.0	4.9	7.9	1.2	0.0	0.0	99.0	24	70	7
MFT-plag8 - 25	Core	61.6	0.0	23.7	0.2	0.0	5.1	7.8	1.1	0.0	0.0	99.6	25	69	7
MFT-plag8 - 26	Core	61.5	0.0	23.9	0.2	0.0	4.9	7.7	1.1	0.1	0.0	99.6	24	69	7
MFT-plag8 - 27	Core	61.5	0.1	23.8	0.2	0.0	5.0	7.7	1.1	0.0	0.0	99.4	25	69	6
MFT-plag8 - 28	Core	61.4	0.0	23.8	0.2	0.0	4.9	7.8	1.1	0.0	0.0	99.3	24	69	6
MFT-plag8 - 29	Core	61.5	0.0	23.8	0.2	0.0	5.0	7.6	1.1	0.0	0.0	99.4	25	69	6
MFT-plag8 - 30	Core	61.0	0.0	23.9	0.2	0.0	5.3	7.7	1.0	0.1	0.0	99.2	26	68	6
MFT-plag8 - 31	Core	61.7	0.1	23.6	0.2	0.0	4.9	7.8	1.2	0.0	0.0	99.4	24	69	7
MFT-plag8 - 32	Core	61.5	0.1	23.3	0.2	0.0	4.8	7.8	1.1	0.1	0.0	98.8	24	70	7
MFT-plag8 - 33	Core	61.4	0.1	23.9	0.2	0.0	4.8	7.7	1.2	0.0	0.0	99.3	24	69	7
MFT-plag8 - 34	Core	61.5	0.1	23.7	0.2	0.0	4.7	7.6	1.2	0.1	0.0	99.0	24	69	7
MFT-plag8 - 35	Core	61.4	0.0	23.4	0.2	0.0	4.9	7.6	1.1	0.0	0.0	98.6	25	69	7
MFT-plag8 - 36	Core	61.4	0.1	23.4	0.2	0.0	4.8	7.7	1.1	0.0	0.1	98.7	24	69	7
MFT-plag8 - 37	Core	61.5	0.0	23.4	0.2	0.0	4.9	7.5	1.1	0.0	0.0	98.7	24	69	7
MFT-plag8 - 38	Core	61.5	0.0	23.6	0.3	0.0	4.9	7.5	1.1	0.1	0.0	99.0	25	69	7
MFT-plag8 - 39	Core	61.2	0.1	23.4	0.2	0.0	4.8	7.5	1.1	0.1	0.1	98.5	24	69	7
MFT-plag8 - 40	Core	60.8	0.1	23.7	0.2	0.0	5.2	7.5	1.0	0.0	0.0	98.6	26	68	6
MFT-plag8 - 41	Core	60.9	0.1	23.6	0.2	0.0	5.1	7.4	1.1	0.1	0.0	98.5	26	68	6
MFT-plag8 - 42	Core	61.3	0.0	23.3	0.2	0.0	4.9	7.6	1.1	0.1	0.0	98.5	24	69	7
MFT-plag8 - 43	Core - close to crack	61.0	0.1	23.5	0.2	0.0	4.9	7.5	1.1	0.0	0.0	98.3	25	69	7
MFT-plag8 - 44	Core - close to crack	61.0	0.1	23.6	0.2	0.0	5.0	7.6	1.1	0.1	0.0	98.7	25	68	7
MFT-plag8 - 45	Core - close to crack	60.8	0.0	23.5	0.2	0.0	5.0	7.6	1.1	0.1	0.0	98.4	25	69	7
MFT-plag8 - 46	Core - close to crack	61.7	0.0	23.3	0.2	0.0	4.6	7.7	1.2	0.1	0.0	98.7	23	70	7
MFT-plag8 - 47	Core - close to crack	60.9	0.0	24.0	0.2	0.0	5.2	7.5	1.1	0.0	0.0	98.9	26	68	6
MFT-plag8 - 48	Core - close to crack	60.8	0.1	24.2	0.2	0.0	5.4	7.5	1.0	0.0	0.0	99.2	27	67	6
MFT-plag8 - 49	Core - close to crack	60.7	0.1	23.9	0.2	0.0	5.3	7.5	1.0	0.1	0.0	98.7	26	68	6
MFT-plag8 - 50	Core	61.3	0.0	23.4	0.2	0.0	4.8	7.7	1.1	0.1	0.0	98.7	24	69	7
MFT-plag8 - 51	Core	61.3	0.0	23.8	0.2	0.0	5.2	7.6	1.1	0.0	0.0	99.2	26	68	6
MFT-plag8 - 52	Core	61.4	0.0	23.3	0.2	0.0	4.9	7.7	1.2	0.0	0.0	98.7	24	69	7
MFT-plag8 - 53	Core	62.0	0.1	23.5	0.2	0.0	4.7	7.9	1.2	0.0	0.0	99.4	23	70	7
MFT-plag8 - 54	Core	61.7	0.1	23.0	0.2	0.0	4.5	7.9	1.3	0.0	0.0	98.7	22	70	8
MFT-plag8 - 55	Core	62.4	0.0	23.0	0.2	0.0	4.5	7.9	1.4	0.0	0.0	99.3	22	70	8

Table A1.6: continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
MFT-plag8 - 56	Core	62.3	0.0	22.8	0.2	0.0	4.5	7.8	1.3	0.0	0.0	98.9	22	70	8
MFT-plag8 - 57	Core	62.1	0.0	22.9	0.2	0.0	4.5	7.7	1.3	0.0	0.0	98.7	23	70	8
MFT-plag8 - 58	Core	61.9	0.0	22.8	0.2	0.0	4.4	7.8	1.4	0.0	0.0	98.6	22	70	8
MFT-plag8 - 59	Core	61.9	0.1	23.1	0.2	0.0	4.6	7.7	1.3	0.1	0.0	98.9	23	69	8
MFT-plag8 - 60	Core	62.0	0.0	23.1	0.2	0.0	4.7	7.7	1.3	0.1	0.0	99.2	23	69	8
MFT-plag8 - 61	Rim	62.1	0.0	23.2	0.2	0.0	4.5	7.7	1.3	0.0	0.0	99.0	22	70	8
grain9-1	Rim	62.7	0.0	23.0	0.2	0.0	4.5	8.1	1.3	0.0	0.0	99.9	22	71	7
grain9-2	Rim	63.3	0.0	22.8	0.2	0.0	3.9	8.3	1.6	0.0	0.0	100.1	19	72	9
grain9-3	Middle	63.4	0.0	22.9	0.2	0.0	4.2	8.2	1.6	0.0	0.0	100.4	20	71	9
grain9-4	Middle	62.8	0.0	23.2	0.2	0.0	4.5	8.2	1.4	0.0	0.0	100.3	21	71	8
grain9-5	Middle	62.8	0.1	23.1	0.2	0.0	4.4	8.3	1.4	0.0	0.0	100.2	21	71	8
grain9-6	Middle	62.7	0.0	22.8	0.2	0.0	4.3	8.2	1.5	0.1	0.0	99.8	21	71	8
grain9-7	Middle	62.7	0.0	23.2	0.2	0.0	4.5	8.2	1.4	0.0	0.0	100.2	21	71	8
grain9-8	Core	62.6	0.1	23.1	0.2	0.0	4.3	8.2	1.4	0.1	0.0	99.9	21	71	8
grain9-9	Core	62.7	0.1	22.8	0.2	0.0	4.2	8.3	1.5	0.0	0.0	99.7	20	72	8
grain9-10	Core	62.6	0.1	22.8	0.2	0.0	4.3	8.1	1.4	0.0	0.0	99.5	21	71	8
grain9-11	Core	62.6	0.1	22.9	0.2	0.0	4.2	8.2	1.4	0.0	0.0	99.7	20	72	8
grain9-12	Core	62.4	0.0	23.1	0.2	0.0	4.4	8.1	1.4	0.0	0.0	99.6	21	71	8
grain9-13	Core	62.5	0.1	23.0	0.2	0.0	4.4	8.3	1.4	0.0	0.0	99.9	21	71	8
grain9-14	Core	63.7	0.0	22.9	0.2	0.0	3.9	8.3	1.6	0.0	0.0	100.6	19	72	9
grain9-15	Core	63.7	0.0	22.9	0.2	0.0	4.0	8.4	1.6	0.1	0.0	100.9	19	72	9
grain9-16	Core	63.6	0.0	22.7	0.2	0.0	4.1	8.2	1.6	0.0	0.0	100.3	20	71	9
grain9-17	Core	63.8	0.0	22.6	0.2	0.0	3.7	8.4	1.8	0.0	0.0	100.6	18	72	10
grain9-18	Core	63.5	0.0	22.6	0.2	0.0	4.0	8.3	1.6	0.0	0.0	100.3	19	72	9
grain9-19	Core	63.5	0.0	22.5	0.2	0.0	4.1	8.4	1.6	0.0	0.0	100.3	19	72	9
grain9-20	Core - close to crack	63.1	0.1	22.7	0.2	0.0	4.1	8.4	1.6	0.0	0.0	100.1	19	72	9
grain9-24	Core - close to crack	61.8	1.2	22.2	1.4	0.0	4.1	8.3	1.5	0.1	0.0	100.6	20	72	8
grain9-25	Core - close to crack	63.0	0.1	22.3	0.3	0.0	4.0	8.3	1.6	0.1	0.0	99.6	19	72	9
grain9-26	Core - close to crack	63.7	0.1	22.5	0.2	0.0	4.0	8.4	1.6	0.0	0.0	100.4	19	72	9
grain9-27	Core	62.4	0.1	22.6	0.3	0.0	4.6	8.2	1.3	0.0	0.0	99.6	22	71	8
grain9-28	Middle	62.0	0.1	22.7	0.2	0.0	4.6	8.2	1.3	0.0	0.0	99.1	22	71	8
grain9-29	Middle	62.2	0.1	22.8	0.2	0.0	4.6	8.2	1.3	0.0	0.0	99.4	22	71	8
grain9-30	Rim	62.7	0.0	23.2	0.2	0.0	4.5	8.2	1.4	0.0	0.0	100.1	21	71	8
grain9-31	Rim	63.0	0.0	22.8	0.2	0.0	4.4	8.3	1.4	0.0	0.0	100.2	21	71	8
grain9-32	Rim	63.0	0.0	23.0	0.2	0.0	4.4	8.2	1.4	0.0	0.0	100.3	21	71	8
grain9-33	Rim	62.6	0.1	23.2	0.2	0.0	4.4	8.5	1.4	0.0	0.0	100.3	21	72	8
grain10-1	Rim	62.4	0.0	22.8	0.2	0.0	4.4	8.4	1.2	0.0	0.0	99.6	21	72	7
grain10-2	Middle	62.7	0.1	22.5	0.2	0.0	4.0	8.6	1.4	0.0	0.0	99.4	19	74	8
grain10-3	Middle	62.5	0.0	22.4	0.2	0.0	4.5	8.3	1.2	0.0	0.0	99.2	21	72	7
grain10-4	Middle	62.2	0.1	22.7	0.2	0.0	4.4	8.2	1.2	0.0	0.0	99.0	21	72	7
grain10-5	Middle	63.4	0.0	22.8	0.2	0.0	4.3	8.4	1.3	0.0	0.0	100.5	21	72	7
grain10-6	Middle	63.1	0.1	22.7	0.2	0.0	4.3	8.2	1.3	0.0	0.0	99.8	21	72	8
grain10-7	Middle	63.0	0.0	22.8	0.2	0.0	4.6	8.4	1.3	0.0	0.0	100.3	22	71	7
grain10-8	Middle	63.2	0.0	22.7	0.2	0.0	4.3	8.3	1.4	0.0	0.0	100.0	21	72	8
grain10-9	Core	63.0	0.0	22.6	0.2	0.0	4.3	8.3	1.3	0.0	0.0	99.8	20	72	8
grain10-10	Core	62.7	0.0	22.8	0.2	0.0	4.3	8.5	1.3	0.0	0.0	99.9	20	72	7
grain10-11	Core	62.7	0.1	22.7	0.2	0.0	4.3	8.3	1.3	0.0	0.0	99.6	21	72	7
grain10-12	Core	62.7	0.0	22.8	0.2	0.0	4.4	8.3	1.4	0.0	0.0	99.8	21	72	8
grain10-13	Core	62.7	0.0	23.1	0.2	0.0	4.5	8.3	1.3	0.1	0.0	100.1	21	71	7
grain10-14	Core	62.8	0.0	22.5	0.2	0.0	4.3	8.3	1.3	0.0	0.0	99.5	21	72	8
grain10-15	Middle	62.6	0.0	22.7	0.2	0.0	4.2	8.4	1.4	0.0	0.0	99.4	20	72	8
grain10-16	Middle	63.0	0.0	22.6	0.2	0.0	4.2	8.5	1.4	0.0	0.0	100.0	20	72	8
grain10-17	Middle	63.4	0.0	22.1	0.2	0.0	3.7	8.7	1.5	0.0	0.0	99.6	17	74	9
grain10-18	Middle	63.6	0.0	22.0	0.2	0.0	3.8	8.6	1.5	0.0	0.0	99.7	18	74	8
grain10-19	Middle	63.7	0.0	22.0	0.2	0.0	3.8	8.5	1.5	0.0	0.0	99.7	18	73	9
grain10-20	Middle	63.5	0.0	22.1	0.2	0.0	3.8	8.4	1.5	0.0	0.0	99.6	18	73	9
grain10-21	Middle	64.0	0.0	21.7	0.2	0.0	3.5	8.5	1.7	0.0	0.0	99.7	17	74	9
grain10-22	Middle - close to crack	63.5	0.1	21.9	0.2	0.0	3.8	8.5	1.5	0.0	0.0	99.6	18	73	9
grain10-23	Rim - close to crack	63.9	0.0	21.9	0.2	0.0	3.7	8.6	1.6	0.0	0.0	100.1	18	74	9
grain10-24	Rim - close to crack	63.5	0.0	22.3	0.2	0.0	3.9	8.5	1.5	0.0	0.0	99.8	19	73	8
grain10-25	Rim - close to crack	63.2	0.0	22.4	0.2	0.0	4.0	8.3	1.5	0.0	0.0	99.7	19	72	9
grain10-26	Rim - close to crack	63.4	0.0	22.3	0.2	0.0	3.9	8.4	1.5	0.0	0.0	99.7	19	73	9
grain10-27	Rim - close to crack	63.5	0.0	22.1	0.2	0.0	3.6	8.6	1.7	0.1	0.0	99.8	17	73	9
grain10-28	Rim	63.2	0.0	22.2	0.2	0.0	4.0	8.5	1.5	0.0	0.0	99.5	19	73	8
grain10-29	Rim	63.3	0.0	22.3	0.2	0.0	4.1	8.4	1.5	0.0	0.0	99.8	20	72	8
grain12-1	Rim	63.0	0.1	22.6	0.2	0.0	4.1	8.3	1.5	0.0	0.0	99.6	20	72	8
grain12-2	Rim	62.7	0.0	22.8	0.2	0.0	4.3	8.3	1.5	0.0	0.0	99.8	20	71	8
grain12-3	Rim	62.8	0.0	22.9	0.2	0.0	4.4	8.1	1.4	0.0	0.0	99.9	21	71	8
grain12-4	Middle	62.8	0.0	22.8	0.2	0.0	4.4	8.2	1.4	0.0	0.0	99.9	21	71	8
grain12-5	Middle	62.9	0.0	23.1	0.2	0.0	4.4	8.2	1.4	0.0	0.0	100.2	21	71	8
grain12-6	Middle	62.7	0.0	23.1	0.3	0.0	4.7	8.2	1.3	0.0	0.0	100.2	22	70	8
grain12-7	Middle	62.5	0.0	23.0	0.2	0.0	4.6	8.2	1.3	0.0	0.0	99.9	22	70	7
grain12-8	Middle	62.9	0.0	23.0	0.2	0.0	4.4	8.1	1.4	0.0	0.0	100.0	21	71	8
grain12-9	Middle	62.9	0.0	23.1	0.2	0.0	4.5	8.1	1.3	0.0	0.0	100.3	22	71	8
grain12-10	Core	62.9	0.1	23.1	0.2	0.0	4.6	8.2	1.4	0.0	0.0	100.4	22	71	8
grain12-11	Core	62.8	0.0	22.9	0.2	0.0	4.5	8.3	1.4	0.1	0.0	100.2	21	71	8
grain12-12	Core	63.2	0.0	23.0	0.2	0.0	4.3	8.3	1.5	0.0	0.0	100.4	20	71	8
grain12-13	Core	63.2	0.1	22.9	0.2	0.0	4.3	8.2	1.5	0.0	0.0	100.3	20	71	8
grain12-14	Core	63.3	0.1	22.8	0.2	0.0	4.2	8.3	1.5	0.0	0.0	100.4	20	71	9
grain12-15	Core - close to crack	63.6	0.0	22.8	0.2	0.0	4.0	8.3	1.6	0.0	0.0	100.5	19	72	9
grain12-16	Core - close to crack	63.4	0.0	22.7	0.2	0.0	4.0	8.3	1.6	0.0	0.0	100.2	19	71	9
grain12-17	Core - close to crack	63.2	0.0	22.7	0.2	0.0	4.1	8.2	1.6	0.0	0.0	100.0	20	71	9
grain12-18	Core - close to crack	63.7	0.0	22.6	0.2	0.0	3.9	8.3	1.7	0.0	0.0	100.4	19	72	9

Table A1.6: continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
grain12-19	Core - close to crack	62.5	0.0	23.3	0.2	0.0	4.4	8.5	1.4	0.0	0.0	100.4	21	71	8
grain12-20	Core - close to crack	63.2	0.0	22.6	0.2	0.0	4.0	8.4	1.6	0.0	0.0	100.0	19	72	9
grain12-21	Core - close to crack	63.1	0.1	22.6	0.2	0.0	3.9	8.4	1.7	0.0	0.0	99.8	18	72	9
grain12-22	Core - close to crack	62.7	0.0	23.1	0.2	0.0	4.5	8.3	1.3	0.0	0.0	100.1	21	71	8
grain12-23	Core - close to crack	63.2	0.0	22.7	0.2	0.0	4.1	8.3	1.6	0.0	0.0	100.2	20	71	9
grain12-24	Core - close to crack	63.4	0.0	22.8	0.2	0.0	4.0	8.4	1.7	0.0	0.0	100.5	19	72	9
grain12-25	Core - close to crack	60.7	0.0	23.0	0.2	0.0	4.2	8.3	1.6	0.0	0.0	98.0	20	71	9
grain12-26	Core - close to crack	62.7	0.0	22.8	0.2	0.0	4.2	8.4	1.5	0.0	0.0	99.8	20	72	8
grain12-27	Core - close to crack	63.2	0.1	23.0	0.2	0.0	4.4	8.2	1.4	0.0	0.0	100.4	21	71	8
grain12-28	Core - close to crack	62.7	0.1	22.7	0.2	0.0	4.3	8.3	1.4	0.0	0.0	99.8	21	71	8
grain12-29	Core - close to crack	62.4	0.0	23.1	0.2	0.0	4.4	8.3	1.4	0.0	0.0	99.9	21	71	8
grain12-30	Core - close to crack	63.3	0.0	22.7	0.2	0.0	4.2	8.3	1.5	0.0	0.0	100.2	20	71	9
grain12-31	Core	63.2	0.0	22.7	0.2	0.0	4.2	8.2	1.5	0.0	0.0	100.1	20	71	9
grain12-32	Middle	63.0	0.0	22.8	0.2	0.0	4.5	8.2	1.4	0.0	0.0	100.1	21	71	8
grain12-33	Middle	63.4	0.0	22.7	0.2	0.0	4.0	8.3	1.6	0.0	0.0	100.2	19	72	9
grain12-34	Middle	63.3	0.0	22.3	0.2	0.0	3.7	8.5	1.8	0.0	0.0	99.9	17	73	10
grain12-35	Rim	62.5	0.1	22.9	0.2	0.0	4.2	8.5	1.6	0.1	0.0	100.0	19	72	9
grain12-37	Rim	63.1	0.0	22.5	0.2	0.0	3.9	8.4	1.7	0.1	0.0	99.9	18	72	10
grain12-38	Rim	63.2	0.0	22.7	0.2	0.0	4.0	8.2	1.7	0.0	0.0	100.0	19	71	9
grain13-1	Rim	62.8	0.1	22.9	0.2	0.0	4.1	8.4	1.5	0.0	0.0	99.9	19	72	9
grain13-2	Rim	63.0	0.1	22.9	0.2	0.0	4.2	8.3	1.5	0.0	0.0	100.3	20	72	9
grain13-3	Rim	63.1	0.0	22.9	0.2	0.0	4.3	8.2	1.5	0.0	0.0	100.2	20	71	9
grain13-4	Middle	63.1	0.0	22.9	0.2	0.0	4.3	8.3	1.4	0.0	0.0	100.3	20	71	8
grain13-5	Middle	63.2	0.0	22.7	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.0	20	71	9
grain13-6	Middle	63.1	0.1	23.2	0.2	0.0	4.5	8.1	1.5	0.0	0.0	100.5	21	70	8
grain13-7	Middle	63.0	0.0	23.0	0.2	0.0	4.4	8.3	1.5	0.0	0.0	100.5	21	71	8
grain13-8	Middle	62.8	0.1	23.1	0.3	0.0	4.5	8.2	1.5	0.0	0.0	100.4	21	70	8
grain13-9	Core	63.1	0.0	22.6	0.2	0.0	4.2	8.3	1.5	0.0	0.0	100.0	20	71	9
grain13-10	Core	63.0	0.1	22.9	0.2	0.0	4.4	8.2	1.5	0.1	0.0	100.3	21	70	8
grain13-11	Core	63.1	0.0	22.6	0.2	0.0	4.3	8.2	1.5	0.0	0.0	100.0	20	71	9
grain13-12	Core	63.2	0.1	22.7	0.2	0.0	4.2	8.3	1.6	0.1	0.0	100.3	20	71	9
grain13-13	Core	63.2	0.1	22.8	0.2	0.0	4.0	8.2	1.6	0.0	0.0	100.1	19	72	9
grain13-14	Core	62.9	0.0	22.8	0.2	0.0	4.3	8.2	1.5	0.0	0.0	99.9	21	71	8
grain13-15	Core	63.0	0.0	22.7	0.2	0.0	4.3	8.3	1.5	0.0	0.0	100.1	20	71	9
grain13-16	Core	63.1	0.0	22.8	0.2	0.0	4.5	8.0	1.5	0.1	0.0	100.2	21	70	9
grain13-17	Core	63.0	0.0	22.9	0.2	0.0	4.4	8.3	1.5	0.0	0.0	100.4	21	71	8
grain13-18	Core	62.7	0.1	23.1	0.2	0.0	4.4	8.3	1.4	0.0	0.0	100.1	21	71	8
grain13-19	Core	63.1	0.0	23.1	0.2	0.0	4.3	8.1	1.5	0.1	0.0	100.5	21	71	9
grain13-20	Core	62.7	0.0	23.0	0.2	0.0	4.3	8.2	1.5	0.1	0.0	100.0	21	71	9
grain13-21	Core	63.1	0.1	23.2	0.2	0.0	4.4	8.3	1.5	0.1	0.0	100.8	21	71	8
grain13-22	Core	62.7	0.0	23.0	0.2	0.0	4.5	8.2	1.5	0.1	0.0	100.3	21	70	8
grain13-23	Core	62.8	0.0	22.9	0.3	0.0	4.5	8.2	1.5	0.1	0.0	100.1	21	70	8
grain13-24	Core	63.3	0.0	22.6	0.2	0.0	4.3	8.1	1.6	0.1	0.0	100.2	21	71	9
grain13-25	Core	63.5	0.0	22.4	0.2	0.0	4.0	8.2	1.6	0.1	0.0	100.0	19	71	9
grain13-26	Core	63.0	0.1	22.9	0.3	0.0	4.3	8.0	1.5	0.1	0.0	100.1	21	70	9
grain13-27	Core	62.8	0.0	22.8	0.2	0.0	4.3	8.2	1.5	0.1	0.0	100.0	21	71	9
grain13-28	Core	62.9	0.0	22.9	0.2	0.0	4.4	8.2	1.5	0.1	0.0	100.2	21	71	8
grain13-29	Core	62.9	0.0	22.9	0.2	0.0	4.4	8.2	1.5	0.1	0.0	100.3	21	70	9
grain13-30	Core	62.5	0.0	22.7	0.2	0.0	4.3	8.1	1.5	0.1	0.0	99.6	21	71	9
grain13-31	Core	62.8	0.1	22.4	0.2	0.0	4.2	8.2	1.6	0.1	0.0	99.6	20	71	9
grain13-32	Core	63.1	0.0	22.5	0.2	0.0	4.1	8.1	1.6	0.1	0.0	99.8	20	71	9
grain13-33	Core	63.5	0.1	22.1	0.2	0.0	3.8	8.2	1.7	0.1	0.0	99.8	18	72	10
grain13-34	Core	63.4	0.1	22.1	0.2	0.0	4.0	8.3	1.7	0.1	0.0	99.8	19	72	9
grain13-35	Core	63.2	0.0	22.4	0.2	0.0	4.0	8.2	1.6	0.1	0.0	99.8	19	71	9
grain13-36	Core	63.4	0.0	22.3	0.2	0.0	4.0	8.3	1.7	0.1	0.0	100.0	19	72	9
grain13-37	Core	63.3	0.1	22.5	0.2	0.0	4.1	8.3	1.6	0.1	0.0	100.2	19	72	9
grain13-38	Core	62.7	0.0	22.3	0.2	0.0	4.1	8.4	1.6	0.1	0.0	99.5	19	71	9
grain13-39	Core	62.8	0.1	22.5	0.2	0.0	4.1	8.2	1.6	0.2	0.0	99.7	20	71	9
grain13-40	Core	62.9	0.0	22.4	0.2	0.0	4.1	8.3	1.6	0.1	0.1	99.7	20	71	9
grain13-41	Core	63.1	0.1	22.3	0.2	0.0	4.0	8.2	1.6	0.1	0.0	99.7	19	71	9
grain13-42	Core	62.9	0.0	22.5	0.2	0.0	4.2	8.2	1.6	0.2	0.0	99.9	20	71	9
grain13-43	Core	62.9	0.1	22.5	0.2	0.0	4.1	8.2	1.6	0.2	0.0	99.8	20	71	9
grain13-44	Core	63.0	0.0	22.6	0.2	0.0	4.0	8.2	1.6	0.1	0.0	99.7	19	71	9
grain13-45	Core	62.9	0.0	22.5	0.2	0.0	4.3	8.2	1.6	0.1	0.0	99.8	20	71	9
grain13-46	Core	63.1	0.0	22.7	0.3	0.0	4.1	8.1	1.6	0.1	0.0	100.0	20	71	9
grain13-47	Core	63.2	0.0	22.7	0.2	0.0	4.1	8.2	1.6	0.1	0.0	100.1	20	71	9
grain13-48	Core	62.0	0.1	22.6	0.2	0.0	4.4	8.1	1.4	0.1	0.0	98.9	21	71	8
grain13-49	Core	62.0	0.0	22.7	0.2	0.0	4.5	8.2	1.4	0.0	0.0	99.1	21	70	8
grain13-50	Core	62.2	0.1	23.0	0.2	0.0	4.6	8.0	1.4	0.1	0.0	99.6	22	70	8
grain13-51	Core	63.0	0.1	22.6	0.2	0.0	4.1	8.1	1.6	0.1	0.0	99.7	20	71	9
grain13-52	Core	62.9	0.0	22.6	0.2	0.0	4.1	8.2	1.6	0.1	0.0	99.8	20	71	9
grain13-53	Core	62.6	0.0	23.1	0.2	0.0	4.4	8.2	1.5	0.1	0.0	100.2	21	71	8
grain13-54	Core	62.9	0.1	22.8	0.3	0.0	4.3	8.2	1.6	0.1	0.0	100.2	20	71	9
grain13-55	Core	62.6	0.0	22.7	0.2	0.0	4.3	8.2	1.6	0.1	0.0	99.7	20	71	9
grain13-56	Core	63.0	0.0	22.9	0.2	0.0	4.3	8.2	1.6	0.1	0.1	100.3	21	71	9
grain13-57	Core	62.3	0.0	23.2	0.2	0.0	4.7	8.0	1.4	0.0	0.0	99.8	22	69	8
grain13-58	Core	62.9	0.0	23.0	0.2	0.0	4.2	8.1	1.6	0.1	0.0	100.2	20	71	9
grain13-59	Middle	62.9	0.0	23.2	0.2	0.0	4.5	8.2	1.4	0.1	0.0	100.5	21	71	8
grain13-60	Middle	62.8	0.0	23.2	0.2	0.0	4.6	8.1	1.4	0.1	0.0	100.4	22	70	8
grain13-61	Middle	63.0	0.1	23.3	0.2	0.0	4.5	8.1	1.3	0.1	0.0	100.6	22	71	8
grain13-62	Middle	62.8	0.0	23.5	0.2	0.0	4.6	8.1	1.3	0.1	0.0	100.6	22	70	7
grain13-63	Middle	62.6	0.0	23.6	0.2	0.0	4.8	8.1	1.3	0.1	0.0	100.7	23	70	7
grain13-64	Middle	62.7	0.0	23.3	0.2	0.0	4.7	8.0	1.3	0.1	0.0	100.5	23	70	7
grain13-65	Rim	62.0	0.0	23.5	0.2	0.0	5.0	8.0	1.3	0.0	0.0	100.1	24	69	7

Table A1.6: continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
grain13-66	Rim	62.9	0.0	23.1	0.2	0.0	4.7	8.1	1.3	0.0	0.0	100.4	22	70	8
grain13-67	Rim	62.9	0.0	23.2	0.2	0.0	4.6	8.1	1.3	0.1	0.0	100.3	22	71	7
grain14-1	Rim	62.8	0.0	22.8	0.2	0.0	4.2	8.3	1.5	0.0	0.0	99.8	20	71	9
grain14-2	Rim	62.6	0.1	22.7	0.2	0.0	4.3	8.3	1.4	0.1	0.0	99.6	20	72	8
grain14-3	Rim	62.5	0.1	22.4	0.2	0.0	4.2	8.2	1.5	0.0	0.0	99.1	20	72	8
grain14-4	Middle	62.8	0.0	22.8	0.2	0.0	4.1	8.4	1.6	0.1	0.0	99.9	19	72	9
grain14-5	Middle	62.6	0.0	23.1	0.2	0.0	4.2	8.2	1.5	0.1	0.0	99.9	20	71	8
grain14-6	Middle	62.4	0.0	22.7	0.2	0.0	4.3	8.2	1.5	0.1	0.0	99.4	21	71	8
grain14-7	Middle	62.2	0.1	22.8	0.2	0.0	4.2	8.2	1.5	0.0	0.0	99.2	20	71	9
grain14-8	Middle	62.4	0.0	22.6	0.2	0.0	4.2	8.3	1.6	0.1	0.0	99.5	20	71	9
grain14-9	Middle	62.4	0.0	22.4	0.2	0.0	4.1	8.2	1.5	0.1	0.0	99.0	20	71	9
grain14-10	Middle	62.4	0.0	22.7	0.2	0.0	4.2	8.1	1.5	0.1	0.0	99.2	20	71	9
grain14-11	Middle	62.5	0.1	22.5	0.2	0.0	4.0	8.2	1.6	0.1	0.0	99.1	20	71	9
grain14-12	Core	62.4	0.0	22.5	0.2	0.0	4.1	8.2	1.5	0.1	0.0	99.1	20	72	9
grain14-13	Core - close to crack	62.4	0.0	22.5	0.2	0.0	4.1	8.5	1.6	0.1	0.0	99.4	19	72	9
grain14-14	Core - close to crack	62.0	0.0	22.4	0.2	0.0	4.2	8.3	1.5	0.2	0.0	98.9	20	72	9
grain14-15	Core	62.2	0.0	22.5	0.2	0.0	4.3	8.3	1.5	0.1	0.0	99.1	20	71	8
grain14-16	Core	63.2	0.0	22.9	0.2	0.0	4.1	8.3	1.6	0.2	0.0	100.7	20	71	9
grain14-17	Core - close to crack	63.1	0.0	22.7	0.2	0.0	4.2	8.2	1.5	0.1	0.0	99.9	20	71	9
grain14-18	Core - close to crack	62.9	0.1	23.1	0.2	0.0	4.4	8.1	1.5	0.1	0.0	100.3	21	71	8
grain14-19	Core - close to crack	62.7	0.0	23.0	0.2	0.0	4.4	8.1	1.4	0.1	0.0	100.1	21	71	8
grain14-20	Core - close to crack	62.8	0.0	23.0	0.2	0.0	4.3	8.2	1.4	0.1	0.0	100.1	21	71	8
grain14-21	Core - close to crack	63.3	0.0	22.7	0.2	0.0	4.0	8.2	1.6	0.1	0.0	100.3	19	72	9
grain14-22	Core - close to crack	63.2	0.1	22.5	0.2	0.0	4.0	8.3	1.7	0.1	0.0	100.1	19	72	9
grain14-23	Core	63.4	0.0	22.6	0.2	0.0	4.0	8.2	1.6	0.1	0.0	100.2	19	71	9
grain14-24	Core	63.1	0.1	22.6	0.2	0.0	4.1	8.3	1.6	0.1	0.0	100.1	19	72	9
grain14-25	Core	63.0	0.0	22.6	0.2	0.0	4.0	8.3	1.5	0.0	0.0	99.8	19	72	9
grain14-26	Core	63.3	0.1	22.7	0.2	0.0	4.0	8.3	1.6	0.1	0.0	100.2	19	72	9
grain14-27	Core	63.5	0.1	22.4	0.2	0.0	3.9	8.4	1.7	0.1	0.0	100.3	18	72	10
grain14-28	Core	63.4	0.0	22.5	0.2	0.0	4.0	8.3	1.7	0.1	0.0	100.3	19	72	10
grain14-29	Core	63.3	0.0	22.1	0.2	0.0	3.8	8.4	1.7	0.1	0.1	99.8	18	72	10
grain14-30	Core	62.7	0.0	22.5	0.2	0.0	3.9	8.4	1.7	0.1	0.0	99.5	18	72	9
grain14-31	Core	62.8	0.0	22.7	0.2	0.0	4.3	8.3	1.4	0.1	0.0	99.8	20	71	8
grain14-32	Core	62.6	0.1	22.8	0.2	0.0	4.2	8.0	1.4	0.1	0.0	99.5	20	71	8
grain14-33	Core	62.4	0.0	22.6	0.2	0.0	4.2	8.2	1.5	0.1	0.0	99.3	20	72	9
grain14-34	Core	62.6	0.0	22.6	0.2	0.0	4.1	8.1	1.5	0.1	0.0	99.3	20	71	9
grain14-35	Core	62.6	0.0	22.5	0.2	0.0	4.2	8.3	1.5	0.0	0.0	99.4	20	71	9
grain14-36	Core - close to crack	62.1	0.0	22.8	0.2	0.0	4.3	8.3	1.5	0.0	0.0	99.2	20	71	8
grain14-37	Core - close to crack	62.5	0.0	22.5	0.2	0.0	4.2	8.2	1.5	0.1	0.0	99.1	20	72	8
grain14-38	Core - close to crack	61.9	0.0	22.9	0.2	0.0	4.6	8.2	1.3	0.1	0.0	99.2	22	71	7
grain14-39	Core - close to crack	63.3	0.0	22.7	0.2	0.0	4.2	8.2	1.5	0.1	0.0	100.3	20	71	9
grain14-40	Core	63.0	0.0	22.8	0.2	0.0	4.2	8.2	1.5	0.1	0.0	100.1	20	71	9
grain14-41	Core	62.9	0.1	23.0	0.2	0.0	4.4	8.2	1.4	0.1	0.0	100.3	21	71	8
grain14-42	Core	62.1	0.1	23.6	0.2	0.0	5.1	8.1	1.1	0.0	0.0	100.2	24	69	6
grain14-43	Core	62.8	0.0	22.9	0.2	0.0	4.3	8.2	1.4	0.1	0.0	100.0	21	71	8
grain14-44	Core	62.4	0.0	22.8	0.2	0.0	4.3	8.3	1.4	0.1	0.0	99.5	21	72	8
grain14-45	Core	61.4	0.0	23.6	0.2	0.0	5.1	8.1	1.1	0.1	0.0	99.6	24	69	6
grain14-46	Core	61.0	0.1	23.8	0.2	0.0	5.6	7.8	0.9	0.1	0.0	99.6	27	68	5
grain14-47	Core	60.5	0.1	24.0	0.2	0.0	5.9	7.8	0.9	0.0	0.0	99.3	28	67	5
grain14-48	Core	61.2	0.1	23.6	0.2	0.0	5.3	8.0	1.0	0.0	0.0	99.4	25	69	6
grain14-49	Core	61.0	0.0	23.5	0.2	0.0	5.2	8.1	1.1	0.1	0.0	99.2	25	69	6
grain14-50	Middle	60.7	0.1	23.7	0.2	0.0	5.3	8.1	1.0	0.1	0.0	99.3	25	69	6
grain14-51	Middle	61.7	0.0	23.7	0.2	0.0	5.1	8.0	1.2	0.1	0.0	100.1	24	69	7
grain14-52	Middle	61.9	0.0	23.7	0.2	0.0	5.1	8.0	1.1	0.0	0.0	100.0	24	69	6
grain14-53	Middle	62.2	0.0	23.5	0.2	0.0	4.9	8.2	1.1	0.1	0.1	100.1	23	70	6
grain14-54	Rim	62.2	0.0	23.2	0.2	0.0	4.8	8.0	1.2	0.0	0.0	99.6	23	70	7
grain14-55	Rim	62.4	0.0	22.9	0.2	0.0	4.5	8.1	1.3	0.1	0.0	99.3	22	71	7
grain14-56	Rim	62.0	0.1	22.9	0.2	0.0	4.5	8.3	1.4	0.1	0.0	99.3	21	71	8
grain20-5	Middle	62.9	0.0	23.0	0.2	0.0	4.3	8.0	1.5	0.0	0.0	99.9	21	71	8
grain20-6	Middle	62.7	0.0	23.2	0.2	0.0	4.5	7.9	1.4	0.0	0.0	100.0	22	70	8
grain20-7	Middle	62.9	0.0	23.2	0.2	0.0	4.4	7.9	1.5	0.0	0.0	100.1	22	70	9
grain20-8	Middle	63.5	0.0	22.8	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.3	21	70	9
grain20-9	Middle	63.1	0.0	22.9	0.2	0.0	4.2	7.9	1.5	0.1	0.0	100.0	21	70	9
grain20-10	Middle	63.4	0.1	22.7	0.2	0.0	4.1	8.0	1.7	0.0	0.0	100.1	20	71	10
grain20-11	Middle	63.2	0.0	22.8	0.2	0.0	4.1	8.0	1.6	0.1	0.0	100.1	20	71	9
grain20-12	Middle	63.4	0.1	22.7	0.2	0.0	4.1	8.0	1.6	0.0	0.0	100.1	20	70	9
grain20-13	Middle	63.9	0.0	22.7	0.2	0.0	4.0	7.9	1.8	0.1	0.1	100.6	20	70	10
grain20-14	Core	63.6	0.0	22.7	0.2	0.0	4.0	8.0	1.7	0.2	0.0	100.5	19	71	10
grain20-15	Core	63.6	0.1	22.8	0.2	0.0	3.9	7.9	1.7	0.1	0.0	100.3	19	71	10
grain20-16	Core	63.8	0.1	22.6	0.2	0.0	4.0	8.0	1.8	0.1	0.0	100.6	19	71	10
grain20-17	Core	63.5	0.0	22.7	0.2	0.0	4.1	8.1	1.6	0.1	0.0	100.3	20	71	9
grain20-18	Core	63.0	0.0	22.9	0.2	0.0	4.2	8.0	1.6	0.1	0.0	100.0	20	70	9
grain20-19	Core	63.1	0.0	23.0	0.2	0.0	3.9	8.0	1.7	0.1	0.0	100.2	19	71	10
grain20-20	Core	63.7	0.0	22.6	0.2	0.0	3.9	8.0	1.7	0.1	0.0	100.4	19	71	10
grain20-21	Core	63.1	0.1	22.9	0.2	0.0	4.1	8.0	1.6	0.1	0.0	100.1	20	71	9
grain20-22	Core	63.5	0.0	22.8	0.2	0.0	4.2	7.9	1.6	0.1	0.0	100.3	20	70	9
grain20-23	Core	63.5	0.0	22.9	0.2	0.0	4.0	7.9	1.7	0.1	0.0	100.3	20	71	10
grain20-24	Core	63.3	0.1	23.2	0.2	0.0	4.2	8.0	1.6	0.1	0.0	100.7	20	70	9
grain20-25	Core	63.1	0.1	23.2	0.2	0.0	4.4	8.0	1.5	0.1	0.0	100.7	21	70	8
grain20-26	Core	63.0	0.0	23.2	0.2	0.0	4.3	8.0	1.5	0.1	0.0	100.3	21	71	9
grain20-27	Core	63.4	0.0	23.1	0.2	0.0	4.2	8.0	1.5	0.1	0.0	100.6	21	71	9
grain20-28	Core	63.4	0.0	23.1	0.2	0.0	4.1	8.0	1.6	0.1	0.0	100.5	20	71	9
grain20-29	Core	63.3	0.0	23.1	0.2	0.0	4.3	7.9	1.5	0.1	0.0	100.5	21	70	9
grain20-30	Core	63.6	0.0	22.8	0.2	0.0	4.2	7.9	1.6	0.0	0.0	100.2	21	70	9

Table A1.6: continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
grain20-31	Core	63.4	0.1	22.4	0.2	0.0	4.3	7.9	1.6	0.2	0.0	100.1	21	70	9
grain20-32	Core	63.3	0.0	22.6	0.2	0.0	4.2	7.9	1.5	0.1	0.0	99.9	21	70	9
grain20-33	Core	63.1	0.0	22.8	0.2	0.0	4.5	7.8	1.5	0.1	0.0	100.1	22	69	9
grain20-34	Core	63.2	0.0	22.6	0.2	0.0	4.2	7.9	1.6	0.1	0.0	99.8	21	70	9
grain20-35	Middle	63.2	0.1	22.6	0.2	0.0	4.1	7.8	1.6	0.1	0.0	99.7	20	70	9
grain20-36	Middle	63.2	0.0	22.6	0.2	0.0	4.2	7.9	1.6	0.1	0.0	99.8	21	70	9
grain20-37	Middle	63.1	0.0	22.6	0.2	0.0	4.2	7.9	1.6	0.1	0.1	99.7	21	70	9
grain20-38	Middle	63.9	0.0	22.6	0.2	0.0	4.1	7.9	1.6	0.1	0.0	100.4	20	70	9
grain20-39	Middle	63.0	0.0	22.8	0.2	0.0	4.2	8.0	1.6	0.0	0.0	99.8	20	70	9
grain20-40	Middle	63.0	0.1	22.9	0.2	0.0	4.5	8.0	1.4	0.2	0.0	100.2	22	70	8
grain20-41	Rim	63.5	0.0	22.7	0.2	0.0	4.4	7.9	1.5	0.1	0.0	100.3	21	70	9
grain20-42	Rim	63.6	0.1	22.8	0.2	0.0	4.4	7.8	1.5	0.0	0.0	100.4	21	70	9
grain20-43	Rim	63.4	0.0	22.6	0.2	0.0	4.2	7.9	1.6	0.1	0.1	100.0	21	70	9
grain20-44	Rim	63.1	0.0	22.6	0.2	0.0	4.3	7.9	1.5	0.1	0.0	99.7	21	70	9
grain20-45	Rim	63.1	0.1	22.6	0.2	0.0	4.4	7.9	1.5	0.1	0.0	99.7	21	70	9
grain20-46	Rim	62.9	0.0	22.6	0.2	0.0	4.4	7.8	1.5	0.1	0.0	99.5	22	70	9
grain20-47	Rim	62.8	0.0	22.5	0.2	0.0	4.4	7.9	1.5	0.1	0.0	99.4	22	70	9
grain20-48	Rim	63.0	0.0	22.7	0.2	0.0	4.3	7.8	1.5	0.1	0.0	99.5	21	70	9
grain20-49	Rim	63.0	0.0	22.6	0.2	0.0	4.5	7.8	1.4	0.1	0.0	99.7	22	70	8
mount1-1-10-1	Rim	63.2	0.0	22.7	0.2	0.0	3.9	8.1	1.5			99.7	19	72	9
mount1-1-10-2	Core	62.9	0.0	22.8	0.2	0.0	4.0	8.2	1.3			99.4	20	72	8
mount1-11-1	Rim	62.4	0.0	23.3	bdl	0.2	4.5	7.8	1.3			99.5	22	70	8
mount1-12-1	Rim	63.1	0.1	22.7	bdl	0.2	3.9	8.1	1.5			99.5	19	72	9
mount1-12-2	Core	62.7	0.0	22.9	bdl	0.2	4.1	8.0	1.4			99.3	20	72	8
mount1-13-1	Rim	62.5	0.0	23.0	0.2	0.0	4.1	7.9	1.4			99.0	21	71	8
mount1-13-2	Core	62.4	0.0	22.9	0.2	0.0	4.1	8.0	1.5			99.1	20	71	8
mount1-14-1	Rim	62.6	0.1	22.7	bdl	0.2	4.2	7.9	1.4			99.1	21	71	8
mount1-14-2	Rim	61.7	0.0	23.5	bdl	0.2	4.7	7.8	1.2			99.1	23	70	7
mount1-20-1	Core	62.9	0.0	22.9	bdl	0.2	4.0	8.1	1.5			99.6	20	72	9
mount1-20-2	Rim	63.3	0.0	22.8	0.2	0.0	4.1	8.2	1.4			100.0	20	72	8
mount1-21-1	Rim	63.1	0.1	22.7	bdl	0.2	4.1	7.9	1.5			99.6	20	71	9
mount1-21-2	Rim	62.8	0.1	23.0	0.2	0.0	4.3	8.0	1.3			99.7	21	71	8
mount1-2-1-1	Rim	63.2	0.0	22.6	bdl	0.2	3.8	8.1	1.5			99.4	19	72	9
mount1-2-1-2	Core	63.4	0.0	22.4	bdl	0.2	3.8	8.3	1.6			99.6	18	73	9
mount1-2-1-3	Rim	62.8	0.0	22.9	0.2	0.0	4.2	8.0	1.4			99.5	21	71	8
mount1-23-1	Rim	62.7	0.0	22.9	bdl	0.2	4.3	7.9	1.3			99.4	21	71	8
mount1-23-2	Core	63.3	0.0	22.8	bdl	0.2	4.1	8.1	1.4			99.9	20	72	8
mount1-24-1	Rim	62.9	0.0	22.8	0.2	0.0	4.0	8.1	1.4			99.5	20	72	8
mount1-24-2	Core	62.9	0.0	22.9	0.2	0.0	4.1	8.1	1.4			99.5	20	72	8
mount1-25-1	Rim	62.5	0.0	23.5	0.2	0.0	4.5	8.0	1.1			99.8	22	71	7
mount1-25-2	Core	63.0	0.0	22.8	bdl	0.2	4.0	8.1	1.3			99.5	20	72	8
mount1-26-1	Rim	62.8	0.0	23.2	0.2	0.0	4.3	8.0	1.4			100.0	21	71	8
mount1-26-2	Core	63.2	0.0	22.9	0.2	0.0	4.1	8.1	1.5			99.9	20	71	9
mount1-3-1-1	Rim	61.9	0.1	23.8	bdl	0.2	4.9	8.0	1.0			99.8	24	70	6
mount1-3-1-2	Core	62.4	0.1	23.5	bdl	0.2	4.5	8.2	1.2			99.9	22	71	7
mount1-4-1	Rim	62.2	0.0	23.4	0.2	0.0	4.6	8.1	1.2			99.7	22	71	7
mount1-4-2	Core	62.3	0.0	22.9	bdl	0.2	4.5	8.0	1.2			99.2	22	71	7
mount1-7-1	Rim	63.2	0.0	22.9	0.2	0.0	4.0	8.0	1.5			99.8	20	72	9
mount1-7-2	Core	63.0	0.1	23.1	0.2	0.0	4.1	8.0	1.5			99.9	20	71	9
mount1-8-1	Rim	61.4	0.0	23.7	bdl	0.2	5.1	7.7	1.0			99.1	25	69	6
mount1-8-2	Core	62.8	0.0	23.2	0.2	0.0	4.5	8.0	1.1			99.7	22	71	6
mount1-9-1	Rim	62.9	0.1	22.8	bdl	0.2	4.1	8.1	1.4			99.6	20	72	8
mount1-9-2	Core	62.7	0.0	23.0	0.2	0.0	4.3	8.1	1.3			99.7	21	71	8
mount2-1-1	Rim	62.5	0.1	23.0	bdl	0.2	4.3	8.0	1.3			99.3	21	71	8
mount2-1-2	Core	61.1	0.0	23.7	bdl	0.2	4.9	7.7	1.1			98.7	24	69	6
mount2-11-1	Rim	61.4	0.0	23.2	0.2	0.0	4.6	7.6	1.2			98.2	23	70	7
mount2-11-2	Core	62.8	0.0	22.7	0.2	0.0	4.2	7.7	1.4			99.0	21	70	8
mount2-11-3	Core	62.5	0.0	22.9	0.2	0.0	4.3	7.6	1.4			98.9	22	70	8
mount2-11-4	Core	62.4	0.0	22.9	0.2	0.0	4.2	7.7	1.4			98.8	21	70	8
mount2-11-5	Core	62.7	0.1	23.0	bdl	0.2	4.2	7.7	1.3			99.2	21	71	8
mount2-12-1	Rim	62.9	0.0	22.8	bdl	0.2	3.9	7.8	1.4			99.1	20	72	9
mount2-12-2	Core	62.5	0.0	22.9	bdl	0.2	4.2	8.0	1.4			99.2	21	71	8
mount2-12-3	Rim	62.8	0.0	22.9	bdl	0.2	4.1	7.9	1.4			99.4	20	71	8
mount2-13-1	Rim	63.1	0.1	22.7	bdl	0.2	4.1	7.6	1.5			99.1	21	70	9
mount2-13-2	Rim	63.0	0.0	22.7	0.2	0.0	4.0	7.8	1.4			99.1	20	71	8
mount2-13-3	Rim	62.5	0.0	23.0	0.2	0.0	4.4	7.7	1.3			99.1	22	70	8
mount2-13-4	Core	62.2	0.0	23.6	bdl	0.2	4.7	7.6	1.1			99.5	24	69	7
mount2-13-5	Core	62.6	0.0	23.1	bdl	0.2	4.5	7.7	1.2			99.3	22	70	7
mount2-15-1	Rim	62.7	0.0	22.9	bdl	0.2	4.0	7.8	1.3			99.0	20	72	8
mount2-15-2	Core	63.7	0.0	22.5	bdl	0.2	3.8	8.0	1.5			99.7	19	72	9
mount2-15-3	Core	63.4	0.0	22.7	bdl	0.2	4.0	7.9	1.4			99.7	20	71	8
mount2-15-4	Rim	62.9	0.0	23.0	0.2	0.0	4.2	7.7	1.4			99.4	21	71	8
mount2-15-5	Core	63.4	0.0	22.9	bdl	0.2	4.1	7.8	1.4			99.8	21	71	8
mount2-17-1	Core	63.6	0.0	22.7	bdl	0.2	4.1	7.6	1.4			99.7	21	70	9
mount2-17-2	Rim	63.5	0.0	22.8	0.2	0.0	4.0	7.8	1.3			99.7	20	72	8
mount2-17-3	Core	63.3	0.0	22.9	0.2	0.0	4.2	7.8	1.3			99.8	21	71	8
mount2-17-4	Core	62.9	0.0	23.0	0.2	0.0	4.2	7.7	1.3			99.4	21	71	8
mount2-17-5	Core	63.7	0.0	22.6	bdl	0.2	3.8	7.8	1.5			99.6	19	72	9
mount2-17-6	Core	63.5	0.0	22.8	bdl	0.2	4.0	7.8	1.5			99.8	20	71	9
mount2-17-7	Core	63.0	0.1	23.0	0.2	0.0	4.2	7.7	1.3			99.4	21	71	8
mount2-2-1	Rim	63.1	0.0	22.6	0.2	0.0	3.9	8.0	1.5			99.2	19	72	9
mount2-2-2	Core	62.1	0.0	23.4	bdl	0.2	4.5	7.8	1.2			99.3	23	70	7
mount2-2-3	Core	62.2	0.0	23.3	0.2	0.0	4.6	7.9	1.2			99.5	23	70	7
mount2-2-4	Core	62.7	0.0	23.0	0.2	0.0	4.1	8.0	1.4			99.3	20	71	8
mount2-24-1	Rim	62.9	0.0	23.1	bdl	0.2	4.3	7.7	1.3			99.5	22	70	8

Table A1.6: continued

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	SrO	BaO	Total	An	Ab	Or
mount2-24-2	Core	62.7	0.0	23.0	bdl	0.2	4.4	7.7	1.3			99.2	22	70	8
mount2-24-3	Core	62.6	0.0	23.1	bdl	0.2	4.3	7.8	1.3			99.2	21	71	8
mount2-24-4	Rim	62.8	0.0	22.7	0.2	0.0	4.1	7.8	1.4			99.0	21	71	8
mount2-3-1	Rim	62.3	0.0	23.1	0.2	0.0	4.3	8.0	1.4			99.3	21	71	8
mount2-3-2	Core	62.2	0.0	23.3	bdl	0.2	4.5	7.9	1.3			99.4	22	70	8
mount2-3-3	Core	62.7	0.0	22.9	0.2	0.0	4.1	8.0	1.4			99.5	20	72	8
mount2-3-4	Core	62.7	0.0	22.6	0.2	0.0	4.0	8.0	1.5			99.0	20	71	9
mount2-4-1	Rim	62.7	0.0	23.0	0.2	0.0	4.1	8.0	1.5			99.6	20	71	9
mount2-4-2	Rim	62.8	0.0	23.1	bdl	0.2	4.0	8.0	1.4			99.6	20	72	8
mount2-4-3	Core	62.7	0.1	22.7	bdl	0.2	4.1	7.9	1.4			99.1	21	71	8
mount2-4-4	Core	63.1	0.0	22.9	bdl	0.2	3.9	8.0	1.5			99.7	19	72	9
mount2-5-1	Rim	62.7	0.0	23.0	bdl	0.2	4.4	7.9	1.3			99.4	22	71	8
mount2-5-2	Rim	62.8	0.0	23.0	bdl	0.2	4.3	8.0	1.3			99.5	21	71	7
mount2-5-3	Core	62.8	0.0	22.8	bdl	0.2	4.2	8.0	1.4			99.2	21	71	8
mount2-6-1	Rim	62.8	0.1	23.0	0.2	0.0	4.3	8.0	1.4			99.7	21	71	8
mount2-6-2	Core	62.8	0.0	22.9	bdl	0.2	4.3	7.9	1.3			99.4	21	71	8
mount2-6-3	Core	62.5	0.0	22.8	bdl	0.2	4.2	7.8	1.4			99.0	21	71	8
mount2-6-4	Core	62.5	0.1	23.2	0.2	0.0	4.4	7.9	1.3			99.5	22	71	8
mount2-6-5	Core	62.9	0.0	22.9	bdl	0.2	4.1	7.7	1.4			99.3	21	70	9
mount2-7-4	Core	60.9	0.0	24.3	bdl	0.2	5.9	7.5	0.9			99.7	29	66	5
mount2-9-1	Rim	61.8	0.0	23.0	bdl	0.2	4.5	7.5	1.2			98.2	23	70	7
mount2-9-2	Rim	61.3	0.1	24.0	0.2	0.0	5.4	7.4	0.9			99.3	27	67	6
mount2-9-3	Rim	61.1	0.0	23.9	bdl	0.2	5.3	7.4	0.9			98.8	27	68	6
mount2-9-4	Rim	62.3	0.1	23.2	0.2	0.0	4.5	7.8	1.3			99.2	22	70	7

Table A1.7: trace elements - plagioclase

Info	Position	Li^6	L^{i7}	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
MFT-Mount1-plag2-1	Rim	15.6	14.2	58199	21.5	113908	299178	21.2	13295	26524	0.8	41.6	b.d.l.	6.6	1309.5	4.3	59.3	0.2	b.d.l.	b.d.l.	b.d.l.	58.4	19.6	20.6	1.5	3.9	0.3	1.6	0.2	0.0	0.1
MFT-Mount1-plag2-2	Rim	16.8	17.6	58359	24.8	113403	299178	28.0	12722	28755	0.8	40.0	b.d.l.	8.1	1354.9	4.4	56.5	0.2	b.d.l.	b.d.l.	b.d.l.	56.5	20.3	21.6	1.6	3.9	0.3	1.5	0.2	0.0	0.1
MFT-Mount1-plag2-3	Middle	20.6	19.7	59227	21.1	115960	299178	22.6	12947	27669	1.0	38.8	b.d.l.	7.8	1339.2	4.3	50.5	0.3	b.d.l.	b.d.l.	b.d.l.	57.3	19.6	21.6	1.5	3.8	0.4	1.6	0.2	0.0	0.1
MFT-Mount1-plag2-4	Middle	23.2	22.6	59569	19.4	112489	299178	19.0	13044	26772	b.d.l.	41.6	b.d.l.	7.7	1350.1	4.6	47.1	0.3	0.1	0.1	b.d.l.	50.3	18.9	19.8	1.4	3.8	0.4	1.4	0.1	0.0	0.1
MFT-Mount1-plag2-5	Middle	22.4	23.0	58812	19.0	113591	299178	b.d.l.	12793	26854	b.d.l.	42.0	b.d.l.	7.4	1250.0	4.2	45.8	0.2	b.d.l.	b.d.l.	b.d.l.	44.6	19.0	20.0	1.6	3.5	0.3	1.3	0.2	0.0	0.0
MFT-Mount1-plag2-6	Middle	24.2	22.7	59575	18.7	114298	299178	b.d.l.	13747	26636	0.8	36.5	b.d.l.	6.3	1294.5	4.6	45.8	0.2	b.d.l.	b.d.l.	b.d.l.	41.7	19.1	20.8	1.4	3.9	0.4	1.2	0.3	0.0	0.1
MFT-Mount1-plag2-7	Middle	25.1	23.2	58548	22.2	111512	299178	30.0	13282	26080	b.d.l.	39.5	b.d.l.	6.4	1249.3	4.5	44.2	0.3	b.d.l.	b.d.l.	b.d.l.	39.2	19.9	20.6	1.5	4.0	0.2	1.4	0.2	0.0	0.1
MFT-Mount1-plag2-8	Middle	22.1	22.4	58155	21.2	108886	299178	b.d.l.	13184	25353	b.d.l.	38.0	b.d.l.	6.7	1183.8	4.2	42.4	0.2	b.d.l.	b.d.l.	b.d.l.	37.6	18.9	19.9	1.3	3.5	0.3	1.1	0.2	0.0	0.1
MFT-Mount1-plag2-9	Core	20.5	21.8	59561	18.8	111093	299178	b.d.l.	14195	24782	0.7	39.5	b.d.l.	6.3	1207.9	4.6	42.9	0.2	b.d.l.	b.d.l.	b.d.l.	35.7	19.2	20.0	1.3	3.3	0.2	1.2	0.2	b.d.l.	0.1
MFT-Mount1-plag2-10	Core	21.2	18.6	57182	14.5	111849	294503	19.4	13670	25527	0.6	37.7	b.d.l.	6.5	1202.5	4.4	42.8	0.2	b.d.l.	b.d.l.	b.d.l.	36.6	20.8	20.6	1.5	3.5	0.2	1.1	0.2	b.d.l.	b.d.l.
MFT-Mount1-plag2-11	Core	18.4	15.8	60315	16.9	109259	299178	b.d.l.	13794	24183	0.9	41.4	b.d.l.	6.3	1201.3	4.8	42.1	0.2	b.d.l.	b.d.l.	b.d.l.	37.2	18.7	19.8	1.3	3.5	0.3	1.1	0.2	0.0	b.d.l.
MFT-Mount1-plag2-12	Core - close to crack	11.7	12.3	58791	16.2	108425	294503	b.d.l.	13704	24017	0.7	41.7	b.d.l.	6.5	1161.3	4.8	41.8	0.2	b.d.l.	b.d.l.	b.d.l.	37.3	19.6	20.3	1.4	3.4	0.2	1.2	0.1	0.0	0.0
MFT-Mount1-plag2-13	Core - close to crack	9.5	8.5	58802	24.3	109796	294503	23.3	13970	24334	0.9	39.1	b.d.l.	6.3	1164.9	4.7	42.3	0.2	b.d.l.	b.d.l.	b.d.l.	32.8	20.9	21.4	1.5	3.3	0.2	1.3	0.2	b.d.l.	0.1
MFT-Mount1-plag2-14	Core - close to crack	11.5	11.2	56671	19.2	110196	294503	b.d.l.	12742	27230	b.d.l.	44.7	b.d.l.	6.9	1289.4	4.2	43.2	0.2	b.d.l.	0.0	b.d.l.	34.3	19.4	21.2	1.4	4.0	0.3	1.1	0.1	b.d.l.	0.1
MFT-Mount1-plag2-15	Core - close to crack	b.d.l.	7.6	57014	21.5	114868	294503	b.d.l.	12938	27853	b.d.l.	43.6	b.d.l.	7.6	1335.2	4.3	44.1	0.2	0.2	0.1	b.d.l.	34.9	20.1	21.6	1.5	3.9	0.4	1.2	0.1	0.0	0.0
MFT-Mount1-plag2-16	Core - close to crack	8.9	8.9	60425	23.2	113072	294503	b.d.l.	12845	26629	b.d.l.	40.2	b.d.l.	7.7	1278.1	4.2	45.1	0.3	b.d.l.	b.d.l.	b.d.l.	37.1	19.8	21.2	1.5	4.1	0.4	1.2	b.d.l.	b.d.l.	0.1
MFT-Mount1-plag2-17	Core	12.7	13.2	57695	20.2	105218	294503	b.d.l.	13013	26383	0.6	43.5	b.d.l.	7.3	1220.5	4.4	42.9	0.2	b.d.l.	b.d.l.	b.d.l.	39.1	18.6	20.1	1.4	3.6	0.3	1.1	0.1	0.0	0.1
MFT-Mount1-plag2-18	Core	15.5	15.1	59037	19.0	111579	294503	b.d.l.	13549	26209	b.d.l.	43.2	b.d.l.	6.9	1277.2	4.5	44.7	0.2	b.d.l.	b.d.l.	b.d.l.	37.8	19.1	20.1	1.4	3.9	0.2	1.3	0.2	0.0	0.1
MFT-Mount1-plag2-19	Core	15.6	16.7	60618	21.1	110994	294503	24.1	13078	26656	b.d.l.	44.5	b.d.l.	7.4	1286.6	4.4	45.2	0.2	b.d.l.	b.d.l.	b.d.l.	38.2	19.4	20.4	1.4	3.6	0.3	1.2	0.2	b.d.l.	0.1
MFT-Mount1-plag2-20	Core	18.5	17.3	58637	22.9	111981	294503	b.d.l.	12989	26218	0.7	47.9	b.d.l.	7.9	1294.6	4.1	45.7	0.2	b.d.l.	b.d.l.	b.d.l.	37.7	19.4	21.1	1.5	3.7	0.3	1.3	0.3	b.d.l.	0.1
MFT-Mount1-plag2-21	Core	18.3	18.4	57672	22.2	109706	294503	b.d.l.	12243	27614	0.6	41.2	b.d.l.	7.8	1268.5	4.1	45.1	0.2	b.d.l.	b.d.l.	b.d.l.	37.6	20.1	21.9	1.5	4.0	0.3	1.2	0.2	0.0	0.1
MFT-Mount1-plag2-22	Core	21.0	19.4	57897	24.3	111891	294503	34.4	11878	28731	b.d.l.	47.1	b.d.l.	8.1	1286.5	4.0	46.5	0.2	b.d.l.	b.d.l.	b.d.l.	34.8	20.3	23.2	1.6	4.0	0.4	1.3	0.2	0.0	0.1
MFT-Mount1-plag2-23	Core	22.9	19.6	57392	25.0	113386	294503	26.0	11614	29010	0.7	50.2	b.d.l.	8.4	1311.1	3.8	43.9	0.3	b.d.l.	b.d.l.	b.d.l.	33.3	21.2	23.2	1.6	4.2	0.3	1.2	0.2	b.d.l.	b.d.l.
MFT-Mount1-plag2-24	Core	18.0	18.3	59585	25.5	111275	294503	b.d.l.	11661	29058	0.6	41.7	b.d.l.	8.7	1315.6	3.6	40.7	0.3	b.d.l.	b.d.l.	b.d.l.	29.0	19.8	22.2	1.5	3.9	0.2	1.2	0.3	0.0	0.1
MFT-Mount1-plag2-25	Core	22.3	18.9	57376	20.9	108375	294503	18.7	11381	27663	0.6	43.2	b.d.l.	7.9	1330.3	3.6	37.6	0.3	b.d.l.	b.d.l.	b.d.l.	27.6	19.4	21.9	1.6	4.2	0.3	1.1	0.1	0.0	0.1
MFT-Mount1-plag2-26	Core	21.3	19.8	59505	25.3	114514	294503	24.0	11829	28712	b.d.l.	47.9	b.d.l.	8.1	1333.4	3.9	37.9	0.3	b.d.l.	b.d.l.	b.d.l.	28.2	20.5	22.6	1.6	4.0	0.3	1.1	0.2	b.d.l.	b.d.l.
MFT-Mount1-plag2-27	Middle	20.8	19.9	58834	16.7	113759	294503	19.7	13240	27643	b.d.l.	45.0	b.d.l.	7.6	1262.4	3.9	38.5	0.2	b.d.l.	b.d.l.	b.d.l.	31.2	20.7	22.3	1.7	3.9	0.5	1.1	0.1	0.0	b.d.l.
MFT-Mount1-plag2-28	Middle	23.0	21.3	59051	21.4	113628	299178	b.d.l.	12739	28083	b.d.l.	44.4	b.d.l.	8.2	1336.0	3.8	39.6	0.3	b.d.l.	b.d.l.	b.d.l.	35.7	21.3	23.4	1.6	4.3	0.4	1.2	0.2	0.0	0.0
MFT-Mount1-plag2-29	Middle	21.0	19.6	57279	27.2	108434	294503	b.d.l.	11646	26736	0.9	41.4	b.d.l.	8.0	1275.2	3.5	39.5	0.3	b.d.l.	b.d.l.	b.d.l.	34.7	20.0	22.1	1.6	4.0	0.2	1.0	0.2	0.0	0.1
MFT-Mount1-plag2-30	Middle	16.1	16.5	58916	21.1	113990	294503	b.d.l.	12766	28061	b.d.l.	40.9	b.d.l.	7.7	1305.1	4.0	39.9	0.2	b.d.l.	b.d.l.	b.d.l.	40.4	21.3	23.0	1.6	4.3	0.4	1.2	0.3	0.0	0.0
MFT-Mount1-plag2-31	Middle - close to crack	b.d.l.	8.0	57093	17.0	105803	294503	b.d.l.	13353	23538	0.8	36.2	b.d.l.	6.2	1199.1	4.8	34.7	0.2	b.d.l.	b.d.l.	b.d.l.	40.9	19.5	19.5	1.4	3.4	0.3	1.0	0.2	b.d.l.	0.1
MFT-Mount1-plag2-32	Middle - close to crack	b.d.l.	6.4	57510	20.6	108550	294503	b.d.l.	14661	23020	b.d.l.	38.3	b.d.l.	6.9	1235.8	6.4	35.7	0.3	0.4	0.1	b.d.l.	43.9	18.8	18.8	1.2	2.8	0.2	1.0	0.1	b.d.l.	0.1
MFT-Mount1-plag2-33	Middle - close to crack	b.d.l.	5.9	59916	19.2	108975	294503	b.d.l.	13185	26503	0.8	40.8	b.d.l.	8.0	1270.2	5.6	38.7	0.4	0.3	0.2	b.d.l.	35.8	19.4	20.1	1.3	3.9	0.3	1.2	b.d.l.	0.0	0.1
grain3-1	Rim	b.d.l.	7.2	57290	18.2	114577	289829	26.7	10005	31303	0.9	71.7	b.d.l.	8.6	1313.0	3.5	62.1	0.3	b.d.l.	b.d.l.	b.d.l.	97.9	27.3	30.3	2.2	5.6	0.5	1.6	0.3	0.0	0.1
grain3-2	Rim	14.7	12.1	57563	18.4	113364	289829	b.d.l.	10265	29712	0.8	63.9	b.d.l.	8.7	1252.5	3.2	60.8	0.2	b.d.l.	b.d.l.	b.d.l.	109.9	25.6	28.2	2.1	5.2	0.5	1.6	0.2	0.0	0.1
grain3-3	Rim	19.5	17.9	57531	24.5	114450	289829	b.d.l.	10050	31362	b.d.l.	65.2	b.d.l.	8.9	1285.8	3.1	63.7	0.3	b.d.l.	b.d.l.	b.d.l.	127.6	26.4	29.4	2.1	5.2	0.6	1.6	0.2	0.0	0.1
grain3-4	Middle	21.3	21.6	56143	22.5	111753	289829	34.0	10266	29764	1.2	57.3	b.d.l.	8.7	1255.6	3.2	64.0	0.3	b.d.l.	0.0	b.d.l.	135.4	25.2	28.7	2.0	5.5	0.4	1.6	0.2	0.0	0.1
grain3-5	Middle	24.6	23.2	55851	20.5	111106	289829	27.8	9944	30585	b.d.l.	64.3	b.d.l.	8.6	1300.5	3.0	66.6	0.3	b.d.l.	b.d.l.	b.d.l.	147.7	26.2	28.9	2.1	5.6	0.3	1.6	0.3	b.d.l.	0.1
grain3-6	Middle	24.4	24.8	57041	21.1	114030	289829	24.3	9960	31666	0.9	68.3	b.d.l.	9.5	1356.5	3.1	70.8	0.3	b.d.l.	b.d.l.	b.d.l.	145.2	28.5	31.4	2.2	5.6	0.4	1.8	0.3	0.0	0.1
grain3-7	Middle	26.6	24.6	57536	28.3	115282	289829	36.4	9285	32139	b.d.l.	67.2	b.d.l.	9.5	1325.7	3.0	72.8	0.4	b.d.l.	b.d.l.	b.d.l.	146.4	29.8	32.5	2.4	6.4	0.7	1.9	0.2	0.0	0.1
grain3-8	Middle	23.1	24.0	58788	22.2	115176	289829	b.d.l.	9628	31261	b.d.l.	66.9	b.d.l.	9.4	1354.7	3.0	74.4	0.3	b.d.l.	b.d.l.	b.d.l.	148.5	29.4	32.1	2.3	6.2	0.6	1.8	0.2	0.0	b.d.l.
grain3-9	Middle	22.2	23.1	56878	24.1	113944	289829	b.d.l.	9490	31142	0.7	70.9	b.d.l.	9.6	1317.7	3.1	75.8	0.3	b.d.l.	b.d.l.	b.d.l.	150.7	29.9	33.0	2.2	6.0	0.5	1.8	0.3	b.d.l.	0.1
grain3-10	Middle	24.2	22.8	57480	17.8	115223	289829	24.4	9699	31445	0.9	70.1	b.d.l.	9.5	1339.6	3.1	76.6	0.3	b.d.l.	b.d.l.	b.d.l.	161.2	29.5	32.8	2.3	6.3	0.4	1.9	0.3	0.0	0.1
grain3-11	Middle	22.3	22.4	56414	23.1	110595	289829	b.d.l.	9568	30725	0.7	65.0	b.d.l.	9.0	1325.3	2.9	75.5	0.4	b.d.l.	0.0	b.d.l.	155.9	28.6	30.9	2.3	5.5	0.5	1.9	0.2	0.0	0.1
grain3-12	Middle	22.3	22.1	57197	19.0	113399	289829	b.d.l.	9635	30896	b.d.l.	67.1	b.d.l.	9.5	1345.3	3.1	75.9	0.3	b.d.l.	b.d.l.	b.d.l.	156.4	29.0	31.9	2.2	5.7	0.5	1.8	0.3	b.d.l.	0.2
grain3-13	Core	22.3	21.8	56597	26.1	111280	289829	20.8	9432	31097	0.9	68.2	b.d.l.	9.1	1394.5	2.9	75.6	0.3	b.d.l.	b.d.l.	b.d.l.	151.6	28.8	32.4	2.3	5.9	0.6	1.8	0.1	b.d.l.	0.1
grain3-14	Core	21.0	21.2	58992	27.6	114909	289829	b.d.l.	9541	32942	0.8	70.3	b.d.l.	9.5	1415.3	3.0	78.2	0.3	b.d.l.	b.d.l.	b.d.l.	148.8	30.6	33.9	2.4	6.0	0.7	1.8	0.3	0.0	0.1
grain3-15	Core	21.0	21.4	56348	16.6	114293	289829	b.d.l.	9593	32814	b.d.l.	65.1	b.d.l.	9.6	1434.5	2.7	77.0	0.4	b.d.l.	b.d.l.	b.d.l.	141.8	29.1	32.8	2.4	6.0	0.5	2.0	0.2	0.0	0.1
grain3-16	Core	21.0	21.3	56197	27.5	114712	289829	b.d.l.	9270	31730	1.2	63.1	b.d.l.	10.0	1477.8	2.9	75.4	0.3	b.d.l.	b.d.l.	b.d.l.	130.8	28.2	31.4	2.3	5.7	0.5	1.7	0.2	0.0	0.1
grain3-17	Core	20.7	20.5	59590	27.0	115189	289829	24.0	9175	33455	0.8	76.2	b.d.l.	10.5	1587.8	2.9	76.5	0.3	b.d.l.	b.d.l.	b.d.l.	130.6	29.5	33.4	2.4	6.4	0.5	1.8	0.3	0.0	0.1
grain3-18	Core	22.8	19.9	60400	33.4	113836	289829	22.0	9379	33170	b.d.l.	68.8	b.d.l.	11.0	1528.5	3.0	77.5	0.3	b.d.l.	b.d.l.	b.d.l.	125.2	29.6	33.8	2.4	6.0	0.6	2.1	0.2	0.0	0.1
grain3-19	Core	22.9	20.1	59347	25.4	116984	289829	b.d.l.	9413	32849	b.d.l.	66.4	b.d.l.	10.4	1485.3	2.8	77.0	0.3	b.d.l.	b.d.l.	b.d.l.	129.8	30.1	34.0	2.4	6.6	0.5	1.8	0.2	b.d.l.	0.1
grain3-20	Core	21.8	18.7	57828	27.0	115593	289829	36.3	9394	31719	b.d.l.	72.3	b.d.l.	9.2	1536.0	3.1	73.5	0.3	b.d.l.	b.d.l.	b.d.l.	124.2	29.2	32.0	2.3	6.4	0.4	1.7	0.2	b.d.l.	0.1
grain3-21	Core	20.6	18.0	56908	26.6	113475	294503	b.d.l.	10355	31566	b.d.l.	70.2	b.d.l.	9.3	1505.9	3.1	70.8	0.3	b.d.l.	0.0	b.d.l.	127.1	28.7	29.9	2.2	5.5	0.6	1.8	0.2	0.0	b.d.l.

Table A1.7: continued

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.2	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.9	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.8	b.d.l.	b.d.l.
b.d.l.	0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	16.4	0.0	b.d.l.
0.0	0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	16.3	b.d.l.	0.0
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.4	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	16.8	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.4	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.1	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.5	b.d.l.	b.d.l.
0.0	0.1	b.d.l.	b.d.l.	0.0	b.d.l.	0.0	17.4	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.4	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	16.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.0	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.1	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	16.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	17.3	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.2	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.9	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	16.2	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.6	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	16.0	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	16.2	0.0	0.0
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	17.2	0.1	0.0
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.1	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.3	0.0	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.2	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	15.2	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	15.7	0.0	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.6	b.d.l.	0.0
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.0	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	16.1	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.7	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.1	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.5	b.d.l.	0.0
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
b.d.l.	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.5	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.1	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.1	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.6	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.

Table A1.7: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
grain3-22	Core	17.9	17.8	58500	24.6	116683	289829	b.d.l.	9892	29028	b.d.l.	65.3	b.d.l.	9.3	1425.5	3.0	67.9	0.3	b.d.l.	b.d.l.	b.d.l.	126.5	27.4	29.1	2.2	5.4	0.4	1.6	b.d.l.	0.0	0.1
grain3-23	Core	18.6	18.2	58060	26.7	115260	294503	31.5	10449	29421	b.d.l.	60.7	b.d.l.	8.3	1468.9	3.3	68.7	0.3	b.d.l.	b.d.l.	b.d.l.	118.4	25.9	29.2	2.1	4.9	0.5	1.6	0.2	0.0	0.1
grain3-24	Core	19.1	18.4	58118	26.0	116545	289829	b.d.l.	9962	31932	0.7	57.4	b.d.l.	9.9	1505.5	3.0	68.1	0.3	b.d.l.	0.0	b.d.l.	104.5	28.0	30.9	2.2	5.7	0.7	1.6	b.d.l.	0.0	0.1
grain3-25	Core	17.3	17.6	58225	24.1	114582	289829	b.d.l.	10269	29357	b.d.l.	57.3	b.d.l.	9.3	1411.6	3.3	63.3	0.3	b.d.l.	b.d.l.	b.d.l.	88.2	25.3	28.3	2.0	5.2	0.4	1.6	0.3	0.0	b.d.l.
grain3-26	Core	17.4	17.4	56572	25.3	113790	289829	30.8	10418	30735	b.d.l.	56.5	b.d.l.	8.6	1379.0	3.3	61.0	0.4	b.d.l.	b.d.l.	b.d.l.	80.3	25.7	27.8	2.1	5.8	0.6	1.5	b.d.l.	b.d.l.	0.1
grain3-27	Core	20.6	17.7	57863	25.4	115300	289829	22.0	10938	29869	b.d.l.	58.0	b.d.l.	8.7	1502.9	3.1	57.6	0.3	b.d.l.	b.d.l.	b.d.l.	72.6	26.4	28.9	2.0	5.5	0.7	1.5	0.3	0.0	0.1
grain3-28	Core	16.6	18.5	57711	30.6	112598	294503	19.9	10713	29672	0.7	55.7	b.d.l.	8.4	1431.2	3.5	54.0	0.4	b.d.l.	b.d.l.	b.d.l.	67.4	25.1	27.2	1.8	4.6	0.4	1.3	0.2	0.0	0.1
grain3-29	Core	20.1	18.1	57870	27.9	114253	294503	b.d.l.	10684	29027	b.d.l.	58.3	b.d.l.	8.9	1459.5	3.8	49.9	0.3	b.d.l.	b.d.l.	b.d.l.	58.5	24.7	27.1	2.1	4.6	0.5	1.4	0.2	b.d.l.	0.1
grain3-30	Core	23.0	18.8	57687	27.8	115771	294503	23.3	10787	29647	b.d.l.	54.5	b.d.l.	8.9	1478.3	3.6	49.3	0.3	b.d.l.	b.d.l.	b.d.l.	52.4	25.6	27.2	2.0	5.4	0.4	1.3	0.2	0.0	0.1
grain3-31	Core	20.0	19.3	59116	28.0	113094	294503	22.2	10384	30158	b.d.l.	55.3	b.d.l.	8.7	1475.3	3.3	45.5	0.3	b.d.l.	b.d.l.	b.d.l.	45.0	24.6	27.1	1.9	4.9	0.3	1.1	0.1	b.d.l.	0.1
grain3-32	Core	19.4	15.7	57010	24.4	110812	294503	b.d.l.	10614	29150	b.d.l.	44.5	0.1	8.0	1353.1	3.6	43.1	0.3	b.d.l.	b.d.l.	b.d.l.	34.7	23.3	25.9	1.8	5.2	0.5	1.1	0.3	b.d.l.	0.1
grain3-33	Core	12.6	10.6	57660	25.2	113329	294503	20.1	11079	28545	0.8	48.8	b.d.l.	7.6	1338.3	3.6	42.7	0.3	b.d.l.	b.d.l.	b.d.l.	25.5	21.8	24.3	1.7	4.2	0.4	1.1	0.2	0.0	0.1
grain3-34	Core	21.2	20.1	57510	25.1	111785	294503	b.d.l.	10946	27532	b.d.l.	40.8	b.d.l.	7.5	1372.5	3.8	43.0	0.3	b.d.l.	b.d.l.	b.d.l.	20.2	20.7	22.2	1.5	3.7	0.4	1.2	0.2	0.0	0.1
grain3-35	Core	22.1	21.1	58557	22.5	114450	294503	22.6	11380	26371	0.7	48.3	b.d.l.	7.6	1291.4	3.8	44.9	0.3	b.d.l.	b.d.l.	b.d.l.	21.9	20.3	22.1	1.5	4.1	0.4	1.2	0.2	b.d.l.	0.1
grain3-36	Core	20.8	19.7	58428	24.0	113040	294503	b.d.l.	11613	27877	b.d.l.	41.3	b.d.l.	7.3	1285.8	4.2	46.1	0.3	b.d.l.	b.d.l.	b.d.l.	20.7	20.2	21.9	1.7	4.2	0.4	1.2	b.d.l.	0.0	0.1
grain3-37	Core	21.7	18.8	59277	15.3	111550	294503	22.6	13130	24144	0.8	46.1	b.d.l.	6.4	1243.1	4.7	50.1	0.2	b.d.l.	b.d.l.	b.d.l.	24.1	20.0	20.0	1.4	3.4	0.3	1.3	0.1	0.0	0.1
grain3-38	Core	20.9	18.9	58075	24.1	112884	294503	22.1	11393	27831	b.d.l.	43.9	b.d.l.	7.8	1296.5	4.4	53.2	0.2	b.d.l.	b.d.l.	b.d.l.	28.1	20.9	22.9	1.5	4.2	0.3	1.3	0.1	0.0	0.0
grain3-39	Core	16.4	18.4	58768	20.9	114131	294503	21.1	11692	27430	b.d.l.	45.7	b.d.l.	7.2	1274.2	4.1	56.4	0.2	b.d.l.	b.d.l.	b.d.l.	35.6	20.8	22.6	1.6	4.0	0.5	1.4	0.2	0.0	0.1
grain3-40	Core	16.6	15.3	58920	22.2	115219	294503	33.5	12793	26563	b.d.l.	50.9	b.d.l.	6.4	1282.2	4.4	61.4	0.2	b.d.l.	b.d.l.	b.d.l.	49.9	19.1	20.2	1.5	3.4	0.3	1.6	b.d.l.	0.0	0.1
grain3-41	Core - close to crack	b.d.l.	11.5	57801	17.6	112435	294503	27.4	12488	26818	b.d.l.	46.1	b.d.l.	7.4	1288.2	4.6	65.1	0.3	0.2	0.0	b.d.l.	71.5	19.5	21.7	1.5	3.9	0.5	1.7	b.d.l.	0.0	0.1
grain3-42	Core - close to crack	b.d.l.	8.2	59246	22.1	110979	294503	20.0	12973	26679	0.8	44.7	b.d.l.	7.0	1277.0	4.8	68.6	0.2	b.d.l.	b.d.l.	b.d.l.	98.3	19.8	21.2	1.6	3.7	0.4	1.7	0.1	b.d.l.	0.0
grain3-43	Core - close to crack	b.d.l.	9.8	56673	23.7	111341	294503	20.6	12395	25986	0.6	45.5	b.d.l.	6.5	1274.5	4.1	67.9	0.2	b.d.l.	b.d.l.	b.d.l.	123.2	20.3	21.5	1.6	3.9	0.3	1.8	0.2	0.0	0.0
grain3-44	Core	14.6	13.4	58802	19.6	114592	294503	b.d.l.	12637	27224	1.1	49.9	b.d.l.	7.1	1356.4	4.1	71.8	0.2	b.d.l.	b.d.l.	b.d.l.	136.6	20.8	23.6	1.7	3.9	0.5	2.1	0.2	b.d.l.	0.1
grain3-45	Core	18.9	18.3	60342	16.3	117061	294503	b.d.l.	13007	26969	b.d.l.	48.3	b.d.l.	7.5	1309.1	4.4	67.1	0.2	b.d.l.	b.d.l.	b.d.l.	134.3	20.5	21.7	1.6	4.4	0.2	2.0	0.3	b.d.l.	0.1
grain3-46	Middle	23.8	20.4	60269	21.0	110039	294503	b.d.l.	12584	27129	b.d.l.	43.0	b.d.l.	7.3	1307.8	4.2	61.5	0.2	b.d.l.	0.0	b.d.l.	113.7	20.3	23.7	1.6	4.6	0.4	1.8	0.3	b.d.l.	b.d.l.
grain3-47	Middle	22.1	20.4	58324	25.5	112617	294503	b.d.l.	13027	25852	b.d.l.	48.4	b.d.l.	7.2	1280.0	4.6	59.8	0.2	b.d.l.	b.d.l.	b.d.l.	98.6	20.1	21.3	1.6	4.1	0.4	1.9	0.3	0.0	0.1
grain3-48	Middle	20.1	21.6	59363	18.2	112823	294503	b.d.l.	13125	25748	b.d.l.	42.2	b.d.l.	7.2	1254.9	4.7	58.6	0.2	b.d.l.	b.d.l.	b.d.l.	63.7	18.7	20.0	1.4	3.6	0.3	1.6	0.2	0.0	0.1
grain3-49	Middle	20.9	21.9	60743	11.1	115838	299178	b.d.l.	13050	26683	b.d.l.	43.1	b.d.l.	7.7	1323.0	4.9	61.4	0.2	0.1	0.1	b.d.l.	51.3	18.0	19.9	1.4	3.6	0.3	1.8	0.2	b.d.l.	0.1
grain3-50	Middle	24.7	22.5	59117	18.6	113601	299178	b.d.l.	13847	27324	b.d.l.	44.3	b.d.l.	7.9	1382.3	5.3	68.0	0.3	0.1	0.0	b.d.l.	83.3	18.5	20.2	1.4	3.4	0.4	1.9	b.d.l.	0.0	0.1
grain3-51	Middle	23.4	21.8	56950	15.6	112134	294503	29.5	12651	26651	b.d.l.	39.0	b.d.l.	7.2	1254.0	4.4	66.7	0.3	b.d.l.	b.d.l.	b.d.l.	115.3	18.8	20.7	1.4	3.8	0.4	1.9	0.2	0.0	0.1
grain3-52	Middle	18.3	20.5	57426	19.9	111510	294503	b.d.l.	13385	25963	b.d.l.	43.0	b.d.l.	7.0	1179.6	4.8	68.0	0.1	b.d.l.	b.d.l.	b.d.l.	88.7	17.9	19.6	1.4	3.4	0.3	1.8	0.2	b.d.l.	0.0
grain3-53	Rim	15.4	16.7	57340	22.0	107312	294503	24.4	12953	25570	b.d.l.	36.0	b.d.l.	6.7	1209.5	4.7	85.2	0.2	b.d.l.	0.0	b.d.l.	89.9	17.6	18.7	1.4	3.4	0.4	2.1	0.2	0.0	0.1
Mount1-plag4-1	Rim	19.3	20.0	56489	25.2	115869	289829	b.d.l.	9545	32139	0.7	56.4	b.d.l.	9.6	1432.0	2.9	94.2	0.4	b.d.l.	b.d.l.	b.d.l.	130.4	26.6	30.2	2.2	5.6	0.5	1.9	0.4	0.0	0.0
Mount1-plag4-2	Middle	18.8	19.6	56789	25.1	115129	289829	22.6	9599	32231	b.d.l.	54.8	b.d.l.	9.6	1451.2	2.7	90.9	0.3	b.d.l.	b.d.l.	b.d.l.	117.3	26.0	28.9	2.2	5.8	0.5	1.9	b.d.l.	b.d.l.	0.1
Mount1-plag4-3	Middle	20.8	19.1	55934	22.0	115438	289829	b.d.l.	9956	31077	b.d.l.	54.6	b.d.l.	9.0	1381.4	2.9	90.7	0.3	b.d.l.	b.d.l.	b.d.l.	112.3	25.3	28.0	2.1	5.7	0.4	1.9	b.d.l.	b.d.l.	0.1
Mount1-plag4-4	Core	18.9	18.5	56705	26.8	114819	289829	b.d.l.	9963	30125	b.d.l.	60.9	b.d.l.	9.0	1418.0	3.2	98.0	0.3	b.d.l.	b.d.l.	b.d.l.	140.9	26.1	29.3	2.1	5.5	0.3	2.1	0.2	0.0	0.1
Mount1-plag4-5	Core	17.9	18.5	56165	27.5	114957	289829	b.d.l.	9824	30567	b.d.l.	50.6	b.d.l.	9.1	1425.6	2.9	98.5	0.3	b.d.l.	b.d.l.	b.d.l.	141.4	26.3	29.1	2.2	5.5	0.4	2.1	0.3	0.0	0.1
Mount1-plag4-6	Core	17.8	18.4	56900	23.0	113268	289829	32.5	10099	29425	b.d.l.	54.7	b.d.l.	9.7	1441.5	3.1	95.8	0.3	b.d.l.	b.d.l.	b.d.l.	135.8	25.6	28.9	2.1	5.4	0.4	2.1	0.3	b.d.l.	0.1
Mount1-plag4-7	Core	20.7	18.9	55643	22.3	112441	289829	b.d.l.	9940	30785	0.9	50.9	b.d.l.	8.9	1426.8	3.0	94.7	0.3	b.d.l.	b.d.l.	b.d.l.	124.0	26.0	28.9	2.0	5.4	0.5	2.1	0.3	0.0	0.1
Mount1-plag4-8	Core	19.2	18.5	58030	19.5	111900	289829	b.d.l.	9672	30671	b.d.l.	53.0	b.d.l.	8.8	1459.2	3.0	91.9	0.3	b.d.l.	b.d.l.	b.d.l.	112.0	25.2	28.7	2.1	5.5	0.6	2.0	0.2	0.0	0.1
Mount1-plag4-9	Core	17.2	18.1	56108	28.2	115626	289829	b.d.l.	9969	30721	b.d.l.	53.7	b.d.l.	9.6	1422.5	3.0	93.4	0.3	b.d.l.	b.d.l.	b.d.l.	119.6	25.8	28.8	2.0	5.1	0.5	2.0	0.3	0.0	0.1
Mount1-plag4-10	Core	18.6	17.8	55691	20.2	112394	289829	b.d.l.	10256	30699	0.7	49.0	b.d.l.	9.3	1385.7	3.0	90.2	0.3	b.d.l.	b.d.l.	b.d.l.	112.8	25.6	28.1	2.0	5.1	0.6	2.0	0.2	0.0	0.1
Mount1-plag4-11	Core	18.5	18.0	55283	23.0	114276	289829	b.d.l.	10105	29448	0.8	51.4	b.d.l.	9.2	1456.3	3.3	92.0	0.3	b.d.l.	b.d.l.	b.d.l.	111.7	25.1	27.8	2.0	5.0	0.5	2.1	0.2	b.d.l.	0.1
Mount1-plag4-12	Core	20.0	18.0	56858	17.7	115279	289829	20.8	10886	30386	0.7	48.2	b.d.l.	9.5	1448.8	3.4	86.8	0.3	b.d.l.	b.d.l.	b.d.l.	85.5	22.8	26.4	1.9	5.1	0.4	2.0	0.1	0.0	0.1
Mount1-plag4-13	Core	16.8	17.8	56436	24.4	114128	294503	b.d.l.	10813	30130	b.d.l.	49.0	b.d.l.	8.6	1455.4	3.4	84.5	0.3	b.d.l.	b.d.l.	b.d.l.	79.6	23.6	26.7	2.0	5.1	0.5	2.0	b.d.l.	0.0	0.1
Mount1-plag4-14	Core	19.2	17.0	55668	22.2	109277	289829	b.d.l.	10304	28464	0.6	46.3	b.d.l.	8.2	1443.2	3.4	82.4	0.3	b.d.l.	b.d.l.	b.d.l.	74.9	22.5	25.0	1.9	4.9	0.4	1.8	0.3	0.0	0.1
Mount1-plag4-15	Core	15.1	17.7	57143	26.0	112666	289829	b.d.l.	10648	30224	0.7	49.2	b.d.l.	8.5	1390.4	3.3	84.6	0.3	0.2	b.d.l.	b.d.l.	80.4	22.6	25.2	1.8	4.9	0.3	1.8	0.2	0.0	0.1
Mount1-plag4-16	Core	18.0	17.0	56706	23.6	115072	289829	29.5	10967	29455	b.d.l.	47.7	b.d.l.	8.7	1434.8	3.2	84.8	0.3	b.d.l.	b.d.l.	b.d.l.	76.7	22.6	25.6	1.7	4.7	0.3	1.7	0.3	0.0	0.1
Mount1-plag4-17	Core	18.5	16.5	56838	26.1	113201	289829	26.7	10476	30164	b.d.l.	50.1	b.d.l.	8.6	1421.2	3.1	83.7	0.3	b.d.l.	b.d.l.	b.d.l.	73.0	22.7	25.2	1.8	5.0	0.3	1.9	0.2	0.0	0.1
Mount1-plag4-18	Core	18.1	16.4	56732	31.7	116721	294503	b.d.l.	10424	30459	0.9	46.3	b.d.l.	8.5	1422.2	3.2	85.6	0.3	b.d.l.	b.d.l.	b.d.l.	71.0	23.6	25.3	1.9	4.7	0.3	1.8	0.3	0.0	0.1
Mount1-plag4-19	Core	20.5	16.5	57177	24.4	112814	289829	24.2	10448	28728	0.7	47.7	b.d.l.	9.2	1429.3	2.9	84.5	0.3	b.d.l.	b.d.l.	b.d.l.	71.0	22.4	24.8	1.8	4.4	0.5	1.9	0.3	0.0	0.1
Mount1-plag4-20	Core	19.2	16.3	58500	21.4	112919	289829	24.4	10659	29984	b.d.l.	48.0	b.d.l.	9.3	1424.7	3.3	85.2	0.4	b.d.l.	b.d.l.	b.d.l.	71.5	22.4	25.3	1.8	4.9	0.6	1.8	0.3	b.d.l.	0.1
Mount1-plag4-21	Core	17.5	16.1	56214	19.1	114018	289829	b.d.l.	10228	29779	b.d.l.	45.5	b.d.l.	8.4	1406.3	3.4	86.1	0.3	b.d.l.	b.d.l.	b.d.l.	67.0	22.4	25.2	1.8	5.0	0.5	1.9	0.2	b.d.l.	0.1

Table A1.7: continued

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.4	b.d.l.	0.0
0.0	0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	16.5	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	16.6	b.d.l.	b.d.l.
b.d.l.	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	15.7	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.4	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.1	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.2	b.d.l.	0.0
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.7	b.d.l.	0.0
0.0	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	16.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.2	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.0	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.3	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.6	0.0	b.d.l.
0.0	0.0	0.0	0.0	b.d.l.	0.0	b.d.l.	16.3	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	17.4	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	16.4	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.2	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.0	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	16.3	0.0	0.0
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	16.8	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	15.1	0.0	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.0	b.d.l.	0.0
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.1	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.0	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.9	b.d.l.	0.0
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	14.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	15.4	b.d.l.	b.d.l.
b.d.l.	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.1	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.1	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.2	b.d.l.	0.0
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.7	b.d.l.	b.d.l.
0.0	0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.2	0.0	0.0
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.2	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.1	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.2	b.d.l.	b.d.l.
b.d.l.	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.9	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	14.6	b.d.l.	b.d.l.

Table A1.7: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
Mount1-plag4-22	Core	16.7	16.4	59954	20.4	115474	294503	b.d.l.	11198	30539	b.d.l.	49.0	b.d.l.	9.4	1491.7	3.2	88.6	0.3	b.d.l.	b.d.l.	b.d.l.	72.6	22.6	26.1	2.0	4.7	0.5	2.0	0.2	b.d.l.	0.1
Mount1-plag4-23	Core	17.0	16.6	56476	18.8	112687	294503	22.3	10643	28034	0.8	44.8	b.d.l.	8.9	1358.3	3.1	87.7	0.3	b.d.l.	b.d.l.	b.d.l.	68.7	22.2	25.5	1.8	4.8	0.5	2.0	0.2	b.d.l.	0.0
Mount1-plag4-24	Core	19.4	16.2	57184	26.7	114909	289829	b.d.l.	10710	29810	0.6	48.4	b.d.l.	8.9	1396.7	3.2	86.5	0.3	b.d.l.	b.d.l.	b.d.l.	73.3	23.4	26.5	1.8	4.7	0.4	2.0	0.2	0.0	0.1
Mount1-plag4-25	Core	15.7	16.4	56638	27.2	117197	294503	b.d.l.	10797	29924	0.7	46.7	b.d.l.	8.4	1447.0	3.3	88.2	0.3	b.d.l.	b.d.l.	b.d.l.	71.4	23.4	25.7	2.0	5.1	0.4	1.9	0.2	b.d.l.	0.1
Mount1-plag4-26	Core	14.9	16.3	56853	20.9	110688	289829	28.4	10538	29913	0.6	48.9	b.d.l.	8.2	1419.0	3.0	85.3	0.2	b.d.l.	b.d.l.	b.d.l.	69.2	22.4	25.1	1.9	5.0	0.4	1.8	0.2	0.0	0.1
Mount1-plag4-27	Core	15.5	16.1	57542	23.6	112901	294503	b.d.l.	10874	29994	b.d.l.	47.8	b.d.l.	8.9	1428.6	3.4	86.1	0.3	b.d.l.	b.d.l.	b.d.l.	69.1	22.6	26.1	1.8	5.1	0.5	1.7	0.2	0.0	b.d.l.
Mount1-plag4-28	Core	18.7	16.1	56617	25.8	116822	289829	21.0	10679	30806	1.2	44.7	b.d.l.	9.0	1436.9	3.4	84.4	0.3	b.d.l.	b.d.l.	b.d.l.	67.4	23.1	26.3	1.8	4.8	0.5	1.9	0.3	b.d.l.	0.1
Mount1-plag4-29	Core	15.5	16.6	57463	26.9	116832	294503	38.9	10678	29989	b.d.l.	54.7	b.d.l.	9.2	1465.2	3.2	82.2	0.3	b.d.l.	b.d.l.	b.d.l.	67.6	23.0	26.4	1.9	4.6	0.5	1.8	0.1	0.0	0.1
Mount1-plag4-30	Core	16.8	15.6	56613	22.2	110740	294503	b.d.l.	10277	29017	b.d.l.	49.3	b.d.l.	9.1	1485.3	3.1	80.3	0.3	b.d.l.	b.d.l.	b.d.l.	65.6	22.9	24.7	1.9	4.6	0.5	1.6	0.2	0.0	0.1
Mount1-plag4-31	Core	17.3	16.3	57638	19.9	118254	294503	b.d.l.	10837	32279	b.d.l.	52.5	b.d.l.	9.3	1426.9	3.6	81.2	0.3	b.d.l.	b.d.l.	b.d.l.	69.8	23.6	25.9	1.9	5.3	0.4	2.0	0.2	b.d.l.	0.0
Mount1-plag4-32	Core	15.2	15.5	55416	16.3	111046	294503	27.3	10397	29406	0.6	50.4	b.d.l.	9.4	1392.7	3.2	77.9	0.3	b.d.l.	b.d.l.	b.d.l.	66.2	22.2	24.8	1.8	4.8	0.4	1.7	0.3	0.0	0.1
Mount1-plag4-33	Core	17.0	16.2	59815	27.9	118772	294503	b.d.l.	10670	32464	b.d.l.	50.0	b.d.l.	9.0	1461.7	3.3	81.8	0.3	b.d.l.	b.d.l.	b.d.l.	71.1	23.7	27.1	2.0	5.0	0.4	1.8	0.3	b.d.l.	0.1
Mount1-plag4-34	Core	16.6	14.9	56830	23.4	114570	294503	b.d.l.	10637	31444	b.d.l.	50.4	b.d.l.	8.7	1466.5	3.1	82.0	0.3	b.d.l.	b.d.l.	b.d.l.	70.8	23.8	26.4	1.9	5.2	0.4	1.7	0.2	0.0	0.1
Mount1-plag4-35	Core	16.8	15.9	58980	25.1	114379	294503	b.d.l.	10701	31003	0.7	46.6	b.d.l.	9.1	1459.1	3.2	81.4	0.3	b.d.l.	b.d.l.	b.d.l.	68.7	23.6	25.7	1.9	4.6	0.4	1.7	0.4	0.0	b.d.l.
Mount1-plag4-36	Core	15.5	15.1	57586	30.1	115844	294503	b.d.l.	10696	31687	b.d.l.	51.7	b.d.l.	9.3	1466.6	3.3	80.7	0.3	b.d.l.	b.d.l.	b.d.l.	70.1	23.2	25.8	1.9	5.3	0.5	1.9	0.2	0.0	0.1
Mount1-plag4-37	Core	16.6	15.2	58038	22.0	111791	294503	b.d.l.	10589	29936	0.7	44.4	b.d.l.	8.3	1385.1	3.1	76.2	0.3	b.d.l.	b.d.l.	b.d.l.	62.3	22.6	24.3	1.9	5.0	0.3	1.5	0.2	0.0	0.1
Mount1-plag4-38	Core	17.4	15.9	56908	25.2	113612	294503	b.d.l.	10722	29587	b.d.l.	50.7	b.d.l.	8.6	1453.3	3.5	76.6	0.3	b.d.l.	b.d.l.	b.d.l.	61.0	22.4	25.0	1.8	4.3	0.4	1.6	0.3	b.d.l.	0.1
Mount1-plag4-39	Core	15.9	15.8	57698	20.7	114348	289829	b.d.l.	11606	29205	b.d.l.	49.4	b.d.l.	8.6	1458.6	3.3	75.3	0.3	b.d.l.	b.d.l.	b.d.l.	59.4	22.3	24.5	1.8	4.8	0.4	1.6	0.2	0.0	0.1
Mount1-plag4-40	Core	17.4	15.8	57402	19.8	115257	294503	b.d.l.	11154	29054	b.d.l.	47.0	b.d.l.	8.7	1457.6	3.5	74.1	0.3	b.d.l.	b.d.l.	b.d.l.	59.7	22.2	25.2	1.7	4.7	0.4	1.7	0.2	0.0	0.0
Mount1-plag4-41	Core	16.9	15.2	59513	19.3	115884	294503	b.d.l.	10883	29898	b.d.l.	46.7	b.d.l.	8.1	1409.2	3.4	72.3	0.3	b.d.l.	b.d.l.	b.d.l.	57.2	21.7	24.0	1.7	4.7	0.4	1.7	0.2	0.0	0.2
Mount1-plag4-42	Core	15.6	15.3	58608	23.4	111254	294503	b.d.l.	10986	29619	0.8	47.6	b.d.l.	8.9	1450.0	3.7	70.3	0.3	b.d.l.	b.d.l.	b.d.l.	57.0	21.3	23.5	1.7	4.4	0.3	1.6	b.d.l.	b.d.l.	0.1
Mount1-plag4-43	Core	15.4	15.5	58359	16.2	114602	294503	b.d.l.	11008	28650	1.0	48.1	b.d.l.	8.2	1477.8	3.7	72.7	0.2	b.d.l.	b.d.l.	b.d.l.	58.1	21.1	24.2	1.7	4.6	0.3	1.7	b.d.l.	0.0	0.1
Mount1-plag4-44	Core	15.3	15.6	58592	20.1	113105	294503	b.d.l.	11066	28484	b.d.l.	43.2	b.d.l.	8.0	1443.4	3.7	72.6	0.3	b.d.l.	b.d.l.	b.d.l.	56.9	21.1	24.0	1.6	4.1	0.4	1.7	0.3	0.0	0.1
Mount1-plag4-45	Core	15.2	15.7	59772	17.9	116362	294503	32.9	11616	29363	0.6	47.3	b.d.l.	9.2	1440.5	3.7	75.1	0.2	b.d.l.	b.d.l.	b.d.l.	66.3	21.3	23.8	1.7	4.5	0.4	1.9	0.2	b.d.l.	0.1
Mount1-plag4-46	Core	16.4	15.7	59004	20.5	113135	294503	b.d.l.	11343	28036	0.9	45.2	b.d.l.	8.2	1393.5	3.6	78.1	0.2	b.d.l.	b.d.l.	b.d.l.	76.3	20.8	23.0	1.7	4.3	0.4	1.6	b.d.l.	b.d.l.	0.1
Mount1-plag4-47	Core	17.2	15.4	57123	17.8	111708	294503	b.d.l.	11301	27531	0.8	43.4	b.d.l.	7.7	1386.0	3.6	78.4	0.2	b.d.l.	b.d.l.	b.d.l.	78.4	20.0	22.8	1.6	3.9	0.6	1.9	0.2	b.d.l.	0.1
Mount1-plag4-48	Core	17.6	16.0	59123	27.3	114037	294503	b.d.l.	11451	29018	0.8	44.5	b.d.l.	8.4	1476.9	3.7	87.5	0.3	b.d.l.	b.d.l.	b.d.l.	91.1	21.1	23.2	1.7	4.4	0.4	2.1	0.2	0.0	0.1
Mount1-plag4-49	Core	16.2	16.6	60115	20.1	113713	294503	22.3	11367	28947	0.7	48.1	b.d.l.	7.4	1465.9	3.8	101.8	0.3	b.d.l.	b.d.l.	b.d.l.	137.3	20.6	23.4	1.7	4.9	0.4	2.5	0.2	0.0	b.d.l.
Mount1-plag4-50	Core	14.6	15.6	57099	23.2	110947	289829	b.d.l.	11413	26908	0.7	39.8	b.d.l.	7.9	1389.3	3.7	94.1	0.2	b.d.l.	b.d.l.	b.d.l.	116.2	19.9	23.0	1.6	4.2	0.4	2.2	0.2	b.d.l.	0.1
Mount1-plag4-51	Core	16.6	16.5	61708	16.6	116056	294503	b.d.l.	12077	29213	b.d.l.	47.6	b.d.l.	7.5	1443.7	3.6	107.4	0.2	b.d.l.	b.d.l.	b.d.l.	155.7	21.3	23.6	1.7	4.6	0.3	2.8	b.d.l.	b.d.l.	0.1
Mount1-plag4-52	Core	17.6	16.7	58980	21.4	113766	294503	b.d.l.	11595	30533	0.8	47.0	b.d.l.	8.3	1453.2	3.7	125.7	0.3	b.d.l.	b.d.l.	b.d.l.	225.1	21.9	24.3	1.7	4.7	0.4	3.2	0.2	0.0	0.2
Mount1-plag4-53	Core	14.4	16.5	60145	24.5	115815	294503	b.d.l.	11917	29471	b.d.l.	50.3	b.d.l.	8.4	1406.8	4.0	144.5	0.3	b.d.l.	0.0	b.d.l.	321.0	22.3	24.0	1.7	4.5	0.6	3.7	0.2	b.d.l.	0.1
Mount1-plag4-54	Core	17.1	16.6	57182	22.4	112971	294503	b.d.l.	11776	27324	b.d.l.	47.1	b.d.l.	8.0	1392.7	3.9	154.3	0.3	b.d.l.	b.d.l.	b.d.l.	382.7	21.7	24.2	1.7	4.8	0.6	4.2	b.d.l.	b.d.l.	0.1
Mount1-plag4-55	Core	16.2	17.8	58960	20.0	115444	294503	b.d.l.	11370	29780	0.8	53.4	b.d.l.	8.7	1387.4	3.4	154.4	0.3	b.d.l.	b.d.l.	b.d.l.	348.3	22.0	23.9	1.7	4.5	0.4	4.2	0.2	0.0	0.1
Mount1-plag4-56	Core	14.0	18.1	57123	13.8	112453	294503	b.d.l.	11476	28256	b.d.l.	46.2	b.d.l.	8.3	1399.4	3.3	147.9	0.3	b.d.l.	b.d.l.	b.d.l.	295.7	21.1	24.1	1.8	4.5	0.4	4.0	b.d.l.	0.0	b.d.l.
Mount1-plag4-57	Core	19.1	18.4	58127	19.9	112523	294503	b.d.l.	12052	29516	0.9	52.4	b.d.l.	8.3	1374.6	3.6	135.3	0.3	b.d.l.	b.d.l.	b.d.l.	259.0	22.0	24.5	1.8	4.4	0.4	3.7	0.3	0.0	0.1
Mount1-plag4-58	Middle	20.2	18.9	58354	19.4	112353	294503	b.d.l.	11503	29073	0.6	53.1	b.d.l.	7.7	1352.1	3.9	120.5	0.2	b.d.l.	b.d.l.	b.d.l.	218.4	21.1	23.7	1.6	4.4	0.5	3.3	0.2	b.d.l.	0.1
Mount1-plag4-59	Middle	21.1	19.8	59012	20.9	116842	294503	b.d.l.	11599	30382	b.d.l.	45.6	b.d.l.	8.2	1402.3	3.9	116.1	0.3	0.1	b.d.l.	b.d.l.	183.2	21.1	23.6	1.7	4.8	0.4	3.2	0.3	b.d.l.	0.1
Mount1-plag4-60	Middle	18.7	20.4	58510	24.6	115065	294503	b.d.l.	11731	30199	0.6	45.4	b.d.l.	8.8	1387.6	3.9	107.4	0.3	b.d.l.	b.d.l.	b.d.l.	161.1	20.3	22.9	1.7	4.0	0.3	3.1	0.2	b.d.l.	0.1
Mount1-plag4-61	Middle	21.9	20.7	59732	21.2	113637	294503	b.d.l.	11990	27754	0.6	41.8	b.d.l.	8.3	1289.1	3.7	101.2	0.2	b.d.l.	b.d.l.	b.d.l.	162.1	19.6	22.0	1.7	3.9	0.4	2.9	0.2	0.0	b.d.l.
Mount1-plag4-62	Middle	19.7	21.6	60198	23.1	114763	294503	b.d.l.	12696	27416	0.7	43.9	b.d.l.	8.4	1428.4	4.2	96.1	0.3	b.d.l.	b.d.l.	b.d.l.	172.0	20.2	21.7	1.6	4.4	0.5	2.7	0.2	b.d.l.	0.0
grain8-1	Rim	15.1	15.2	58044	24.2	113512	294503	b.d.l.	12763	26124	b.d.l.	53.0	b.d.l.	7.2	1279.3	4.4	91.7	0.3	b.d.l.	b.d.l.	b.d.l.	155.5	23.0	24.2	1.8	4.6	0.3	2.3	b.d.l.	0.0	0.1
grain8-2	Rim	22.1	19.5	57310	22.5	115747	289829	25.6	11126	29066	b.d.l.	54.5	b.d.l.	8.1	1413.4	3.0	83.2	0.2	b.d.l.	b.d.l.	b.d.l.	166.8	24.9	27.4	1.9	4.5	0.7	2.3	0.2	b.d.l.	0.1
grain8-3	Middle	21.2	20.8	56669	21.0	115955	289829	b.d.l.	10715	29392	b.d.l.	57.0	b.d.l.	9.0	1410.7	3.2	85.4	0.3	b.d.l.	b.d.l.	b.d.l.	174.9	25.4	28.4	2.1	5.2	0.4	2.2	b.d.l.	0.0	0.1
grain8-4	Middle	23.1	20.9	56218	24.4	112404	280479	b.d.l.	10326	30259	b.d.l.	56.5	b.d.l.	8.8	1450.2	3.1	95.0	0.3	b.d.l.	b.d.l.	b.d.l.	174.8	25.9	29.2	2.2	5.1	0.4	2.5	0.1	0.0	0.1
grain8-5	Middle	20.6	20.1	58668	23.2	113806	289829	b.d.l.	10478	29880	b.d.l.	59.6	b.d.l.	9.0	1463.0	3.2	104.0	0.2	b.d.l.	b.d.l.	b.d.l.	183.7	26.3	29.3	2.1	5.7	0.5	2.4	0.3	0.0	0.1
grain8-6	Middle	21.2	19.7	56895	25.0	116024	289829	26.7	10195	31845	b.d.l.	62.3	b.d.l.	9.4	1490.1	3.1	110.6	0.3	0.1	0.0	b.d.l.	192.3	29.4	31.9	2.2	6.2	0.3	2.6	0.2	0.0	0.1
grain8-7	Core	19.4	18.7	56204	31.8	115618	289829	b.d.l.	10206	31426	0.7	66.6	b.d.l.	9.7	1476.8	2.9	118.6	0.3	b.d.l.	0.0	b.d.l.	198.7	28.3	31.8	2.2	5.9	0.4	2.5	0.3	0.0	0.1
grain8-8	Core	18.3	18.7	56717	28.2	116130	289829	b.d.l.	9539	32753	b.d.l.	66.0	0.1	10.4	1551.8	2.9	123.2	0.3	b.d.l.	b.d.l.	b.d.l.	210.8	28.9	32.9	2.3	5.9	0.4	2.4	0.2	0.0	0.1
grain8-9	Core	17.5	18.0	58746	27.9	117256	289829	b.d.l.	9694	31726	0.9	61.3	b.d.l.	10.2	1516.8	2.7	127.9	0.3	b.d.l.	b.d.l.	b.d.l.	218.4	29.1	33.2	2.4	5.9	0.5	2.5	0.2	0.0	0.0
grain8-10	Core	18.1	17.4	55992	27.1	116250	289829	b.d.l.	9318	31493	b.d.l.	61.2	b.d.l.	10.2	1551.8	2.7	127.4	0.3	b.d.l.	b.d.l.	b.d.l.	215.5	28.2	31.6	2.4	6.1	0.3	2.5	0.3	0.0	0.1
grain8-11	Core	19.0	17.1	54679	31.5	112858	289829	b.d.l.	9085	31496	0.9	67.5	b.d.l.	10.3	1544.9	2.6	126.6	0.3	b.d.l.	b.d.l.	b.d.l.	208.9	28.6	33.2	2.4	6.9	0.5	2.3	0.4	b.d.l.	0.1
grain8-12	Core	18.1	17.3	56977	27.6	115409	289829	b.d.l.	8608	32750	b.d.l.	67.6	b.d.l.	11.0	1610.2	2.7	129.3	0.3	b.d.l.	b.d.l.	b.d.l.	216.5	30.0	33.5	2.6	6.1	0.6	2.6	0.4	0.0	0.1

Table A1.7: continued

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.1	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.1	0.0	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.3	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.0	b.d.l.	b.d.l.
0.0	0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.6	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.4	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	14.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	15.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.7	0.0	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.1	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.5	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	15.4	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.9	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	15.3	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	15.5	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.4	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.2	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	14.3	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.0	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	14.4	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.8	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	14.6	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.6	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.4	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.1	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	0.0	b.d.l.	15.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	15.4	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.5	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	15.7	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	15.2	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.	b.d.l.	15.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	15.2	b.d.l.	b.d.l.
0.0	0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.3	0.0	b.d.l.

Table A1.7: continued

Info	Position	Li[6]	Li[7]	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
grain8-13	Core	15.4	17.4	59020	22.5	119920	289829	31.3	8781	34363	b.d.l.	70.7	b.d.l.	11.4	1579.8	2.6	139.9	0.4	b.d.l.	b.d.l.	b.d.l.	230.7	31.7	35.6	2.6	6.9	0.6	2.7	0.4	0.0	0.1
grain8-14	Core	15.5	17.2	55281	33.9	115514	289829	b.d.l.	8935	34698	b.d.l.	71.0	0.1	10.8	1520.2	2.4	136.3	0.4	b.d.l.	b.d.l.	b.d.l.	232.9	31.6	35.7	2.5	6.5	0.5	2.6	0.3	0.0	0.1
grain8-15	Core	17.6	16.9	56404	27.1	116582	289829	b.d.l.	8959	33737	1.0	68.9	b.d.l.	11.1	1561.0	2.6	140.7	0.4	b.d.l.	b.d.l.	b.d.l.	231.7	31.7	35.8	2.7	7.2	0.7	2.8	0.2	0.0	0.1
grain8-16	Core	15.1	16.8	57792	28.2	117773	289829	44.2	8667	34428	b.d.l.	63.0	b.d.l.	10.5	1552.4	2.9	142.5	0.4	b.d.l.	b.d.l.	b.d.l.	239.1	31.3	35.5	2.6	7.1	0.6	2.6	0.3	0.0	0.1
grain8-17	Core	16.8	16.8	56940	30.9	116055	289829	b.d.l.	8799	33410	b.d.l.	70.7	b.d.l.	11.4	1529.1	2.4	141.4	0.3	b.d.l.	b.d.l.	b.d.l.	242.1	31.6	35.8	2.6	6.7	0.6	2.6	0.2	b.d.l.	0.1
grain8-18	Core	16.9	16.4	57077	29.8	116272	289829	b.d.l.	8584	33688	b.d.l.	69.0	b.d.l.	10.6	1539.8	2.5	141.5	0.3	b.d.l.	b.d.l.	b.d.l.	238.0	31.6	35.8	2.6	6.8	0.7	2.6	0.2	0.0	0.1
grain8-19	Core	17.7	16.3	55948	27.6	119208	289829	b.d.l.	8361	33124	0.9	72.4	b.d.l.	10.7	1541.0	2.5	138.9	0.4	b.d.l.	b.d.l.	b.d.l.	239.0	31.0	35.2	2.6	6.7	0.6	2.7	0.3	0.0	0.1
grain8-20	Core	18.8	16.1	54996	26.6	118255	289829	b.d.l.	8285	34366	b.d.l.	69.8	b.d.l.	11.0	1577.5	2.5	145.4	0.4	b.d.l.	b.d.l.	b.d.l.	239.9	31.8	35.9	2.7	7.0	0.4	2.6	0.3	0.0	0.1
grain8-21	Core	17.4	16.8	59069	24.0	118174	289829	b.d.l.	8874	34377	b.d.l.	70.7	b.d.l.	11.2	1612.9	2.6	145.6	0.4	b.d.l.	b.d.l.	b.d.l.	244.6	31.0	35.6	2.6	6.2	0.6	2.5	0.1	0.0	0.1
grain8-22	Core	16.4	16.5	58466	29.4	115872	289829	42.4	8267	31641	0.8	69.6	b.d.l.	10.8	1534.2	2.7	140.2	0.4	b.d.l.	b.d.l.	b.d.l.	238.5	29.7	34.5	2.4	6.3	0.5	2.5	0.3	0.0	0.1
grain8-23	Core	19.3	16.9	59311	34.5	118294	289829	b.d.l.	9290	32391	b.d.l.	71.4	b.d.l.	11.4	1638.5	2.9	143.3	0.3	b.d.l.	0.0	b.d.l.	242.5	30.4	34.5	2.6	6.6	0.5	2.6	b.d.l.	b.d.l.	0.1
grain8-24	Core	14.8	16.2	57572	32.4	115532	289829	b.d.l.	8916	32873	b.d.l.	68.3	b.d.l.	10.3	1530.6	2.7	141.8	0.4	b.d.l.	b.d.l.	b.d.l.	240.3	28.8	34.2	2.4	5.7	0.6	2.4	0.1	0.0	0.1
grain8-25	Core	17.8	16.5	58813	28.3	119393	289829	26.9	8906	32841	b.d.l.	69.5	b.d.l.	11.2	1553.7	2.9	142.5	0.3	b.d.l.	b.d.l.	b.d.l.	237.9	29.9	34.7	2.5	6.9	0.5	2.5	0.2	0.0	0.1
grain8-26	Core	15.4	17.2	59174	28.7	116370	289829	30.6	8936	33376	b.d.l.	62.3	0.1	10.9	1618.8	2.8	142.6	0.4	b.d.l.	b.d.l.	b.d.l.	236.0	29.1	33.5	2.4	6.4	0.4	2.6	0.3	0.0	0.1
grain8-27	Core	14.9	16.1	57896	26.0	114684	289829	b.d.l.	8584	30787	b.d.l.	67.0	b.d.l.	10.5	1524.9	2.9	138.2	0.4	b.d.l.	b.d.l.	b.d.l.	230.2	28.7	32.4	2.5	5.6	0.5	2.8	0.3	0.0	0.1
grain8-28	Core	15.6	16.4	56293	27.5	114945	289829	b.d.l.	8821	32488	0.8	67.3	b.d.l.	10.3	1522.9	2.9	139.6	0.4	b.d.l.	b.d.l.	b.d.l.	226.5	28.5	32.8	2.3	6.3	0.4	2.6	0.2	b.d.l.	0.1
grain8-29	Core	17.0	14.9	54271	24.9	108307	289829	b.d.l.	8367	30113	b.d.l.	58.2	b.d.l.	9.5	1430.5	2.8	132.1	0.3	b.d.l.	b.d.l.	b.d.l.	216.6	26.7	30.6	2.1	5.8	0.7	2.3	0.2	0.0	0.1
grain8-30	Core	18.1	15.9	57087	26.9	114169	289829	24.0	9115	32774	0.8	66.5	b.d.l.	10.5	1504.9	3.0	141.0	0.3	b.d.l.	b.d.l.	b.d.l.	223.9	28.3	32.2	2.3	6.5	0.4	2.5	0.2	0.0	b.d.l.
grain8-31	Core	16.6	15.8	54167	32.7	111946	289829	b.d.l.	8759	30366	b.d.l.	63.1	b.d.l.	10.0	1480.1	2.8	136.8	0.3	b.d.l.	b.d.l.	b.d.l.	226.1	29.2	32.4	2.3	6.2	0.6	2.3	0.2	0.0	0.1
grain8-32	Core	18.8	16.6	58275	28.5	117588	289829	50.3	9247	32444	b.d.l.	66.7	b.d.l.	9.9	1547.4	2.9	144.8	0.3	b.d.l.	b.d.l.	b.d.l.	229.2	30.1	34.6	2.7	5.8	0.6	2.8	0.2	0.0	0.1
grain8-33	Core	15.1	16.6	58475	32.7	118747	294503	b.d.l.	9254	35058	b.d.l.	67.2	b.d.l.	10.6	1562.5	2.9	142.0	0.3	b.d.l.	b.d.l.	b.d.l.	222.8	30.5	35.1	2.5	6.5	0.5	2.8	0.4	b.d.l.	0.1
grain8-34	Core	16.6	15.6	56783	27.6	114381	289829	b.d.l.	9019	30951	b.d.l.	65.6	b.d.l.	10.2	1537.4	2.8	135.2	0.3	b.d.l.	b.d.l.	b.d.l.	219.8	28.4	33.0	2.3	6.2	0.6	2.6	0.2	0.0	0.1
grain8-35	Core	17.8	16.4	55900	29.2	116323	289829	b.d.l.	8925	34191	b.d.l.	64.6	b.d.l.	10.5	1500.2	2.8	137.2	0.4	b.d.l.	b.d.l.	b.d.l.	218.4	28.7	32.6	2.4	6.2	0.5	2.6	0.3	b.d.l.	0.1
grain8-36	Core	18.1	16.4	56584	33.3	114835	289829	b.d.l.	8940	31770	b.d.l.	65.9	b.d.l.	10.2	1579.7	2.8	138.0	0.3	b.d.l.	b.d.l.	b.d.l.	228.4	28.4	32.6	2.4	6.1	0.5	2.4	0.3	0.0	0.1
grain8-37	Core	16.4	16.2	55111	31.0	113862	289829	b.d.l.	8649	31922	1.2	62.8	b.d.l.	10.2	1554.7	2.8	136.9	0.4	b.d.l.	b.d.l.	b.d.l.	219.0	28.4	32.2	2.4	6.7	0.6	2.7	0.3	0.0	0.1
grain8-38	Core	17.5	16.9	57146	26.6	115820	289829	27.8	8805	33826	0.7	69.3	0.1	10.9	1519.1	2.7	147.9	0.3	b.d.l.	b.d.l.	b.d.l.	242.6	30.8	34.6	2.6	7.1	0.8	2.8	0.4	b.d.l.	0.1
grain8-39	Core	15.9	16.7	56056	24.2	118925	289829	b.d.l.	8865	34169	b.d.l.	67.7	b.d.l.	10.5	1505.5	2.6	145.9	0.3	b.d.l.	b.d.l.	b.d.l.	255.7	31.0	35.7	2.6	6.8	0.3	2.6	0.3	0.0	0.1
grain8-40	Core	17.7	17.2	56466	34.6	118738	289829	b.d.l.	8604	32989	b.d.l.	73.0	b.d.l.	11.0	1484.5	2.4	148.4	0.4	b.d.l.	b.d.l.	b.d.l.	281.2	32.9	37.8	2.6	7.0	0.7	2.7	0.2	0.0	0.1
grain8-41	Core	18.8	18.6	56290	30.0	119279	289829	b.d.l.	9401	33678	b.d.l.	82.8	0.1	11.2	1505.9	2.6	150.9	0.4	b.d.l.	b.d.l.	b.d.l.	333.0	34.9	39.3	2.9	7.0	0.6	2.9	0.3	0.0	0.1
grain8-42	Core	18.4	18.7	56210	26.4	114985	289829	25.0	9216	31862	1.1	81.3	b.d.l.	9.7	1456.1	2.7	145.0	0.4	b.d.l.	b.d.l.	b.d.l.	353.8	33.7	36.0	2.7	7.1	0.4	2.9	0.3	0.0	0.1
grain8-43	Middle	22.0	18.9	56922	28.0	119214	289829	b.d.l.	8706	33959	b.d.l.	76.7	b.d.l.	11.2	1487.1	2.7	143.9	0.4	b.d.l.	b.d.l.	b.d.l.	338.4	35.0	38.5	2.8	7.4	0.7	2.7	0.3	b.d.l.	0.1
grain8-44	Middle	20.2	19.6	54999	26.2	117005	289829	37.9	8544	33752	b.d.l.	74.6	0.1	10.6	1417.9	2.5	138.6	0.3	b.d.l.	0.0	b.d.l.	351.1	34.0	38.5	2.8	8.0	0.6	2.7	0.4	0.0	0.1
grain8-45	Middle	24.0	20.3	55860	20.8	117277	289829	b.d.l.	8737	33615	0.8	73.2	b.d.l.	9.8	1378.9	2.3	124.4	0.4	b.d.l.	b.d.l.	b.d.l.	312.6	34.1	38.7	2.9	7.3	0.6	2.6	0.4	b.d.l.	0.1
grain8-46	Middle	22.6	19.6	56402	23.9	117151	289829	b.d.l.	8974	34356	b.d.l.	84.5	b.d.l.	11.3	1339.9	2.2	113.6	0.4	b.d.l.	b.d.l.	b.d.l.	288.5	34.2	39.6	2.7	7.0	0.6	2.7	0.2	0.0	0.1
grain8-47	Rim	20.7	18.8	57303	24.7	117903	289829	b.d.l.	9411	34343	0.7	77.8	b.d.l.	11.3	1322.8	2.5	104.9	0.3	b.d.l.	b.d.l.	b.d.l.	259.8	34.0	38.4	2.7	6.9	0.5	2.4	0.2	b.d.l.	0.1
grain8-48	Rim	18.6	17.8	54097	21.5	116504	289829	37.2	8875	33431	b.d.l.	72.4	b.d.l.	10.2	1290.6	2.5	86.5	0.3	b.d.l.	b.d.l.	b.d.l.	216.7	33.7	37.8	2.7	7.3	0.5	2.0	0.2	0.0	0.1
grain8-49	Rim	17.4	15.2	56176	28.8	124990	289829	b.d.l.	9008	35820	b.d.l.	81.6	b.d.l.	10.9	1290.5	2.8	87.8	0.4	b.d.l.	b.d.l.	b.d.l.	155.2	35.9	38.9	2.8	8.0	0.5	2.3	0.3	b.d.l.	0.1
grain8-50	Rim	11.3	11.7	56041	17.9	116255	289829	25.3	8794	34426	b.d.l.	74.7	b.d.l.	10.9	1284.3	2.3	89.9	0.4	b.d.l.	b.d.l.	b.d.l.	98.8	32.9	36.6	2.7	6.8	0.8	2.4	0.3	0.0	0.1
MFT-plag8 - 4	Middle	16.6	18.6	61043	16.2	126193	299178	b.d.l.	13775	24616	b.d.l.	27.2	b.d.l.	b.d.l.	1207.7	4.4	50.4	0.3	b.d.l.	b.d.l.	b.d.l.	39.9	16.3	17.2	1.1	3.2	b.d.l.	1.2	b.d.l.	b.d.l.	b.d.l.
MFT-plag8 - 5	Core	21.1	20.5	57620	15.5	123951	299178	52.5	12510	25723	0.6	41.3	b.d.l.	b.d.l.	1250.8	3.9	52.4	0.2	0.1	0.0	b.d.l.	64.3	19.7	21.6	1.7	3.9	0.4	1.7	b.d.l.	b.d.l.	b.d.l.
MFT-plag8 - 6	Core	21.6	20.7	57299	13.2	122300	299178	b.d.l.	12071	26166	b.d.l.	42.3	b.d.l.	b.d.l.	1305.7	4.3	59.3	0.3	b.d.l.	b.d.l.	b.d.l.	84.0	19.3	21.8	1.4	3.9	0.4	1.7	b.d.l.	b.d.l.	b.d.l.
MFT-plag8 - 7	Core	21.8	21.6	62204	14.0	132587	299178	b.d.l.	12802	29473	b.d.l.	48.0	b.d.l.	16.9	1449.9	3.7	72.5	0.4	0.1	b.d.l.	0.0	122.4	21.8	25.0	1.7	4.4	0.5	1.9	b.d.l.	0.0	b.d.l.
MFT-plag8 - 8	Core	21.6	19.7	58751	20.4	125474	299178	b.d.l.	11926	26997	b.d.l.	47.6	0.6	b.d.l.	1393.9	3.7	77.9	0.2	0.1	b.d.l.	b.d.l.	133.0	21.2	22.8	1.6	4.6	0.5	2.1	b.d.l.	0.0	b.d.l.
MFT-plag8 - 9	Core	21.4	19.1	59867	19.9	128652	299178	54.1	12067	28441	b.d.l.	40.9	b.d.l.	b.d.l.	1359.1	3.7	89.7	0.3	b.d.l.	b.d.l.	b.d.l.	181.1	22.7	25.0	1.8	4.4	0.4	2.5	0.2	b.d.l.	0.1
MFT-plag8 - 10	Core	22.6	19.3	62127	21.3	131287	299178	b.d.l.	12399	28630	b.d.l.	46.5	b.d.l.	b.d.l.	1493.4	4.1	99.1	0.4	b.d.l.	b.d.l.	b.d.l.	193.9	24.4	26.3	1.9	5.0	0.4	2.7	b.d.l.	0.0	b.d.l.
MFT-plag8 - 11	Core	19.9	18.2	59797	28.7	126440	299178	b.d.l.	11950	26872	b.d.l.	36.9	b.d.l.	b.d.l.	1384.4	3.3	98.5	0.3	b.d.l.	b.d.l.	0.0	210.4	23.8	25.6	2.0	4.4	0.5	2.5	b.d.l.	b.d.l.	0.1
MFT-plag8 - 12	Core	17.5	17.1	58480	29.1	124995	299178	b.d.l.	11403	27407	b.d.l.	45.1	b.d.l.	b.d.l.	1488.5	3.5	103.8	0.2	b.d.l.	0.1	b.d.l.	213.1	24.9	27.9	1.9	5.2	0.3	2.8	0.3	0.0	0.1
MFT-plag8 - 13	Core	20.2	18.8	61820	31.8	133004	299178	b.d.l.	11898	29885	0.6	54.2	b.d.l.	19.9	1591.6	3.7	112.2	0.3	b.d.l.	0.1	b.d.l.	242.9	27.7	30.6	2.1	5.4	0.6	2.8	0.3	b.d.l.	b.d.l.
MFT-plag8 - 14	Core	20.0	16.3	59079	24.3	125834	299178	b.d.l.	11327	28350	b.d.l.	47.1	b.d.l.	13.3	1515.8	3.6	111.6	0.2	b.d.l.	b.d.l.	b.d.l.	208.5	24.8	27.1	2.0	5.5	0.5	2.6	0.3	b.d.l.	0.1
MFT-plag8 - 15	Core	17.0	16.8	60022	22.1	130355	299178	b.d.l.	10711	30353	b.d.l.	63.1	b.d.l.	16.0	1447.3	3.0	118.2	0.3	b.d.l.	b.d.l.	b.d.l.	192.1	26.5	30.5	2.2	5.8	0.5	2.6	0.2	0.0	0.1
MFT-plag8 - 16	Core	15.5	15.0	56803	23.6	122123	299178	b.d.l.	10134	27359	b.d.l.	55.4	b.d.l.	13.5	1386.9	3.4	106.6	0.3	b.d.l.	b.d.l.	0.0	170.5	25.7	27.9	1.8	4.8	0.4	2.6	0.2	0.0	b.d.l.
MFT-plag8 - 17	Core	15.4	16.6	59980	22.7	130974	299178	b.d.l.	10684	29964	b.d.l.	64.1	b.d.l.	15.4	1571.7	2.9	118.0	0.3	b.d.l.	b.d.l.	b.d.l.	183.5	25.6	29.0	2.1	5.8	0.6	2.6	0.2	0.0	b.d.l.
MFT-plag8 - 18	Core	15.5	16.6	59930	32.5	130088	299178	b.d.l.	10440	30999	b.d.l.	55.3	0.8	b.d.l.	1539.0	3.1	120.6	0.4	0.1	b.d.l.	0.0	165.4	25.8	30.3	2.2	5.8	0.3	2.6	0.3	b.d.l.	b.d.l.

Table A1.7: continued

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	15.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.1	b.d.l.	0.0
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.6	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	0.0
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	14.7	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	15.0	b.d.l.	0.0
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	15.7	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.1	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.6	0.0	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.6	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.5	b.d.l.	b.d.l.
0.0	0.1	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	15.4	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	15.5	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	14.6	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.6	b.d.l.	b.d.l.
0.0	0.1	b.d.l.	0.0	0.0	b.d.l.	b.d.l.	15.4	b.d.l.	0.0
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.6	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	0.0	15.7	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.6	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.5	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.3	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	15.6	b.d.l.	b.d.l.
b.d.l.	0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.3	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.7	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.1	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	16.8	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	17.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.8	b.d.l.	0.0
b.d.l.	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	18.0	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.4	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.6	0.0	0.0
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	16.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.5	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.1	0.0	b.d.l.

Table A1.7: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
MFT-plag8 - 19	Core	17.8	16.9	59844	38.5	130038	299178	54.4	9988	29706	b.d.l.	56.9	b.d.l.	b.d.l.	1594.1	3.2	120.4	0.3	0.1	0.0	0.1	171.8	27.6	30.5	2.5	5.8	0.3	2.6	0.4	b.d.l.	0.1
MFT-plag8 - 20	Core	15.7	16.0	58517	25.1	126639	299178	b.d.l.	9660	29986	b.d.l.	63.9	b.d.l.	22.1	1627.2	2.8	126.4	0.3	b.d.l.	0.0	b.d.l.	186.5	28.1	31.4	2.2	5.6	0.5	2.4	0.2	b.d.l.	b.d.l.
MFT-plag8 - 21	Core	16.0	17.4	59152	25.8	128916	299178	45.9	9631	31262	b.d.l.	62.0	b.d.l.	14.9	1649.4	2.9	124.9	0.2	b.d.l.	0.0	b.d.l.	206.1	29.1	32.5	2.3	6.3	0.5	2.5	0.1	0.0	b.d.l.
MFT-plag8 - 22	Core	16.6	17.0	61657	30.8	137973	299178	b.d.l.	10057	33875	1.1	69.2	b.d.l.	13.9	1670.3	3.3	139.3	0.2	0.1	b.d.l.	b.d.l.	215.5	31.9	35.1	2.6	6.2	0.4	2.8	0.3	0.0	0.1
MFT-plag8 - 23	Core	18.3	17.1	63665	31.1	135572	299178	b.d.l.	10166	30288	b.d.l.	79.3	b.d.l.	14.8	1606.1	3.1	135.1	0.3	b.d.l.	b.d.l.	b.d.l.	212.9	28.1	31.5	2.3	6.3	0.5	2.6	b.d.l.	0.0	b.d.l.
MFT-plag8 - 24	Core	20.8	17.2	61498	27.1	136517	299178	b.d.l.	9450	34053	0.6	69.0	b.d.l.	12.7	1646.7	2.9	144.3	0.3	b.d.l.	0.0	b.d.l.	232.3	31.7	35.8	2.6	7.0	0.6	2.8	b.d.l.	b.d.l.	b.d.l.
MFT-plag8 - 25	Core	18.2	16.9	60660	29.1	132505	299178	b.d.l.	9250	32787	b.d.l.	64.3	b.d.l.	b.d.l.	1553.6	3.5	137.8	0.4	b.d.l.	b.d.l.	b.d.l.	226.2	30.5	34.3	2.7	6.5	0.7	2.6	0.2	b.d.l.	b.d.l.
MFT-plag8 - 26	Core	16.1	16.5	57496	31.9	127312	299178	61.1	8858	31826	b.d.l.	57.2	b.d.l.	11.7	1463.9	2.7	134.1	0.3	b.d.l.	b.d.l.	b.d.l.	230.1	28.6	32.0	2.3	6.4	0.7	2.3	0.3	0.0	0.1
MFT-plag8 - 27	Core	20.3	18.2	62325	31.6	139603	299178	b.d.l.	9217	36188	0.6	74.1	0.7	21.6	1800.6	3.2	148.3	0.3	b.d.l.	b.d.l.	b.d.l.	267.5	35.2	39.5	2.6	7.7	0.5	2.8	0.4	b.d.l.	b.d.l.
MFT-plag8 - 28	Core	19.0	16.8	60454	29.4	135150	299178	58.1	8946	34450	0.9	72.1	b.d.l.	15.1	1591.6	2.6	152.7	0.3	b.d.l.	b.d.l.	b.d.l.	254.7	32.9	37.9	2.7	7.1	0.5	2.7	0.3	0.0	0.2
MFT-plag8 - 29	Core	16.4	16.6	58031	27.0	128878	299178	b.d.l.	8458	33134	b.d.l.	71.3	b.d.l.	b.d.l.	1527.4	2.3	147.0	0.3	0.0	b.d.l.	b.d.l.	257.3	32.7	37.2	2.7	6.7	0.5	2.7	0.4	b.d.l.	b.d.l.
MFT-plag8 - 30	Core	16.7	17.4	60645	23.6	134228	299178	b.d.l.	8811	33878	b.d.l.	85.1	b.d.l.	b.d.l.	1563.8	2.6	153.8	0.4	0.1	0.1	b.d.l.	309.4	34.9	37.4	2.8	7.5	0.5	2.8	0.3	0.0	b.d.l.
MFT-plag8 - 31	Core	18.3	17.9	60906	23.3	136779	299178	b.d.l.	8831	36205	b.d.l.	91.8	0.8	11.8	1566.9	2.2	161.1	0.4	b.d.l.	0.0	b.d.l.	364.9	38.0	44.0	3.2	8.2	0.7	2.6	0.2	b.d.l.	b.d.l.
MFT-plag8 - 32	Core	16.4	17.8	60772	27.5	134497	299178	78.5	9830	33098	b.d.l.	86.6	b.d.l.	11.6	1645.7	3.4	160.1	0.2	0.0	b.d.l.	b.d.l.	411.3	36.8	38.7	2.8	7.5	0.6	2.9	0.4	0.0	0.1
MFT-plag8 - 33	Core	18.1	16.6	58100	24.7	125164	299178	45.8	9126	30606	b.d.l.	73.2	b.d.l.	b.d.l.	1480.5	3.7	153.4	0.3	b.d.l.	b.d.l.	b.d.l.	410.9	33.5	37.9	2.6	6.7	0.3	2.6	0.5	b.d.l.	b.d.l.
MFT-plag8 - 34	Core	22.1	18.3	59887	31.6	133270	299178	b.d.l.	9227	33482	0.9	80.4	b.d.l.	21.0	1479.7	3.0	163.9	0.2	b.d.l.	b.d.l.	b.d.l.	450.3	36.5	40.0	2.8	7.0	0.7	3.1	0.4	b.d.l.	0.2
MFT-plag8 - 35	Core	20.4	17.9	59224	28.9	128921	299178	b.d.l.	9373	32362	b.d.l.	65.0	b.d.l.	b.d.l.	1566.6	2.6	159.4	0.3	b.d.l.	b.d.l.	b.d.l.	429.3	33.9	36.8	2.5	6.3	0.5	2.7	0.3	b.d.l.	b.d.l.
MFT-plag8 - 36	Core	19.8	18.6	59504	30.5	131732	299178	b.d.l.	9152	33186	b.d.l.	87.5	b.d.l.	11.9	1580.9	2.6	165.2	0.2	0.0	b.d.l.	b.d.l.	454.0	35.6	39.3	2.8	7.2	0.6	3.0	0.3	0.0	b.d.l.
MFT-plag8 - 37	Core	23.0	19.8	61046	28.6	132263	299178	b.d.l.	9202	32715	b.d.l.	87.2	b.d.l.	11.5	1628.9	2.9	165.3	0.3	b.d.l.	0.0	b.d.l.	475.7	35.7	38.8	2.9	7.7	0.5	2.8	b.d.l.	b.d.l.	b.d.l.
MFT-plag8 - 38	Core	22.5	20.0	60399	34.3	135603	299178	b.d.l.	9612	33079	b.d.l.	72.2	0.8	14.5	1715.3	2.7	161.2	0.4	b.d.l.	0.0	b.d.l.	420.2	34.9	38.3	2.7	7.2	0.6	3.0	0.4	0.0	b.d.l.
MFT-plag8 - 39	Core	21.2	19.5	57465	33.5	124637	299178	b.d.l.	8804	31741	b.d.l.	77.9	b.d.l.	b.d.l.	1577.4	2.9	152.5	0.5	b.d.l.	b.d.l.	b.d.l.	380.0	32.0	35.1	2.6	6.5	0.6	2.7	0.3	0.0	b.d.l.
MFT-plag8 - 40	Core	23.6	19.9	58222	36.2	128475	299178	b.d.l.	8591	32411	b.d.l.	79.3	b.d.l.	19.1	1591.0	2.6	157.5	0.6	0.1	0.0	0.0	388.2	32.9	38.0	2.8	7.1	0.8	3.0	0.5	b.d.l.	b.d.l.
MFT-plag8 - 41	Core	19.2	18.1	60327	33.6	132280	299178	b.d.l.	9381	33805	0.7	84.7	b.d.l.	15.0	1697.1	3.1	166.0	0.5	0.0	b.d.l.	b.d.l.	392.6	33.6	37.4	2.7	7.5	0.7	2.9	b.d.l.	b.d.l.	0.1
MFT-plag8 - 42	Core	13.0	14.8	63116	33.8	139756	299178	87.9	9610	35307	b.d.l.	74.8	b.d.l.	23.8	1677.9	2.8	168.7	0.3	b.d.l.	b.d.l.	b.d.l.	417.8	34.5	40.6	2.8	7.8	0.4	3.0	0.2	0.0	b.d.l.
MFT-plag8 - 43	Core - close to crack	9.8	9.9	60262	35.0	134738	299178	b.d.l.	9551	33512	1.1	76.6	b.d.l.	14.0	1569.3	3.0	167.0	0.4	0.1	0.0	b.d.l.	401.6	33.2	39.5	2.9	6.5	0.5	3.2	0.4	b.d.l.	0.1
MFT-plag8 - 44	Core - close to crack	9.4	7.4	58854	22.0	132868	299178	b.d.l.	9002	32899	b.d.l.	76.9	b.d.l.	b.d.l.	1599.1	2.3	157.7	0.4	b.d.l.	0.0	b.d.l.	348.7	33.7	38.2	2.7	6.7	0.6	2.8	0.3	b.d.l.	0.1
MFT-plag8 - 45	Core - close to crack	7.5	5.9	60353	20.8	129934	299178	b.d.l.	9769	32215	0.6	62.8	b.d.l.	b.d.l.	1551.4	2.9	155.2	0.3	0.0	b.d.l.	b.d.l.	356.1	31.1	34.1	2.5	6.6	0.5	2.8	0.3	0.0	b.d.l.
MFT-plag8 - 46	Core - close to crack	6.8	5.9	60877	24.5	132626	299178	b.d.l.	10238	32445	b.d.l.	74.7	b.d.l.	11.9	1579.5	2.9	156.5	0.8	0.6	0.1	b.d.l.	337.1	32.3	35.1	2.3	6.7	0.5	3.0	b.d.l.	b.d.l.	b.d.l.
MFT-plag8 - 47	Core - close to crack	5.1	6.4	59679	29.3	129475	299178	b.d.l.	9729	31959	b.d.l.	75.8	b.d.l.	10.6	1478.9	3.1	149.4	0.3	b.d.l.	b.d.l.	b.d.l.	315.6	30.6	33.9	2.4	6.6	0.6	2.7	0.2	b.d.l.	b.d.l.
MFT-plag8 - 48	Core - close to crack	6.2	7.6	60529	22.3	132741	299178	b.d.l.	10151	31749	b.d.l.	68.6	b.d.l.	13.0	1515.8	3.3	149.7	0.3	0.1	b.d.l.	b.d.l.	345.3	31.8	35.3	2.5	6.4	0.5	2.9	0.2	b.d.l.	b.d.l.
MFT-plag8 - 49	Core - close to crack	14.2	12.4	58456	21.7	130173	299178	76.5	9013	33409	b.d.l.	71.9	0.7	13.9	1520.8	2.7	144.0	0.4	b.d.l.	b.d.l.	b.d.l.	293.5	32.1	35.1	2.7	7.1	0.7	2.9	0.3	b.d.l.	b.d.l.
MFT-plag8 - 50	Core	21.2	22.7	57591	21.9	130780	299178	b.d.l.	9038	33651	b.d.l.	70.1	b.d.l.	18.2	1327.3	2.5	138.3	0.4	b.d.l.	b.d.l.	b.d.l.	298.6	31.1	36.2	2.5	6.9	0.4	2.6	b.d.l.	b.d.l.	0.1
MFT-plag8 - 51	Core	24.6	26.1	57139	23.3	127879	299178	78.6	9229	32144	b.d.l.	71.1	b.d.l.	23.4	1404.3	1.8	132.7	0.3	b.d.l.	b.d.l.	b.d.l.	258.7	29.7	34.6	2.4	6.8	0.6	2.4	0.3	b.d.l.	b.d.l.
MFT-plag8 - 52	Core	27.8	27.4	58868	20.8	132638	299178	b.d.l.	9017	34082	b.d.l.	64.8	b.d.l.	b.d.l.	1373.2	2.4	128.5	0.5	b.d.l.	0.0	0.0	206.9	31.3	36.8	2.5	7.2	0.5	2.7	b.d.l.	0.0	b.d.l.
MFT-plag8 - 53	Core	33.5	28.4	63816	24.2	136027	299178	b.d.l.	9029	36630	b.d.l.	72.0	b.d.l.	12.5	1416.6	2.7	123.4	0.5	b.d.l.	0.0	0.1	169.5	31.9	35.8	2.5	7.4	0.5	2.5	b.d.l.	b.d.l.	b.d.l.
MFT-plag8 - 54	Core	23.6	26.7	59708	22.7	132182	299178	71.3	9923	32176	b.d.l.	45.9	b.d.l.	18.0	1388.3	3.1	114.7	0.5	b.d.l.	b.d.l.	0.0	169.0	25.6	29.5	2.1	5.5	0.4	2.7	b.d.l.	0.0	b.d.l.
MFT-plag8 - 55	Core	25.9	26.5	58715	21.1	129747	299178	54.2	10754	30141	b.d.l.	48.3	b.d.l.	b.d.l.	1387.4	2.9	110.1	0.3	b.d.l.	b.d.l.	b.d.l.	162.1	23.1	26.7	2.0	5.1	0.4	2.6	b.d.l.	b.d.l.	0.2
MFT-plag8 - 56	Core	22.0	22.9	61352	20.2	131771	299178	b.d.l.	11696	30254	b.d.l.	37.3	b.d.l.	20.0	1388.7	3.3	106.7	0.3	b.d.l.	b.d.l.	0.0	166.8	23.2	26.7	2.0	5.1	0.4	2.8	b.d.l.	b.d.l.	b.d.l.
MFT-plag8 - 57	Core	21.5	20.0	59921	14.3	125228	299178	b.d.l.	11298	29157	b.d.l.	41.3	b.d.l.	b.d.l.	1386.8	3.1	99.0	0.4	0.0	0.0	0.0	158.7	22.6	26.4	1.7	4.9	0.4	2.7	0.3	b.d.l.	0.1
MFT-plag8 - 58	Core	21.5	18.6	56816	19.2	123085	299178	61.1	10841	28162	b.d.l.	43.3	b.d.l.	11.9	1342.5	2.9	86.2	0.3	b.d.l.	b.d.l.	b.d.l.	139.6	22.3	25.6	1.8	5.4	0.4	2.3	0.3	b.d.l.	0.1
MFT-plag8 - 59	Core	16.2	16.0	61212	21.7	129848	299178	b.d.l.	11068	30066	b.d.l.	53.8	b.d.l.	b.d.l.	1392.9	2.5	76.9	0.2	b.d.l.	0.0	b.d.l.	126.3	24.2	27.0	1.9	5.1	0.6	2.2	0.2	b.d.l.	0.1
MFT-plag8 - 60	Core	12.3	10.9	60086	16.2	128140	299178	b.d.l.	11091	28706	0.7	42.9	b.d.l.	21.4	1332.3	2.7	73.9	0.2	b.d.l.	b.d.l.	b.d.l.	88.5	22.3	24.7	1.8	4.4	0.3	2.1	0.2	b.d.l.	0.1
grain9-2	Rim	13.4	12.8	57691	22.6	114883	294503	b.d.l.	11909	27809	b.d.l.	42.8	b.d.l.	7.7	1358.4	3.9	58.9	0.3	0.1	b.d.l.	b.d.l.	35.9	19.4	21.4	1.5	4.1	0.3	1.3	0.3	b.d.l.	0.0
grain9-3	Middle	21.5	20.3	58062	26.1	111538	294503	b.d.l.	12445	27732	b.d.l.	54.4	b.d.l.	8.0	1336.5	3.8	52.9	0.2	b.d.l.	b.d.l.	b.d.l.	37.7	19.8	21.2	1.5	3.5	0.4	1.4	0.2	b.d.l.	b.d.l.
grain9-4	Middle	23.2	24.1	57681	27.4	114471	294503	b.d.l.	11439	29080	b.d.l.	48.2	b.d.l.	8.4	1438.1	3.4	51.5	0.4	b.d.l.	b.d.l.	b.d.l.	36.7	21.7	24.4	1.8	4.4	0.5	1.3	0.2	0.0	0.1
grain9-5	Middle	23.7	23.9	56210	26.4	109319	294503	b.d.l.	11185	28137	b.d.l.	53.4	b.d.l.	8.5	1401.2	3.4	47.1	0.2	b.d.l.	b.d.l.	b.d.l.	36.4	21.1	24.1	1.6	4.6	0.4	1.3	0.2	b.d.l.	0.0
grain9-6	Middle	24.4	23.7	57851	22.6	115292	294503	24.3	11083	30969	b.d.l.	55.6	b.d.l.	9.1	1480.1	3.2	48.7	0.3	b.d.l.	b.d.l.	b.d.l.	38.2	23.1	26.0	1.9	4.6	0.5	1.3	0.3	0.0	0.1
grain9-7	Middle	23.3	22.8	57555	22.3	112886	294503	b.d.l.	11911	28880	b.d.l.	56.3	b.d.l.	8.4	1450.3	3.6	48.3	0.3	b.d.l.	b.d.l.	b.d.l.	43.4	22.6	25.2	1.8	4.4	0.5	1.3	b.d.l.	0.0	0.1
grain9-8	Core	25.2	22.3	57491	30.8	113464	294503	b.d.l.	11933	27829	b.d.l.	56.9	b.d.l.	8.2	1412.4	3.9	48.3	0.3	b.d.l.	b.d.l.	b.d.l.	44.2	22.6	25.1	1.8	4.8	0.6	1.3	0.2	0.0	0.1
grain9-9	Core	22.7	22.4	57156	33.3	112227	294503	b.d.l.	11681	28334	b.d.l.	57.2	b.d.l.	8.2	1439.1	3.6	49.2	0.3	b.d.l.	b.d.l.	b.d.l.	44.1	21.7	24.9	1.7	4.6	0.3	1.2	0.2	b.d.l.	0.1
grain9-10	Core	22.1	21.5	57452	26.5	113298	294503	24.8	11541	27976	0.9	55.7	b.d.l.	8.0	1426.4	3.8	50.3	0.3	b.d.l.	b.d.l.	b.d.l.	44.0	21.8	25.2	1.8	4.9	0.5	1.4	0.2	b.d.l.	0.0

Table A1.7: continued

Ho	Er	Tm	Yb	Lu	Hf
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.
b.d.l.	0.1	0.0	b.d.l.	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	0.1
b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
0.0	0.1	0.0	b.d.l.	b.d.l.	b.d.l.
b.d.l.	0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	0.0
b.d.l.	0.1	b.d.l.	b.d.l.	b.d.l.	0.0
b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.
0.0	0.1	b.d.l.	b.d.l.	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
b.d.l.	0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	0.0
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.

Table A1.7: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
grain9-11	Core	26.2	22.6	57231	27.6	113555	294503	b.d.l.	11668	28318	b.d.l.	55.5	b.d.l.	8.5	1473.8	3.5	53.8	0.3	b.d.l.	0.0	b.d.l.	42.1	21.4	23.7	1.8	4.4	0.4	1.5	0.2	b.d.l.	0.1
grain9-12	Core	22.7	22.5	58361	26.1	113690	294503	24.6	11534	29966	b.d.l.	51.0	b.d.l.	8.8	1435.9	3.5	55.3	0.2	b.d.l.	b.d.l.	b.d.l.	40.5	20.9	23.6	1.7	4.2	0.5	1.3	0.2	b.d.l.	0.1
grain9-13	Core	21.7	23.4	57349	22.9	113967	294503	28.5	11976	28241	0.7	51.7	b.d.l.	7.5	1465.7	3.9	58.5	0.3	b.d.l.	b.d.l.	b.d.l.	38.4	20.5	23.7	1.7	4.6	0.3	1.5	0.2	0.0	0.2
grain9-14	Core	25.8	22.3	57667	25.0	113754	294503	21.9	13172	26543	b.d.l.	53.5	b.d.l.	7.9	1389.7	4.3	61.1	0.2	b.d.l.	b.d.l.	b.d.l.	39.1	20.3	22.1	1.6	4.2	0.4	1.6	0.1	0.0	b.d.l.
grain9-15	Core	19.7	20.8	55676	20.6	107121	294503	b.d.l.	13797	24049	b.d.l.	48.9	b.d.l.	6.7	1288.1	4.7	59.4	0.2	b.d.l.	b.d.l.	b.d.l.	40.8	17.6	18.9	1.3	3.1	0.3	1.4	0.1	0.0	b.d.l.
grain9-16	Core	20.8	23.1	58312	23.0	113319	294503	b.d.l.	13199	26242	0.6	52.0	b.d.l.	7.5	1396.3	4.3	63.6	0.3	b.d.l.	b.d.l.	b.d.l.	38.7	18.8	20.8	1.5	3.6	0.4	1.4	0.2	0.0	0.0
grain9-17	Core	22.5	21.1	57470	27.6	111383	294503	b.d.l.	13599	26562	b.d.l.	49.4	b.d.l.	7.1	1383.7	4.6	62.5	0.2	b.d.l.	b.d.l.	b.d.l.	39.8	18.8	20.2	1.6	3.3	0.4	1.7	0.3	b.d.l.	0.1
grain9-18	Core	16.2	18.1	58739	20.5	112955	294503	b.d.l.	12966	26494	b.d.l.	52.0	b.d.l.	8.1	1430.3	4.2	69.1	0.2	b.d.l.	0.0	b.d.l.	39.4	18.4	20.2	1.5	3.3	0.3	1.5	0.2	b.d.l.	0.1
grain9-19	Core	12.3	14.4	59253	23.9	113033	294503	b.d.l.	13153	26678	0.9	50.6	b.d.l.	8.0	1380.1	4.3	77.8	0.3	b.d.l.	b.d.l.	b.d.l.	45.0	18.3	20.3	1.5	3.8	0.5	1.9	0.2	0.0	0.0
grain9-20	Core - close to crack	12.6	10.8	61118	24.3	114521	294503	b.d.l.	13618	27076	0.6	46.7	b.d.l.	8.6	1441.7	4.4	89.0	0.2	0.1	b.d.l.	b.d.l.	64.5	17.8	20.1	1.6	3.8	0.2	2.1	0.2	b.d.l.	0.1
grain9-24	Core - close to crack	b.d.l.	7.5	58685	21.6	111808	294503	24.1	13961	26147	b.d.l.	49.9	b.d.l.	11.8	1436.9	4.4	100.4	0.8	0.3	0.2	b.d.l.	114.9	19.2	22.7	1.6	4.3	0.5	2.8	b.d.l.	0.0	0.1
grain9-25	Core - close to crack	b.d.l.	7.3	56893	25.0	113639	294503	b.d.l.	11761	30299	b.d.l.	64.5	b.d.l.	33.4	1481.8	3.7	113.0	0.4	0.2	0.9	b.d.l.	165.8	22.7	38.3	1.9	4.7	0.4	3.1	0.3	0.0	0.1
grain9-26	Core - close to crack	12.4	12.2	57459	26.0	116073	294503	b.d.l.	11261	29472	0.7	51.1	b.d.l.	15.7	1448.8	3.6	103.7	0.4	b.d.l.	0.3	b.d.l.	115.8	24.6	27.7	1.9	5.5	0.5	3.0	0.3	0.0	0.1
grain9-27	Core	17.8	17.6	58387	22.8	117240	294503	b.d.l.	10943	30377	b.d.l.	52.7	b.d.l.	9.4	1422.9	3.2	88.5	0.3	b.d.l.	0.0	b.d.l.	74.8	24.1	29.3	2.0	5.5	0.3	2.3	0.1	0.0	0.1
grain9-28	Middle	20.1	19.8	58224	24.8	117800	294503	b.d.l.	11078	30466	0.7	52.1	b.d.l.	9.9	1397.4	3.3	74.4	0.3	b.d.l.	0.1	b.d.l.	67.3	22.5	26.0	1.8	4.8	0.4	2.0	0.2	0.0	0.1
grain9-29	Middle	19.4	18.1	57559	23.9	116847	294503	b.d.l.	11244	29286	b.d.l.	44.0	b.d.l.	9.2	1359.3	3.2	69.6	0.3	b.d.l.	b.d.l.	b.d.l.	74.0	21.6	24.8	1.7	4.8	0.4	1.8	0.3	0.0	0.1
grain9-30	Rim	14.7	14.8	58149	17.2	121558	294503	25.2	11390	30951	b.d.l.	44.4	b.d.l.	8.7	1411.3	3.5	74.7	0.3	b.d.l.	b.d.l.	b.d.l.	97.6	21.4	24.4	1.7	4.6	0.4	2.0	0.3	b.d.l.	0.1
grain9-31	Rim	b.d.l.	7.2	57111	21.4	115210	289829	b.d.l.	10872	28585	b.d.l.	38.5	b.d.l.	9.0	1398.7	3.2	82.3	0.3	b.d.l.	0.0	b.d.l.	107.7	20.9	23.5	1.7	4.5	0.6	2.1	0.3	0.0	0.1
grain10-1	Rim	19.6	20.2	63698	35.8	123943	294503	b.d.l.	11208	33414	b.d.l.	56.2	b.d.l.	9.0	1431.6	3.4	30.1	0.3	b.d.l.	b.d.l.	b.d.l.	21.6	22.5	25.4	1.9	4.7	0.5	0.9	0.2	0.0	0.1
grain10-2	Middle	23.2	21.9	58109	27.0	115360	294503	29.2	10579	28128	b.d.l.	50.7	b.d.l.	8.0	1399.1	3.6	28.7	0.3	b.d.l.	b.d.l.	b.d.l.	23.2	21.5	23.3	1.8	4.2	0.5	0.9	0.2	0.0	0.1
grain10-3	Middle	21.2	25.5	58659	31.8	115389	294503	b.d.l.	10647	28653	0.7	51.5	0.1	8.6	1400.8	3.6	28.9	0.3	b.d.l.	b.d.l.	b.d.l.	23.2	21.3	23.3	1.8	4.3	0.5	1.0	0.2	b.d.l.	0.1
grain10-5	Middle	22.3	22.9	58236	30.0	117775	294503	b.d.l.	10504	29263	0.7	42.3	b.d.l.	8.2	1423.5	3.5	29.3	0.4	b.d.l.	b.d.l.	b.d.l.	23.6	22.4	25.4	1.8	4.7	0.7	1.1	0.2	0.0	0.1
grain10-6	Middle	22.5	22.9	58597	24.9	115679	294503	b.d.l.	10321	30995	b.d.l.	50.9	b.d.l.	9.0	1479.8	3.7	29.1	0.3	b.d.l.	b.d.l.	b.d.l.	22.8	22.9	25.8	1.9	4.6	0.5	1.0	0.3	b.d.l.	0.1
grain10-7	Middle	24.5	23.2	57573	23.5	115194	294503	29.0	10413	30048	0.7	48.8	b.d.l.	8.3	1437.5	3.6	28.4	0.4	b.d.l.	b.d.l.	b.d.l.	21.4	20.8	24.3	1.8	4.5	0.4	1.0	0.2	0.0	0.1
grain10-8	Middle	27.8	24.1	58709	28.2	114324	294503	b.d.l.	10816	29545	b.d.l.	47.9	b.d.l.	8.3	1420.5	3.9	26.9	0.3	b.d.l.	b.d.l.	b.d.l.	18.8	20.6	22.3	1.5	4.6	0.4	1.0	0.1	b.d.l.	0.1
grain10-9	Core	19.4	19.0	59655	30.4	114405	294503	b.d.l.	10786	30475	b.d.l.	45.9	b.d.l.	8.2	1410.5	3.8	26.2	0.2	b.d.l.	b.d.l.	b.d.l.	16.6	20.7	23.1	1.5	4.4	0.4	0.9	0.4	b.d.l.	0.1
grain10-10	Core	22.6	21.0	58978	21.9	118310	294503	24.3	10515	30231	b.d.l.	49.9	b.d.l.	7.9	1361.6	3.5	26.5	0.3	b.d.l.	b.d.l.	b.d.l.	19.8	20.8	23.9	1.6	4.4	0.3	1.0	0.4	0.0	0.1
grain10-11	Core	16.9	17.4	59849	28.8	119435	294503	b.d.l.	11056	30381	b.d.l.	49.7	b.d.l.	8.3	1456.7	3.5	27.2	0.3	b.d.l.	b.d.l.	b.d.l.	17.6	20.8	23.4	1.8	4.6	0.4	0.9	b.d.l.	0.0	0.1
grain10-12	Core	15.6	18.4	59964	32.8	116417	294503	b.d.l.	11081	30569	1.2	48.7	b.d.l.	7.9	1453.1	3.7	26.2	0.3	b.d.l.	0.0	b.d.l.	15.8	21.4	23.7	1.8	4.3	0.5	0.9	0.3	b.d.l.	0.1
grain10-13	Core	19.6	18.2	58495	25.1	112754	294503	b.d.l.	10458	29372	b.d.l.	46.7	b.d.l.	7.6	1440.2	3.5	25.3	0.3	b.d.l.	0.0	b.d.l.	14.4	19.1	21.8	1.5	3.9	0.4	0.8	b.d.l.	0.0	0.1
grain10-14	Core	19.8	21.2	58943	25.5	113943	294503	25.6	10997	28494	b.d.l.	44.2	b.d.l.	7.6	1438.9	3.8	25.3	0.3	b.d.l.	b.d.l.	b.d.l.	13.3	19.2	21.4	1.5	4.1	0.5	0.8	0.3	0.0	0.0
grain10-15	Middle	24.3	23.4	58737	26.8	113751	294503	b.d.l.	11162	27061	b.d.l.	44.1	b.d.l.	7.7	1396.7	4.2	26.4	0.3	b.d.l.	b.d.l.	b.d.l.	15.9	19.1	20.5	1.5	4.0	0.5	0.9	0.2	0.0	0.1
grain10-16	Middle	24.0	23.8	59188	17.6	110317	294503	b.d.l.	11314	27139	b.d.l.	40.9	b.d.l.	7.1	1407.6	4.0	29.2	0.2	b.d.l.	b.d.l.	b.d.l.	24.8	19.6	21.7	1.6	3.9	0.3	0.9	0.2	0.0	0.1
grain10-17	Middle	29.2	24.8	60154	27.1	114962	294503	b.d.l.	11817	27080	b.d.l.	41.1	b.d.l.	7.3	1361.1	4.2	29.8	0.3	b.d.l.	0.0	b.d.l.	25.0	20.2	21.1	1.5	3.5	0.5	1.0	0.1	0.0	0.1
grain10-18	Middle	25.3	24.4	59471	28.5	113565	294503	b.d.l.	12441	24606	b.d.l.	42.6	b.d.l.	6.6	1379.5	4.4	27.8	0.2	b.d.l.	b.d.l.	b.d.l.	21.9	19.2	20.5	1.4	3.7	0.4	0.9	0.2	0.0	0.1
grain10-19	Middle	24.3	24.2	60036	29.1	113649	294503	37.1	11912	26427	b.d.l.	40.2	b.d.l.	7.5	1378.8	4.2	26.2	0.3	b.d.l.	b.d.l.	b.d.l.	26.1	19.0	20.9	1.5	3.7	0.4	0.9	b.d.l.	b.d.l.	0.1
grain10-20	Middle	25.5	23.5	59823	24.8	112111	299178	b.d.l.	12112	25528	b.d.l.	37.2	b.d.l.	6.3	1358.0	4.6	22.3	0.3	b.d.l.	b.d.l.	b.d.l.	18.1	18.3	20.0	1.3	3.4	0.3	0.7	b.d.l.	0.0	0.1
grain10-21	Middle	21.9	21.2	61433	20.9	111946	299178	b.d.l.	13133	24931	b.d.l.	35.4	b.d.l.	6.9	1358.8	4.6	21.4	0.2	0.1	0.0	b.d.l.	22.4	18.3	19.1	1.3	3.6	0.3	0.6	b.d.l.	0.0	0.0
grain10-23	Rim - close to crack	13.9	11.4	61320	22.3	114716	294503	29.5	12386	26829	b.d.l.	40.4	b.d.l.	7.2	1359.6	4.2	21.0	0.2	b.d.l.	0.0	b.d.l.	14.3	19.4	20.9	1.4	3.7	0.2	0.5	0.2	0.0	0.1
grain10-24	Rim - close to crack	b.d.l.	8.9	59477	16.9	112397	294503	26.8	13045	25330	0.7	36.9	b.d.l.	5.9	1311.8	4.7	29.2	0.3	b.d.l.	0.1	b.d.l.	25.7	19.4	19.8	1.4	3.8	0.4	0.9	0.2	b.d.l.	0.1
grain10-25	Rim - close to crack	b.d.l.	5.8	61612	17.8	113015	294503	b.d.l.	13373	24680	b.d.l.	39.5	b.d.l.	6.7	1366.7	4.8	28.3	0.2	b.d.l.	0.1	b.d.l.	25.2	19.0	20.5	1.4	3.9	0.4	0.8	b.d.l.	0.0	b.d.l.
grain10-26	Rim - close to crack	b.d.l.	6.4	63431	18.6	111486	294503	b.d.l.	12997	26146	0.7	44.8	b.d.l.	6.5	1275.9	4.5	47.5	0.2	b.d.l.	b.d.l.	b.d.l.	73.5	20.2	21.5	1.4	3.6	0.4	1.3	b.d.l.	b.d.l.	0.1
grain10-27	Rim - close to crack	b.d.l.	9.2	61535	19.5	114697	294503	b.d.l.	12294	27915	b.d.l.	47.9	b.d.l.	7.5	1409.5	4.5	56.6	0.3	b.d.l.	b.d.l.	b.d.l.	82.9	20.9	22.6	1.5	4.0	0.4	1.7	0.2	b.d.l.	0.1
grain10-28	Rim	12.7	10.5	60749	13.7	111665	294503	b.d.l.	13663	26220	b.d.l.	39.9	b.d.l.	7.0	1258.6	6.0	50.2	0.3	0.2	b.d.l.	b.d.l.	63.4	17.1	19.0	1.3	3.3	0.3	1.5	b.d.l.	0.0	0.0
grain10-29	Rim	11.1	7.9	60294	19.5	115455	294503	b.d.l.	13065	26778	b.d.l.	45.3	b.d.l.	7.3	1380.5	4.8	49.9	0.2	b.d.l.	b.d.l.	b.d.l.	63.7	19.2	21.3	1.5	3.7	0.4	1.3	b.d.l.	0.0	0.1
grain12-1	Rim	b.d.l.	6.3	59653	28.8	115342	294503	b.d.l.	12601	28463	0.7	37.7	b.d.l.	7.7	1381.7	3.9	93.2	0.2	b.d.l.	b.d.l.	b.d.l.	109.6	18.6	20.1	1.4	4.1	0.3	2.3	0.2	0.0	0.1
grain12-2	Rim	13.7	10.8	59239	24.1	114181	294503	b.d.l.	12242	27091	b.d.l.	47.7	b.d.l.	7.5	1408.7	3.9	59.1	0.2	b.d.l.	b.d.l.	b.d.l.	60.2	21.3	23.3	1.7	4.4	0.4	1.7	0.2	0.0	0.1
grain12-3	Rim	16.1	16.4	58419	28.0	115707	294503	b.d.l.	11702	29845	b.d.l.	50.2	b.d.l.	8.9	1458.7	3.7	48.1	0.3	b.d.l.	b.d.l.	b.d.l.	39.8	23.0	25.4	1.8	4.5	0.5	1.3	b.d.l.	0.0	0.1
grain12-4	Middle	20.7	20.3	59804	27.1	117364	294503	27.5	12192	28309	1.0	49.8	b.d.l.	8.9	1479.9	3.8	46.1	0.3	b.d.l.	b.d.l.	b.d.l.	38.3	23.3	26.0	1.8	4.4	0.4	1.3	0.3	0.0	0.1
grain12-5	Middle	20.2	21.4	58802	26.4	113228	294503	b.d.l.	12145	28949	b.d.l.	58.7	b.d.l.	7.7	1425.8	4.1	44.0	0.2	b.d.l.	b.d.l.	b.d.l.	39.3	22.2	23.9	1.6	4.5	0.3	1.3	0.2	0.0	0.1

Table A1.7: continued

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.5	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.1	b.d.l.	b.d.l.	b.d.l.	16.6	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.9	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.8	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	16.7	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.0	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	15.4	b.d.l.	b.d.l.
0.0	0.1	b.d.l.	0.0	0.0	b.d.l.	b.d.l.	16.8	0.1	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	21.9	0.1	0.0
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	16.2	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	14.9	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.5	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.0	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.2	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.5	b.d.l.	b.d.l.
0.0	0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.7	0.2	b.d.l.
0.0	0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	17.2	0.0	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.4	0.0	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	18.0	b.d.l.	b.d.l.
0.0	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.6	0.0	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.6	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	17.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.0	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.6	b.d.l.	b.d.l.
b.d.l.	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.6	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.4	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.5	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.7	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.5	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	16.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.2	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.7	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	17.4	b.d.l.	0.0
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.3	b.d.l.	0.0
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.1	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.3	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	16.6	0.0	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.5	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	16.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.4	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.0	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	0.0	b.d.l.	0.0	b.d.l.	17.7	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.7	0.0	b.d.l.

Table A1.7: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
grain12-6	Middle	25.4	22.7	58482	21.3	115233	294503	b.d.l.	11740	29955	b.d.l.	52.2	b.d.l.	8.5	1442.6	3.8	45.8	0.2	b.d.l.	b.d.l.	b.d.l.	39.4	22.9	25.0	1.7	4.7	0.4	1.2	b.d.l.	0.0	0.0
grain12-7	Middle	27.0	24.5	59179	24.5	116677	294503	b.d.l.	11659	30135	b.d.l.	53.0	b.d.l.	9.6	1531.1	3.5	49.1	0.4	b.d.l.	b.d.l.	b.d.l.	41.8	23.2	26.2	1.9	5.2	0.4	1.3	0.2	0.0	0.1
grain12-8	Middle	25.7	25.4	58410	21.4	115464	294503	b.d.l.	11022	30197	b.d.l.	53.3	b.d.l.	8.8	1492.9	3.6	50.7	0.3	b.d.l.	0.0	b.d.l.	37.2	23.0	26.4	1.7	4.4	0.3	1.1	0.3	0.0	0.1
grain12-9	Middle	25.8	24.9	59939	20.5	117224	294503	b.d.l.	11165	30850	b.d.l.	55.5	b.d.l.	9.2	1503.7	3.3	51.9	0.3	b.d.l.	b.d.l.	b.d.l.	34.7	23.1	25.0	1.9	4.4	0.3	1.4	0.2	0.0	0.1
grain12-10	Core	23.8	21.0	56446	16.8	108741	294503	43.1	10691	29084	0.7	53.4	b.d.l.	8.7	1396.2	3.2	49.9	0.3	b.d.l.	b.d.l.	b.d.l.	32.7	21.5	23.9	1.7	4.7	0.4	1.3	0.2	0.0	0.1
grain12-11	Core	22.8	19.6	59083	26.7	115007	294503	b.d.l.	11921	29593	b.d.l.	54.9	b.d.l.	8.1	1447.1	3.6	56.8	0.2	0.1	b.d.l.	b.d.l.	40.5	21.1	22.9	1.7	4.1	0.4	1.3	0.3	0.0	0.1
grain12-12	Core	27.3	20.6	60705	20.2	114091	294503	27.7	13683	25835	0.8	58.8	b.d.l.	7.9	1487.5	5.3	59.4	0.6	0.2	0.1	b.d.l.	45.0	21.7	23.2	1.7	4.3	0.6	1.4	0.2	0.0	0.1
grain12-13	Core	29.4	26.1	57948	24.2	116022	294503	b.d.l.	12477	27744	b.d.l.	53.7	b.d.l.	7.9	1452.8	4.1	59.2	0.2	b.d.l.	b.d.l.	b.d.l.	41.3	22.1	24.1	1.7	3.9	0.5	1.5	0.2	0.0	0.1
grain12-14	Core	27.4	24.7	57442	24.9	112899	294503	29.7	11980	28071	b.d.l.	55.9	b.d.l.	8.0	1492.4	3.9	57.6	0.3	b.d.l.	b.d.l.	b.d.l.	36.2	21.7	23.5	1.8	4.1	0.6	1.3	0.2	b.d.l.	0.1
grain12-15	Core - close to crack	b.d.l.	8.8	59311	33.2	116257	294503	b.d.l.	12593	27919	b.d.l.	53.2	b.d.l.	8.7	1497.8	4.0	51.6	0.5	0.4	0.1	b.d.l.	31.6	20.8	23.1	1.6	4.3	0.4	1.4	b.d.l.	0.0	0.1
grain12-16	Core - close to crack	b.d.l.	12.9	58582	31.6	115176	294503	32.4	12481	28181	b.d.l.	49.1	b.d.l.	7.7	1446.2	4.5	50.9	0.2	b.d.l.	b.d.l.	b.d.l.	29.1	21.0	22.3	1.6	4.1	0.4	1.2	0.2	0.0	0.2
grain12-17	Core - close to crack	12.9	10.2	58619	28.9	114181	294503	b.d.l.	13205	27825	b.d.l.	44.7	b.d.l.	7.3	1473.0	4.4	47.9	0.2	b.d.l.	b.d.l.	b.d.l.	24.6	18.7	20.3	1.5	3.4	0.3	1.3	0.2	0.0	0.1
grain12-21	Core - close to crack	b.d.l.	8.1	59182	35.4	113298	294503	b.d.l.	11350	29734	b.d.l.	50.3	b.d.l.	11.6	1691.1	6.1	47.9	0.6	1.0	0.5	0.1	25.1	20.0	22.6	1.6	4.4	0.5	1.2	0.3	0.0	0.1
grain12-22	Core - close to crack	b.d.l.	9.1	57031	25.1	111252	294503	b.d.l.	12469	26253	b.d.l.	37.9	b.d.l.	7.1	1304.3	4.7	53.0	0.2	0.1	b.d.l.	b.d.l.	17.8	16.1	17.1	1.3	2.9	0.2	1.3	0.2	0.0	0.1
grain12-23	Core - close to crack	b.d.l.	10.8	58802	22.6	114593	294503	b.d.l.	12538	29293	0.8	34.1	b.d.l.	7.0	1392.3	4.0	60.0	0.2	b.d.l.	0.1	b.d.l.	16.5	16.5	17.9	1.3	3.3	0.3	1.3	0.2	0.0	0.1
grain12-24	Core - close to crack	b.d.l.	8.2	61323	23.1	114738	294503	b.d.l.	13608	26195	0.7	48.5	b.d.l.	7.2	1392.5	4.8	65.7	0.2	b.d.l.	b.d.l.	b.d.l.	18.8	17.5	18.8	1.3	3.6	0.3	1.6	b.d.l.	0.0	0.1
grain12-25	Core - close to crack	b.d.l.	7.7	57824	31.4	112369	289829	b.d.l.	12217	27665	0.6	47.9	b.d.l.	8.6	1382.9	3.9	65.0	0.5	0.4	0.2	b.d.l.	15.2	17.9	19.9	1.4	3.4	0.3	1.3	0.2	0.0	0.1
grain12-26	Core - close to crack	13.0	10.1	59371	23.0	114380	294503	b.d.l.	12982	27245	b.d.l.	40.1	b.d.l.	6.9	1396.0	4.3	74.3	0.2	b.d.l.	b.d.l.	b.d.l.	17.9	17.8	19.3	1.3	3.1	0.3	1.7	b.d.l.	0.0	0.2
grain12-27	Core - close to crack	14.9	13.9	58762	18.6	112798	294503	b.d.l.	12653	27794	b.d.l.	45.7	b.d.l.	7.9	1415.4	4.6	82.6	0.2	b.d.l.	0.0	b.d.l.	27.8	17.7	19.8	1.3	3.7	0.4	1.9	0.2	0.0	0.1
grain12-28	Core - close to crack	b.d.l.	9.9	58702	27.2	114299	294503	b.d.l.	11665	29200	0.6	43.3	b.d.l.	9.3	1401.4	3.9	86.7	0.3	0.3	0.0	b.d.l.	34.2	19.3	21.8	1.6	3.3	0.3	2.0	0.2	0.0	0.1
grain12-29	Core - close to crack	14.5	14.2	60094	22.9	112665	289829	b.d.l.	11642	28170	b.d.l.	41.7	b.d.l.	7.9	1383.6	3.7	92.4	0.2	b.d.l.	b.d.l.	b.d.l.	47.8	18.9	21.6	1.6	4.3	0.4	2.2	b.d.l.	b.d.l.	0.1
grain12-31	Core	18.0	17.1	60058	30.8	117228	294503	b.d.l.	12516	28258	b.d.l.	47.5	b.d.l.	8.6	1445.4	4.0	103.9	0.2	b.d.l.	b.d.l.	b.d.l.	90.5	20.6	22.4	1.6	3.8	0.4	2.9	b.d.l.	0.0	0.1
grain12-32	Middle	12.7	11.8	59513	25.7	113333	294503	b.d.l.	12092	29330	b.d.l.	46.7	b.d.l.	8.1	1420.3	4.2	113.2	0.2	b.d.l.	b.d.l.	b.d.l.	118.4	20.4	22.3	1.7	4.1	0.5	2.6	0.2	b.d.l.	0.1
grain12-33	Middle	16.7	13.4	58930	18.3	112866	294503	b.d.l.	13652	26295	b.d.l.	41.2	b.d.l.	7.2	1319.3	4.6	119.2	0.2	b.d.l.	b.d.l.	b.d.l.	152.6	18.3	20.2	1.4	4.0	0.4	2.9	0.2	0.0	0.0
grain12-34	Middle	13.2	12.6	59103	24.0	114565	294503	b.d.l.	13845	27196	b.d.l.	47.3	b.d.l.	7.3	1441.6	4.5	133.7	0.2	b.d.l.	b.d.l.	b.d.l.	207.0	19.1	20.7	1.6	4.2	0.4	3.1	0.2	b.d.l.	0.1
grain12-35	Rim	b.d.l.	5.8	57408	27.8	109929	294503	23.2	14423	23538	b.d.l.	43.4	b.d.l.	10.5	1332.6	5.3	134.8	0.2	b.d.l.	b.d.l.	b.d.l.	258.4	18.3	19.1	1.4	3.3	0.4	3.8	0.1	0.0	b.d.l.
grain12-36	Rim	b.d.l.	4.8	58433	27.2	113600	294503	b.d.l.	13127	27180	0.8	49.7	b.d.l.	7.7	1437.3	4.5	139.8	0.3	0.3	0.1	b.d.l.	259.2	20.3	21.9	1.5	3.7	0.5	3.7	0.2	0.0	0.0
grain12-37	Rim	b.d.l.	8.3	57379	19.0	112116	294503	b.d.l.	13570	26733	0.8	52.6	b.d.l.	7.1	1420.5	4.6	140.5	0.2	0.1	0.0	b.d.l.	262.3	20.0	21.2	1.5	4.2	0.4	3.8	0.2	0.0	b.d.l.
grain12-38	Rim	b.d.l.	4.7	58634	22.2	110701	294503	21.8	13860	26021	0.7	42.8	b.d.l.	6.7	1345.3	4.9	134.1	0.2	b.d.l.	b.d.l.	b.d.l.	211.5	19.2	20.9	1.4	3.9	0.4	3.6	0.2	b.d.l.	0.1
grain13-1	Rim	11.2	11.6	59253	20.4	112282	294503	b.d.l.	12403	27328	1.0	42.0	b.d.l.	7.4	1332.1	4.1	94.3	0.3	b.d.l.	b.d.l.	b.d.l.	106.4	20.1	22.1	1.6	4.2	0.3	2.7	0.3	0.0	0.0
grain13-2	Rim	18.8	18.0	58299	20.0	113056	294503	21.2	12227	28337	0.6	43.0	b.d.l.	7.8	1354.6	4.0	112.5	0.2	b.d.l.	b.d.l.	b.d.l.	154.1	20.6	22.7	1.7	4.4	0.4	3.2	0.2	0.0	0.0
grain13-3	Rim	22.4	21.1	57011	19.4	110663	294503	b.d.l.	12288	27350	0.5	47.1	b.d.l.	8.3	1367.1	3.7	129.1	0.3	b.d.l.	b.d.l.	b.d.l.	207.5	20.6	23.0	1.6	4.5	0.4	3.6	0.2	b.d.l.	0.1
grain13-4	Middle	25.2	22.6	59182	20.7	111454	294503	15.7	11798	29135	b.d.l.	43.1	b.d.l.	7.9	1420.8	3.7	146.0	0.3	b.d.l.	b.d.l.	b.d.l.	259.9	21.0	24.5	1.7	4.9	0.5	3.8	0.3	0.0	0.1
grain13-5	Middle	22.8	23.0	57892	38.9	109944	294503	17.1	12432	27203	0.6	40.8	b.d.l.	7.8	1393.4	3.8	149.5	0.3	0.2	0.1	b.d.l.	262.0	20.4	23.2	1.6	4.5	0.3	3.6	0.1	0.0	0.1
grain13-6	Middle	22.9	22.2	58449	24.6	110281	294503	20.0	11755	27507	0.7	45.3	b.d.l.	8.5	1390.4	3.8	158.4	0.2	b.d.l.	0.0	b.d.l.	260.8	20.7	23.7	1.7	4.6	0.4	4.2	0.2	0.0	0.0
grain13-7	Middle	22.8	22.4	61076	23.9	109425	294503	13.9	12639	27386	0.7	44.8	b.d.l.	8.1	1432.7	3.8	162.8	0.3	0.0	b.d.l.	b.d.l.	260.5	19.5	22.4	1.6	4.2	0.3	4.1	0.2	0.0	0.1
grain13-8	Middle	22.2	21.6	59066	22.5	113062	294503	b.d.l.	12410	28322	0.9	49.1	b.d.l.	8.3	1507.8	3.9	169.1	0.2	b.d.l.	b.d.l.	b.d.l.	274.4	20.2	23.5	1.8	4.4	0.5	4.4	0.1	0.0	0.1
grain13-9	Core	21.0	20.6	57828	18.9	108105	294503	13.4	11915	28734	0.7	46.2	b.d.l.	8.3	1461.0	3.8	166.8	0.2	b.d.l.	b.d.l.	b.d.l.	293.7	20.6	24.2	1.7	4.5	0.4	4.2	0.2	0.0	0.1
grain13-10	Core	19.1	19.9	59262	22.6	112267	294503	17.2	12056	29339	0.8	49.1	b.d.l.	8.4	1500.9	3.8	178.5	0.2	b.d.l.	0.0	b.d.l.	323.1	21.0	24.7	1.7	4.6	0.5	4.5	0.2	0.0	0.0
grain13-11	Core	20.8	18.7	59647	20.9	107212	294503	b.d.l.	12416	26814	0.9	46.5	b.d.l.	7.8	1409.4	4.0	181.0	0.2	b.d.l.	b.d.l.	b.d.l.	353.7	21.8	23.8	1.7	4.5	0.2	4.9	0.2	0.0	0.1
grain13-12	Core	19.5	18.3	58898	23.4	106532	294503	24.4	12766	25517	0.8	47.1	b.d.l.	7.6	1409.2	3.7	182.9	0.2	0.0	0.0	b.d.l.	371.8	21.4	24.3	1.6	4.5	0.3	4.7	0.2	0.0	0.0
grain13-13	Core	19.9	17.7	57593	20.2	106398	294503	b.d.l.	12223	26299	0.7	51.2	b.d.l.	7.3	1459.0	3.8	190.4	0.2	b.d.l.	b.d.l.	b.d.l.	404.4	20.4	24.1	1.7	4.4	0.4	5.0	0.2	b.d.l.	0.1
grain13-14	Core	18.5	18.4	59860	19.4	110055	294503	20.5	12616	28300	0.6	52.8	b.d.l.	8.9	1562.6	3.8	213.1	0.2	b.d.l.	0.0	b.d.l.	459.0	22.9	26.5	1.8	4.6	0.4	5.6	0.3	0.0	0.1
grain13-15	Core	17.6	17.1	57825	21.4	109550	294503	12.7	12087	27463	1.0	51.9	b.d.l.	8.5	1522.7	4.0	214.1	0.2	b.d.l.	0.0	b.d.l.	485.9	22.5	25.3	1.8	4.9	0.4	5.4	0.1	0.0	0.1
grain13-16	Core	18.4	17.4	57821	20.0	108840	294503	b.d.l.	12288	29049	0.9	52.2	b.d.l.	8.3	1507.1	3.8	220.6	0.2	b.d.l.	b.d.l.	b.d.l.	527.2	22.6	26.3	1.8	4.8	0.6	5.8	0.2	0.0	0.1
grain13-17	Core	18.9	16.9	55987	17.8	106707	294503	21.2	12105	28076	0.9	51.4	b.d.l.	8.1	1522.8	3.8	222.9	0.2	b.d.l.	b.d.l.	b.d.l.	565.5	22.8	26.3	1.8	4.7	0.4	5.9	0.1	0.0	0.1
grain13-18	Core	19.5	16.8	58456	15.5	108139	294503	15.2	12534	26858	0.7	53.9	b.d.l.	8.1	1459.6	4.1	225.5	0.2	b.d.l.	b.d.l.	b.d.l.	605.2	22.2	25.6	1.8	4.2	0.4	6.0	0.2	0.0	0.0
grain13-19	Core	17.0	17.0	62599	21.5	109554	294503	b.d.l.	12204	29246	0.8	57.0	b.d.l.	9.0	1522.6	3.5	242.4	0.2	b.d.l.	b.d.l.	b.d.l.	658.8	23.5	26.9	1.9	5.0	0.5	6.1	0.2	0.0	0.1
grain13-20	Core	18.9	16.9	57769	20.0	110275	294503	19.1	11788	28288	0.7	57.7	b.d.l.	8.6	1563.1	3.5	240.1	0.2	b.d.l.	b.d.l.	b.d.l.	670.8	24.0	26.8	1.9	4.9	0.4	6.2	0.2	0.0	0.1
grain13-21	Core	17.7	17.1	57515	23.1	109376	294503	16.9	12153	30217	0.7	55.0	b.d.l.	8.5	1585.7	3.5	244.4	0.3	0.1	b.d.l.	b.d.l.	705.7	23.3	26.4	1.9	5.2	0.4	6.4	0.2	0.0	0.1

Table A1.7: continued

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.5	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.5	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	17.0	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	17.2	b.d.l.	0.0
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.8	b.d.l.	b.d.l.
b.d.l.	0.1	0.0	b.d.l.	0.0	b.d.l.	15.9	0.1	0.0	
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	16.7	b.d.l.	0.0
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	17.0	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	16.7	0.1	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.4	0.0	0.0
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.3	b.d.l.	b.d.l.
0.0	0.1	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	16.4	0.2	0.1
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	0.0	0.0
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.6	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.9	b.d.l.	b.d.l.
0.0	0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.6	0.0	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	15.6	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	15.8	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	16.2	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	0.0	b.d.l.
0.0	0.0	b.d.l.	0.1	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	b.d.l.	b.d.l.	15.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	15.8	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.7	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.8	0.0	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	15.3	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.2	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.2	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.9	b.d.l.	b.d.l.
0.0	0.0	0.0	0.0	0.0	b.d.l.	b.d.l.	13.6	0.0	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.5	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.7	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	13.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.3	b.d.l.	b.d.l.
b.d.l.	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.8	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.0	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.7	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	13.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	12.5	b.d.l.	b.d.l.

Table A1.7: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
grain13-22	Core	18.4	16.7	57120	18.5	107509	294503	b.d.l.	12510	27646	0.6	52.3	b.d.l.	7.8	1471.6	3.9	244.1	0.2	b.d.l.	b.d.l.	b.d.l.	706.3	21.6	24.7	1.6	4.5	0.4	6.5	0.1	0.0	0.1
grain13-23	Core	17.6	16.7	56136	26.0	108575	294503	13.3	12419	27281	0.6	53.7	b.d.l.	8.2	1493.1	3.9	253.6	0.2	b.d.l.	b.d.l.	b.d.l.	747.1	22.7	25.7	1.8	4.7	0.4	6.7	0.1	0.0	b.d.l.
grain13-24	Core	18.3	16.1	56526	16.1	103112	294503	19.6	12573	25095	0.8	55.4	b.d.l.	7.7	1467.7	4.3	250.7	0.2	b.d.l.	b.d.l.	b.d.l.	766.6	20.4	23.3	1.7	4.3	0.4	6.3	0.2	0.0	b.d.l.
grain13-25	Core	17.4	16.8	56081	15.2	102458	294503	16.8	13815	23460	0.7	48.7	b.d.l.	7.1	1392.2	4.3	238.7	0.2	b.d.l.	0.0	b.d.l.	767.6	18.8	21.3	1.5	3.8	0.2	6.1	0.2	b.d.l.	0.0
grain13-26	Core	20.0	18.5	60852	24.0	108123	294503	b.d.l.	13091	27830	0.9	54.8	b.d.l.	8.1	1487.4	4.3	257.5	0.4	0.1	0.0	b.d.l.	787.4	20.9	23.5	1.7	5.0	0.4	6.6	0.1	0.0	0.1
grain13-27	Core	19.2	18.3	58097	18.9	108444	294503	25.9	13347	26572	0.7	53.1	b.d.l.	7.9	1522.7	4.1	254.8	0.2	b.d.l.	b.d.l.	b.d.l.	808.9	20.8	24.5	1.7	4.6	0.3	6.6	0.2	b.d.l.	0.0
grain13-28	Core	21.7	19.3	60725	25.4	107246	294503	b.d.l.	13274	28913	0.7	56.2	b.d.l.	8.2	1525.6	4.3	260.2	0.2	b.d.l.	b.d.l.	b.d.l.	863.2	21.0	24.5	1.7	4.4	0.3	6.7	0.2	b.d.l.	0.1
grain13-29	Core	17.5	19.4	58791	24.5	111481	294503	12.3	13471	27322	0.6	59.7	b.d.l.	7.8	1562.1	4.0	263.8	0.2	b.d.l.	b.d.l.	b.d.l.	890.7	21.8	24.6	1.8	4.7	0.4	6.9	0.2	0.0	0.0
grain13-30	Core	20.8	19.5	57688	16.0	111302	294503	b.d.l.	13659	28483	0.6	61.5	b.d.l.	8.1	1524.9	3.9	266.8	0.2	b.d.l.	b.d.l.	b.d.l.	915.2	22.3	25.4	1.9	5.1	0.3	6.9	0.1	0.0	0.1
grain13-31	Core	20.2	19.0	60570	16.7	114645	294503	17.0	13870	27932	0.8	59.9	b.d.l.	7.7	1564.8	4.7	264.5	0.2	b.d.l.	b.d.l.	b.d.l.	944.3	22.8	26.0	1.9	5.1	0.3	7.0	0.2	0.0	0.1
grain13-32	Core	17.5	16.4	61154	16.7	105179	294503	21.7	13088	26784	0.8	60.1	b.d.l.	7.3	1484.0	4.3	246.3	0.1	b.d.l.	b.d.l.	b.d.l.	872.9	21.8	24.6	1.7	4.6	0.4	6.4	0.2	b.d.l.	0.0
grain13-33	Core	16.4	16.6	62247	17.6	111524	299178	b.d.l.	13697	26817	1.0	61.3	b.d.l.	8.1	1534.9	4.3	254.1	0.2	b.d.l.	b.d.l.	b.d.l.	895.8	23.0	26.2	1.8	4.8	0.4	6.7	b.d.l.	b.d.l.	0.1
grain13-34	Core	13.8	14.5	56344	18.7	106020	294503	b.d.l.	12030	25267	0.4	57.2	b.d.l.	7.3	1456.6	4.2	235.3	0.2	b.d.l.	b.d.l.	b.d.l.	831.6	21.0	23.9	1.6	4.5	0.3	6.1	0.1	0.0	0.0
grain13-35	Core	15.0	13.1	56083	16.1	102425	294503	26.5	12545	24865	0.6	53.4	b.d.l.	6.6	1421.3	4.3	235.5	0.2	b.d.l.	b.d.l.	b.d.l.	834.8	20.7	22.9	1.6	4.4	0.3	6.0	0.1	0.0	0.1
grain13-36	Core	14.1	12.8	59247	17.6	111021	294503	b.d.l.	14140	26719	0.9	64.6	b.d.l.	8.0	1536.2	4.4	253.2	0.2	b.d.l.	b.d.l.	b.d.l.	873.5	22.9	25.1	1.8	4.8	0.4	6.6	0.1	0.0	0.0
grain13-37	Core	12.1	13.0	58545	17.9	109951	294503	16.2	13853	26097	1.0	56.1	b.d.l.	7.2	1529.8	4.2	246.2	0.2	b.d.l.	0.0	b.d.l.	852.5	23.1	25.7	1.8	4.5	0.4	6.3	0.2	0.0	0.1
grain13-38	Core	12.5	12.2	60418	14.7	111146	294503	b.d.l.	13642	25722	0.9	60.1	b.d.l.	7.5	1521.1	4.5	250.0	0.2	b.d.l.	b.d.l.	b.d.l.	849.1	22.9	25.6	1.8	4.5	0.4	6.4	0.3	0.0	b.d.l.
grain13-39	Core	12.6	11.4	58137	16.6	107187	289829	16.2	13596	27612	0.6	53.4	b.d.l.	7.4	1518.1	4.1	237.1	0.2	b.d.l.	0.0	b.d.l.	836.5	21.8	25.3	1.7	4.4	0.5	6.3	0.2	0.0	0.1
grain13-40	Core	13.3	12.8	58423	17.9	109532	294503	21.1	13700	25975	0.6	58.4	b.d.l.	7.4	1556.6	4.6	244.9	0.2	b.d.l.	b.d.l.	b.d.l.	863.9	22.4	24.7	1.7	4.6	0.3	6.6	0.2	0.0	0.1
grain13-41	Core	15.3	13.9	59822	17.1	108544	294503	b.d.l.	13902	26233	0.7	58.1	b.d.l.	7.5	1562.4	4.2	248.7	0.2	b.d.l.	b.d.l.	b.d.l.	901.3	22.7	25.6	1.8	4.6	0.4	6.4	0.1	0.0	b.d.l.
grain13-42	Core	15.5	14.2	57288	16.3	108581	294503	21.5	12996	26213	0.6	60.8	b.d.l.	7.5	1543.7	4.0	253.3	0.1	b.d.l.	b.d.l.	b.d.l.	889.7	22.2	25.1	1.9	4.7	0.4	6.7	0.2	0.0	0.1
grain13-43	Core	15.9	14.7	61094	20.8	110544	294503	15.1	13699	27064	0.5	61.9	b.d.l.	8.2	1611.9	4.2	269.4	0.2	b.d.l.	b.d.l.	b.d.l.	1038.7	24.0	25.7	1.8	4.7	0.3	6.7	0.2	0.0	0.1
grain13-44	Core	17.7	16.4	60780	14.3	107190	289829	b.d.l.	13574	26151	0.6	61.7	b.d.l.	7.3	1547.4	4.5	261.6	0.2	b.d.l.	b.d.l.	b.d.l.	1029.1	23.1	25.0	1.7	4.2	0.3	6.9	0.2	0.0	0.1
grain13-45	Core	19.4	17.9	60674	20.3	113174	294503	12.4	13991	27060	0.4	63.5	b.d.l.	7.8	1609.5	4.5	269.5	0.2	b.d.l.	0.0	b.d.l.	1103.7	23.7	26.7	1.8	4.7	0.4	6.8	0.1	0.0	0.0
grain13-46	Core	17.4	18.3	59536	17.3	109954	294503	b.d.l.	12831	27386	0.7	67.3	b.d.l.	7.6	1617.8	4.2	265.9	0.2	0.0	b.d.l.	b.d.l.	1056.1	23.1	25.1	1.8	4.5	0.2	7.0	0.2	0.0	b.d.l.
grain13-47	Core	20.4	19.3	63350	16.5	114241	289829	b.d.l.	13509	28350	0.6	79.9	b.d.l.	8.2	1696.4	4.1	270.7	0.2	b.d.l.	b.d.l.	b.d.l.	1063.2	22.6	25.8	1.8	5.3	0.4	7.0	0.2	b.d.l.	0.1
grain13-48	Core	19.9	19.1	57774	20.8	111516	294503	20.2	12295	29171	0.6	84.3	b.d.l.	8.2	1667.7	3.7	265.7	0.2	b.d.l.	b.d.l.	b.d.l.	1024.4	22.3	25.4	1.8	4.7	0.4	6.7	0.2	0.0	0.1
grain13-49	Core	21.1	19.3	59809	23.3	110011	294503	18.5	11711	28595	0.8	84.5	b.d.l.	8.2	1680.0	3.7	257.2	0.2	b.d.l.	b.d.l.	b.d.l.	962.8	20.8	24.3	1.7	4.5	0.4	6.6	0.1	0.0	0.0
grain13-50	Core	19.1	19.6	56389	16.2	108537	289829	16.5	12108	28079	0.4	83.7	b.d.l.	7.9	1644.8	3.8	256.3	0.2	b.d.l.	b.d.l.	b.d.l.	943.3	20.7	23.6	1.6	4.3	0.4	6.6	0.2	0.0	0.0
grain13-51	Core	20.2	19.8	61973	16.0	110734	294503	18.1	15057	27306	0.7	58.1	b.d.l.	7.3	1679.9	4.4	255.8	0.2	b.d.l.	b.d.l.	b.d.l.	952.2	21.0	23.4	1.7	4.2	0.3	6.5	0.1	b.d.l.	0.0
grain13-52	Core	20.9	18.7	59106	18.0	109992	294503	b.d.l.	13424	26571	0.7	56.7	b.d.l.	8.0	1653.6	4.0	249.2	0.2	b.d.l.	b.d.l.	b.d.l.	899.2	20.5	22.9	1.6	4.4	0.3	6.1	0.1	b.d.l.	0.1
grain13-53	Core	20.0	18.5	58709	18.6	104371	294503	17.9	12823	26238	0.6	52.5	b.d.l.	7.5	1585.3	4.0	239.1	0.2	b.d.l.	b.d.l.	b.d.l.	811.6	20.6	23.8	1.6	4.1	0.4	6.2	0.2	b.d.l.	0.0
grain13-54	Core	20.9	19.2	59452	23.0	113398	294503	17.7	12944	28893	0.7	57.9	b.d.l.	8.1	1625.7	4.0	250.8	0.2	b.d.l.	0.0	b.d.l.	812.4	22.2	24.7	1.8	4.8	0.4	6.5	0.2	0.0	0.1
grain13-55	Core	21.9	19.3	58330	23.9	109469	294503	b.d.l.	12588	27874	0.7	50.6	b.d.l.	8.3	1712.3	4.4	249.6	0.2	b.d.l.	0.0	b.d.l.	807.0	22.1	25.1	1.8	4.9	0.4	6.4	0.2	b.d.l.	0.1
grain13-56	Core	20.0	18.6	59254	20.9	110353	289829	b.d.l.	12981	27370	0.7	53.9	b.d.l.	8.0	1612.9	4.4	245.0	0.2	b.d.l.	b.d.l.	b.d.l.	807.0	21.0	23.8	1.6	4.7	0.3	6.4	0.2	0.0	0.0
grain13-57	Core	19.8	18.8	59345	19.9	112769	289829	20.6	13712	28039	0.9	56.1	b.d.l.	7.5	1616.6	4.6	248.5	0.2	b.d.l.	b.d.l.	b.d.l.	833.8	22.2	25.6	1.8	4.6	0.3	6.5	0.2	0.0	0.0
grain13-58	Core	19.8	18.2	56585	18.0	107066	289829	b.d.l.	12565	27390	0.6	59.6	b.d.l.	8.2	1601.5	3.8	231.6	0.2	b.d.l.	0.0	b.d.l.	787.4	22.3	24.9	1.7	4.8	0.3	6.1	0.2	0.0	0.0
grain13-59	Middle	20.9	19.0	57932	21.1	109126	289829	21.6	12532	27395	0.8	60.6	b.d.l.	7.6	1588.8	3.9	227.3	0.2	0.1	b.d.l.	b.d.l.	751.7	23.1	25.5	1.8	5.0	0.4	5.8	0.2	0.0	b.d.l.
grain13-60	Middle	21.1	20.4	60385	21.8	109643	294503	b.d.l.	12461	27741	0.5	60.4	b.d.l.	8.1	1631.5	3.9	220.6	0.2	b.d.l.	b.d.l.	b.d.l.	721.3	22.9	26.5	1.8	4.9	0.3	5.8	0.2	0.0	0.0
grain13-61	Middle	23.1	21.9	59004	17.9	110597	294503	b.d.l.	11227	29620	0.6	55.4	b.d.l.	9.0	1685.7	3.7	219.4	0.2	b.d.l.	b.d.l.	b.d.l.	691.6	24.3	27.7	2.0	5.0	0.5	5.8	0.3	0.0	0.0
grain13-62	Middle	21.1	21.6	58521	20.8	110082	289829	b.d.l.	11490	30859	0.7	57.6	b.d.l.	9.6	1708.8	3.5	212.7	0.3	b.d.l.	0.0	b.d.l.	639.0	23.6	27.0	1.9	5.3	0.4	5.5	0.2	0.0	0.1
grain13-63	Middle	22.2	21.0	57254	20.2	111045	289829	b.d.l.	10994	30077	0.6	57.4	b.d.l.	9.0	1667.1	3.4	215.1	0.2	b.d.l.	b.d.l.	b.d.l.	610.6	23.4	26.5	1.9	5.3	0.3	5.6	0.1	0.0	0.1
grain13-64	Middle	18.6	18.9	59436	25.4	112918	289829	b.d.l.	10519	32433	0.6	54.4	b.d.l.	10.1	1720.3	3.4	204.4	0.3	b.d.l.	b.d.l.	b.d.l.	588.2	23.3	27.3	2.0	5.2	0.6	5.6	0.2	0.0	0.1
grain13-65	Rim	11.8	12.2	56636	25.1	109640	289829	b.d.l.	10605	30346	0.6	58.1	b.d.l.	9.1	1610.5	3.1	165.3	0.3	0.0	b.d.l.	b.d.l.	494.1	22.1	26.2	1.9	5.0	0.5	4.6	0.2	0.0	0.1
grain13-66	Rim	10.6	11.0	59639	22.7	114094	294503	b.d.l.	11113	30789	0.7	54.0	b.d.l.	9.8	1676.3	3.5	163.6	0.3	b.d.l.	b.d.l.	b.d.l.	408.9	23.4	27.6	2.0	5.3	0.5	4.5	0.2	0.0	0.0
grain14-2	Rim	11.0	11.1	59131	23.8	119215	294503	b.d.l.	10127	33031	0.5	59.3	b.d.l.	10.2	1547.7	3.1	199.0	0.3	b.d.l.	b.d.l.	b.d.l.	426.3	28.3	30.9	2.2	6.0	0.7	5.7	0.2	0.0	0.1
grain14-3	Rim	15.0	15.3	58871	22.4	118303	294503	b.d.l.	10056	33954	0.6	64.0	b.d.l.	10.2	1527.2	3.1	211.4	0.4	b.d.l.	0.0	b.d.l.	450.9	28.2	31.4	2.3	6.5	0.6	5.9	0.2	0.0	0.1
grain14-4	Middle	20.6	20.2	57952	27.1	121216	294503	22.4	9138	38358	0.8	67.5	b.d.l.	11.6	1508.5	2.6	214.9	0.5	b.d.l.	0.0	b.d.l.	415.3	30.3	34.2	2.5	6.8	0.6	5.8	0.2	0.0	0.1
grain14-5	Middle	20.1	18.5	58552	21.6	123918	294503	b.d.l.	8998	37569	0.8	60.9	b.d.l.	12.5	1551.5	2.6	200.7	0.4	b.d.l.	b.d.l.	b.d.l.	374.3	31.3	35.7	2.8	7.0	0.6	5.3	0.4	0.0	0.1
grain14-6	Middle	10.3	10.3	56679	29.7	120051	294503	b.d.l.	9167	35144	0.7	70.7	b.d.l.	10.7	1499.6	2.7	176.9	0.4	b.d.l.	b.d.l.	b.d.l.	311.1	30.2	33.9	2.6	6.6	0.5	4.8	0.4	0.0	0.2
grain14-7	Middle	9.1	10.2	59087	23.4	121311	294503	b.d.l.	9986	34585	0.5	73.0	b.d.l.	11.5	1545.0	3.2	167.3	0.4	0.2	b.d.l.	b.d.l.	302.2	30.0	34.2	2.5	6.4	0.3	4.2	0.2	0.0	0.2
grain14-8	Middle	14.9	15.0	60469	22.5	121653	294503	b.d.l.	9636	36359	0.9	87.7	b.d.l.	11.5	1562.4	3.1	183.7	0.4	b.d.l.	b.d.l.	b.d.l.	358.8	33.4	35.5	2.5	6.2	0.7	4.9	0.3	0.0	0.0
grain14-9	Middle	18.3	17.4	59566	22.4	117358	294503	23.5	9003	35537	0.8	95.0	b.d.l.	10.7	1584.9	2.6	187.4	0.3	b.d.l.	b.d.l.	b.d.l.	384.6	34.7	38.2	2.7	7.1	0.5	5.0	0.3	0.0	0.1

Table A1.7: continued

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	12.4	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	0.0	0.0	b.d.l.	0.0	12.6	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.0	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	11.9	b.d.l.	0.0
0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	b.d.l.	12.6	0.0	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	12.6	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.0	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	0.0	13.3	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.3	b.d.l.	b.d.l.
b.d.l.	0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	13.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	12.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	12.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	12.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.3	b.d.l.	0.0
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	13.2	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	12.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	12.6	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.4	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.7	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.5	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.1	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.2	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.0	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.4	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	12.3	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	12.3	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.9	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	13.6	b.d.l.	0.0
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.0	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	13.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	b.d.l.	12.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.2	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.6	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	0.0	0.0	13.1	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.6	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.1	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	0.0	b.d.l.	b.d.l.	14.0	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.9	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	13.5	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	14.1	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	0.0	b.d.l.	b.d.l.	14.3	0.0	b.d.l.
0.0	0.0	b.d.l.	0.0	0.0	0.0	b.d.l.	14.2	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.7	b.d.l.	b.d.l.

Table A1.7: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
grain14-10	Middle	21.6	20.3	57357	24.2	122178	294503	27.2	8519	38633	b.d.l.	92.6	b.d.l.	12.1	1539.4	2.1	210.3	0.5	b.d.l.	b.d.l.	b.d.l.	408.8	36.7	41.8	3.1	7.8	0.9	5.5	0.4	0.0	0.1
grain14-11	Middle	21.1	19.4	56289	25.8	121016	294503	16.5	7951	39331	0.7	91.6	0.2	12.8	1481.8	1.9	219.9	0.5	b.d.l.	b.d.l.	b.d.l.	388.6	36.6	42.8	3.2	8.0	0.7	5.7	0.3	0.0	0.1
grain14-12	Core	14.4	14.5	58759	21.2	118297	294503	17.4	8608	37274	0.6	79.4	b.d.l.	12.0	1498.0	2.3	218.4	0.4	b.d.l.	b.d.l.	b.d.l.	414.5	32.6	38.8	2.7	7.5	0.4	6.0	0.4	0.0	0.1
grain14-13	Core - close to crack	6.7	6.7	61809	28.2	115359	294503	15.2	11001	32595	0.9	75.8	b.d.l.	13.0	1604.9	4.5	222.1	1.3	1.8	0.7	0.1	493.9	28.0	33.4	2.4	6.7	0.5	5.9	0.5	0.1	0.2
grain14-14	Core - close to crack	8.2	7.7	58516	23.4	116343	294503	27.1	8857	34285	0.7	73.3	b.d.l.	11.3	1511.6	2.6	223.8	0.4	b.d.l.	0.0	b.d.l.	463.1	30.5	36.0	2.6	6.6	0.6	5.7	0.3	0.0	0.1
grain14-15	Core	11.7	10.3	58474	24.5	119445	294503	15.2	9685	35397	0.7	67.8	b.d.l.	11.5	1536.1	2.9	221.0	0.6	0.2	0.1	b.d.l.	462.8	29.7	35.5	2.6	6.9	0.6	5.9	0.3	0.0	0.1
grain14-16	Core	9.9	9.7	62352	20.1	116200	294503	19.2	10226	32233	0.8	69.6	b.d.l.	11.1	1631.8	3.1	223.2	0.6	0.3	0.2	b.d.l.	512.6	28.6	33.5	2.4	6.1	0.5	5.7	0.3	0.0	0.1
grain14-17	Core - close to crack	8.6	8.5	58393	18.5	109141	294503	16.5	12282	28683	0.8	67.5	b.d.l.	9.4	1607.5	4.1	226.4	0.2	b.d.l.	b.d.l.	b.d.l.	627.9	24.8	28.8	2.0	5.0	0.4	6.0	0.3	0.0	0.1
grain14-18	Core - close to crack	7.1	8.2	59377	23.5	111314	294503	13.3	12830	29246	0.6	60.1	b.d.l.	8.3	1576.6	4.0	235.8	0.2	b.d.l.	b.d.l.	b.d.l.	663.7	23.7	27.4	2.1	5.3	0.3	6.3	0.2	0.0	0.1
grain14-19	Core - close to crack	8.3	7.7	58528	18.4	108414	294503	14.8	12630	27343	0.6	54.1	0.1	7.9	1555.5	4.1	225.9	0.2	b.d.l.	0.0	b.d.l.	660.7	22.2	25.3	1.8	4.7	0.3	5.9	0.2	0.0	0.1
grain14-21	Core - close to crack	5.9	6.4	54528	37.8	104183	280479	38.1	12326	24880	1.0	59.0	0.1	9.7	1555.5	4.4	219.4	3.4	2.6	0.7	0.1	621.5	22.4	32.0	2.5	7.1	0.6	5.7	0.6	0.1	0.4
grain14-22	Core - close to crack	7.0	6.4	55675	28.1	100747	280479	42.5	12949	24970	0.7	61.3	b.d.l.	8.6	1498.1	4.4	214.2	1.4	0.9	0.3	0.1	618.6	21.6	27.5	2.0	5.7	0.8	5.5	0.5	0.1	0.3
grain14-23	Core	6.5	7.4	54722	22.4	102384	280479	42.8	13237	27138	0.4	55.3	b.d.l.	7.8	1513.7	3.9	215.9	0.6	0.3	0.1	b.d.l.	590.5	20.4	25.2	1.9	5.2	0.5	5.7	0.2	0.0	0.1
grain14-24	Core	7.2	7.2	54944	22.1	102514	280479	19.0	12295	26856	0.5	54.6	b.d.l.	7.8	1433.8	3.9	219.1	0.5	0.1	0.1	b.d.l.	605.7	20.9	24.2	1.7	4.5	0.5	5.6	0.2	0.0	0.1
grain14-25	Core	7.0	6.4	55933	23.4	102887	294503	22.4	12341	26303	0.7	56.1	b.d.l.	7.3	1448.5	4.3	217.5	0.3	0.4	0.1	b.d.l.	628.2	20.4	23.1	1.9	4.5	0.4	5.6	0.1	0.0	0.1
grain14-26	Core	b.d.l.	6.3	58459	21.5	105596	294503	b.d.l.	12352	27545	0.8	55.5	b.d.l.	8.5	1452.6	4.3	215.1	0.4	0.3	0.2	b.d.l.	615.6	21.2	24.4	1.9	4.8	0.3	5.4	0.2	0.0	0.1
grain14-27	Core	7.0	6.3	60251	24.2	113760	294503	36.2	13451	28493	0.7	57.9	b.d.l.	8.2	1636.5	4.4	243.7	0.9	0.3	0.1	b.d.l.	708.7	22.8	25.9	1.9	5.2	0.4	6.1	0.3	0.0	0.2
grain14-28	Core	6.8	6.8	58009	18.8	107687	294503	23.1	11955	26642	0.8	56.8	b.d.l.	7.8	1576.5	3.8	231.6	0.2	b.d.l.	0.0	b.d.l.	675.9	21.4	24.9	1.6	4.2	0.5	5.6	b.d.l.	0.0	0.1
grain14-29	Core	8.3	7.6	59121	20.7	109643	294503	b.d.l.	12690	28140	1.0	57.4	b.d.l.	9.1	1608.5	4.5	240.2	0.2	b.d.l.	0.1	b.d.l.	678.3	22.1	24.9	1.7	4.3	0.4	6.4	0.1	0.0	b.d.l.
grain14-30	Core	9.1	8.9	56989	18.4	107046	294503	b.d.l.	11809	27475	0.7	52.8	b.d.l.	7.7	1546.7	3.9	240.4	0.3	b.d.l.	b.d.l.	b.d.l.	611.8	22.1	24.8	1.7	4.5	0.4	6.0	0.2	0.0	0.1
grain14-31	Core	10.6	10.0	56960	20.7	108609	294503	14.3	12829	27606	0.6	53.0	b.d.l.	7.6	1574.5	4.3	241.3	0.2	b.d.l.	0.0	b.d.l.	626.8	22.0	24.8	1.7	4.5	0.3	6.3	0.2	0.0	0.1
grain14-32	Core	12.7	11.1	57994	19.8	107867	294503	b.d.l.	13535	25566	0.5	54.5	b.d.l.	7.9	1485.1	4.9	233.6	0.3	0.3	0.1	b.d.l.	605.2	20.8	23.2	1.6	4.2	0.3	5.6	0.2	0.0	0.1
grain14-33	Core	12.0	12.3	57985	18.1	104793	294503	b.d.l.	12366	25666	0.7	52.4	b.d.l.	7.3	1422.5	4.1	227.3	0.2	0.1	b.d.l.	b.d.l.	556.3	19.8	23.2	1.7	4.1	0.4	5.6	0.2	0.0	0.1
grain14-34	Core	10.0	11.0	61199	16.8	108247	294503	b.d.l.	12771	27042	0.7	56.4	b.d.l.	8.0	1498.7	4.4	243.3	0.2	b.d.l.	b.d.l.	b.d.l.	612.0	21.8	25.1	1.7	4.6	0.3	6.4	0.1	b.d.l.	0.1
grain14-35	Core	10.3	10.5	58724	13.1	109154	294503	b.d.l.	14758	26230	0.9	59.0	b.d.l.	7.5	1505.9	5.7	250.8	0.4	0.9	0.2	b.d.l.	618.6	22.9	26.2	1.8	4.8	0.3	6.3	b.d.l.	0.0	0.1
grain14-36	Core - close to crack	10.2	10.5	59837	22.2	107703	294503	b.d.l.	11563	27839	0.8	51.4	b.d.l.	9.3	1593.8	3.3	241.4	0.3	b.d.l.	0.0	b.d.l.	590.8	22.8	27.2	1.9	5.3	0.5	6.2	0.2	0.0	0.1
grain14-38	Core - close to crack	9.1	8.0	53510	19.2	100569	294503	21.5	11837	25495	0.6	57.4	b.d.l.	8.1	1425.3	4.4	232.5	0.5	0.6	0.2	b.d.l.	581.9	22.7	26.3	1.9	5.3	0.4	6.0	0.3	0.0	0.1
grain14-40	Core	7.8	8.7	57463	18.3	109106	294503	17.7	12904	26163	0.4	67.2	b.d.l.	7.7	1538.7	4.5	259.9	0.2	b.d.l.	0.0	b.d.l.	785.0	22.7	25.7	1.8	4.7	0.5	6.8	0.2	0.0	0.1
grain14-41	Core	8.4	7.7	57548	20.9	105489	294503	13.3	12890	25743	0.6	54.1	0.1	7.5	1493.3	4.5	251.4	0.3	b.d.l.	0.0	b.d.l.	756.2	21.7	25.3	1.7	4.5	0.5	6.4	0.1	0.0	0.1
grain14-42	Core	9.8	8.1	58439	32.2	104306	289829	b.d.l.	13224	24987	0.7	64.5	b.d.l.	9.1	1671.7	5.6	258.4	2.2	2.6	0.8	0.2	771.6	22.7	24.7	2.1	5.7	0.9	6.8	0.5	0.1	0.4
grain14-43	Core	7.9	7.8	58218	18.3	106989	294503	14.3	13615	26511	0.8	58.4	b.d.l.	8.0	1504.3	4.4	261.4	0.2	0.1	0.0	b.d.l.	780.3	21.5	23.8	1.7	4.2	0.2	6.7	0.1	0.0	0.0
grain14-44	Core	8.7	9.4	59920	23.0	111873	294503	21.4	14065	27287	0.6	61.4	b.d.l.	8.0	1596.6	4.5	276.5	0.3	b.d.l.	0.0	b.d.l.	827.5	23.5	25.4	1.9	4.5	0.4	7.2	b.d.l.	0.0	0.1
grain14-45	Core	11.6	10.4	58581	18.3	111447	289829	15.1	13198	26425	0.8	61.1	b.d.l.	7.6	1586.1	4.2	276.1	0.2	b.d.l.	b.d.l.	b.d.l.	798.5	22.7	25.3	1.9	4.6	0.3	7.0	b.d.l.	b.d.l.	0.1
grain14-46	Core	12.6	11.5	58505	19.0	109087	285154	b.d.l.	13277	25998	b.d.l.	59.2	b.d.l.	7.7	1597.5	4.4	268.1	0.2	b.d.l.	b.d.l.	b.d.l.	790.3	22.4	24.5	1.8	4.6	0.4	6.9	0.2	0.0	0.0
grain14-47	Core	11.0	11.6	57074	13.9	102493	285154	21.2	12898	25338	0.7	58.1	b.d.l.	6.8	1446.2	4.5	249.3	0.2	b.d.l.	b.d.l.	b.d.l.	743.8	20.4	22.5	1.6	4.1	0.3	6.5	0.2	0.0	0.0
grain14-48	Core	14.1	12.5	59709	20.8	106344	289829	13.4	13777	26581	0.7	53.9	b.d.l.	7.6	1543.9	4.2	261.4	0.2	0.1	0.0	b.d.l.	783.9	20.9	23.9	1.7	4.5	0.4	6.8	0.2	0.0	0.1
grain14-49	Core	11.6	11.1	55742	16.3	101024	285154	20.6	12307	25210	0.6	53.1	b.d.l.	7.0	1495.1	4.0	244.1	0.2	b.d.l.	b.d.l.	b.d.l.	724.8	19.9	22.0	1.6	3.7	0.3	6.3	0.1	0.0	0.1
grain14-50	Middle	13.9	12.7	56081	16.6	105584	285154	b.d.l.	12810	25720	0.6	52.9	b.d.l.	7.8	1492.9	4.2	251.8	0.2	b.d.l.	b.d.l.	b.d.l.	762.3	21.2	24.2	1.7	4.8	0.3	6.7	0.2	b.d.l.	0.1
grain14-51	Middle	15.3	14.3	59917	18.0	109248	289829	b.d.l.	12495	26643	0.7	56.5	b.d.l.	8.6	1554.1	3.9	249.5	0.2	b.d.l.	b.d.l.	b.d.l.	727.5	22.2	25.6	1.7	4.6	0.5	6.3	0.2	0.0	0.1
grain14-52	Middle	15.6	14.3	55942	17.9	105220	289829	b.d.l.	11678	26440	0.5	51.6	b.d.l.	7.7	1493.0	3.9	233.5	0.2	b.d.l.	b.d.l.	b.d.l.	653.7	21.8	25.1	1.8	4.8	0.4	6.2	0.2	0.0	0.1
grain14-53	Middle	13.3	13.4	57640	17.1	101686	289829	b.d.l.	12349	25162	0.6	55.5	b.d.l.	7.8	1495.7	4.0	217.7	0.3	0.2	0.0	b.d.l.	579.0	20.2	22.9	1.7	4.2	0.4	5.5	0.1	0.0	0.1
grain14-54	Rim	11.4	11.0	58656	22.2	105224	289829	b.d.l.	12410	25857	0.6	47.7	b.d.l.	7.7	1399.8	3.9	200.4	0.3	0.2	0.1	b.d.l.	481.6	19.8	22.0	1.6	3.9	0.4	5.2	0.2	0.0	0.1
grain14-55	Rim	10.0	9.1	58191	20.5	106207	294503	b.d.l.	13343	25442	0.7	55.0	b.d.l.	7.4	1363.8	4.0	198.9	0.2	b.d.l.	0.0	b.d.l.	444.8	20.3	22.8	1.6	4.2	0.3	5.2	0.2	0.0	0.1
grain14-56	Rim	8.2	7.8	59983	18.6	116176	289829	b.d.l.	12965	27981	0.6	49.2	b.d.l.	7.8	1544.5	4.4	195.8	0.4	0.1	0.1	b.d.l.	387.6	21.1	23.7	1.7	4.1	0.5	5.2	b.d.l.	0.0	0.1
grain20-1	Rim	11.3	10.9	61911	21.1	120772	308527	b.d.l.	12534	30135	0.6	53.7	b.d.l.	8.7	1622.3	4.0	219.9	0.2	b.d.l.	b.d.l.	b.d.l.	487.6	24.8	26.5	1.9	5.3	0.6	5.6	0.2	0.0	0.1
grain20-2	Middle	24.5	21.9	61426	26.9	121040	308527	b.d.l.	12382	30995	b.d.l.	59.0	b.d.l.	9.9	1646.5	4.0	229.5	0.3	b.d.l.	b.d.l.	b.d.l.	567.6	24.9	27.3	2.1	5.2	0.5	5.8	0.2	0.0	0.1
grain20-3	Middle	25.5	25.8	59267	20.6	115360	294503	18.5	12253	28005	0.8	56.0	b.d.l.	8.2	1546.5	3.8	226.8	0.2	b.d.l.	b.d.l.	b.d.l.	586.9	24.3	26.9	2.0	5.3	0.4	5.9	0.3	0.0	0.0
grain20-4	Middle	27.2	26.3	59050	25.1	113155	299178	18.6	12333	29250	0.7	56.0	b.d.l.	8.2	1596.9	3.8	244.0	0.2	0.1	b.d.l.	b.d.l.	611.0	24.5	27.3	2.0	5.2	0.5	6.1	0.2	0.0	0.1
grain20-5	Middle	26.1	25.5	58922	19.6	112548	294503	b.d.l.	12149	29228	0.8	60.2	b.d.l.	8.0	1618.5	4.1	236.4	0.3	b.d.l.	0.0	b.d.l.	644.2	23.7	26.0	1.9	5.2	0.4	6.1	0.2	0.0	0.1
grain20-6	Middle	28.8	26.2	60547	24.4	114001	294503	b.d.l.	12434	29182	0.6	58.6	b.d.l.	8.7	1577.4	4.3	231.2	0.2	b.d.l.	0.0	b.d.l.	624.8	24.1	26.8	1.9	5.1	0.4	6.2	0.2	0.0	0.1

Table A1.7: continued

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.2	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	0.0	b.d.l.	b.d.l.	12.9	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.7	b.d.l.	b.d.l.
0.1	0.1	0.0	0.1	0.0	0.1	0.1	14.6	0.2	0.0
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.1	0.0	b.d.l.
0.0	0.1	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.2	0.0	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	0.0	0.0	13.7	0.1	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	13.6	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.1	b.d.l.	b.d.l.
0.1	0.2	0.0	0.2	0.0	0.1	0.1	13.1	0.5	0.0
0.1	0.1	0.0	0.0	0.1	b.d.l.	0.1	0.0	13.7	0.3	0.0
0.0	0.0	0.0	0.0	0.1	b.d.l.	0.0	0.0	13.7	0.1	b.d.l.
0.0	0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.9	0.0	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	12.6	0.0	b.d.l.
0.0	0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.6	0.0	b.d.l.
0.0	0.1	0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	13.4	0.1	0.0
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.7	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	13.7	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	12.9	0.0	b.d.l.
0.0	0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.4	0.0	0.0
0.0	0.0	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	12.9	0.0	0.0
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	12.2	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.7	b.d.l.	b.d.l.
0.0	0.1	b.d.l.	0.0	b.d.l.	0.0	0.0	13.1	0.1	0.0
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.3	0.0	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	11.7	0.1	b.d.l.
b.d.l.	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.9	b.d.l.	b.d.l.
0.0	0.0	0.0	0.0	b.d.l.	b.d.l.	0.0	12.2	0.0	b.d.l.
0.1	0.2	0.0	0.2	0.0	0.1	0.0	15.6	0.5	0.0
0.0	b.d.l.	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	12.9	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	b.d.l.	12.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	13.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	13.5	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.1	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	12.7	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.1	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.5	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	13.3	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.5	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	12.1	0.0	0.0
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	12.5	0.0	0.0
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.2	b.d.l.	b.d.l.
0.0	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.8	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.1	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.5	0.0	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	14.4	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.1	b.d.l.	b.d.l.

Table A1.7: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
grain20-7	Middle	28.0	25.2	58234	17.2	109190	294503	b.d.l.	12076	28564	0.6	51.9	0.1	7.7	1445.9	4.0	217.0	0.2	b.d.l.	b.d.l.	b.d.l.	595.3	22.2	25.4	1.8	4.7	0.4	5.8	b.d.l.	b.d.l.	0.1
grain20-8	Middle	25.4	25.4	55758	21.4	110368	294503	26.2	10999	27168	0.5	58.4	b.d.l.	9.2	1513.6	3.7	221.2	0.3	b.d.l.	b.d.l.	b.d.l.	652.8	21.9	24.4	1.8	5.1	0.4	6.0	0.3	0.0	0.0
grain20-9	Middle	28.4	26.9	61739	16.1	111700	294503	25.3	13549	28179	b.d.l.	52.7	b.d.l.	7.9	1553.3	4.1	226.1	0.2	b.d.l.	b.d.l.	b.d.l.	674.4	21.4	23.9	1.8	4.1	0.3	6.2	b.d.l.	b.d.l.	0.0
grain20-10	Middle	28.6	25.3	57691	25.7	109626	294503	19.1	13162	26371	0.8	53.2	b.d.l.	7.7	1525.8	4.4	225.4	0.2	b.d.l.	0.0	b.d.l.	731.5	20.7	23.2	1.6	4.2	0.3	6.0	b.d.l.	0.0	0.1
grain20-11	Middle	24.4	22.7	60943	24.4	112146	294503	b.d.l.	12501	27918	0.5	56.4	b.d.l.	8.2	1557.9	4.3	230.0	0.2	0.1	0.0	b.d.l.	747.8	21.8	24.6	1.7	4.4	0.5	6.2	0.3	0.0	0.1
grain20-12	Middle	21.6	22.3	58514	23.2	111164	294503	b.d.l.	13181	28324	0.7	56.5	b.d.l.	7.7	1551.9	4.3	224.7	0.2	b.d.l.	b.d.l.	b.d.l.	758.7	22.7	24.7	1.8	4.4	0.3	6.2	0.2	0.0	0.1
grain20-13	Middle	22.0	22.5	62450	22.9	112269	299178	15.5	14077	27984	0.7	60.0	b.d.l.	7.6	1598.2	4.5	241.6	0.2	0.2	0.0	b.d.l.	804.5	23.8	25.7	1.7	4.8	0.4	6.7	0.1	b.d.l.	0.1
grain20-14	Core	23.1	20.3	57716	27.5	110290	294503	b.d.l.	14474	25263	0.5	63.5	b.d.l.	7.5	1576.8	4.6	236.5	1.0	0.3	0.1	b.d.l.	807.6	23.4	25.6	1.8	4.8	0.5	6.4	0.1	0.0	0.1
grain20-15	Core	21.1	20.4	60104	22.9	110715	294503	b.d.l.	13467	26268	0.6	57.0	b.d.l.	7.3	1534.3	4.7	238.9	0.2	0.1	0.0	b.d.l.	810.4	22.9	25.0	1.8	4.7	0.5	6.6	0.1	0.0	0.0
grain20-16	Core	22.8	20.2	56809	25.3	109451	294503	b.d.l.	13010	28211	0.6	57.0	b.d.l.	7.2	1518.4	4.0	239.2	0.3	0.2	b.d.l.	0.0	789.2	23.2	25.6	1.9	4.6	0.3	6.3	0.2	b.d.l.	0.1
grain20-17	Core	19.2	19.1	55650	26.7	108620	294503	b.d.l.	12718	28818	0.5	53.2	b.d.l.	8.1	1463.4	3.8	233.8	0.2	0.1	0.0	b.d.l.	722.3	22.5	25.2	1.8	5.0	0.4	6.2	0.3	0.0	0.1
grain20-18	Core	20.9	20.4	58171	18.4	111169	294503	b.d.l.	12300	28581	0.7	56.4	b.d.l.	8.3	1471.9	4.1	235.0	0.2	b.d.l.	0.0	b.d.l.	708.1	22.6	25.1	1.8	4.8	0.4	6.0	0.2	b.d.l.	0.1
grain20-19	Core	22.7	20.0	61055	20.1	112910	294503	b.d.l.	13031	28197	0.6	58.9	b.d.l.	8.0	1576.5	4.4	248.5	0.2	b.d.l.	b.d.l.	b.d.l.	807.6	24.7	26.2	1.9	4.7	0.4	6.5	b.d.l.	b.d.l.	b.d.l.
grain20-20	Core	18.2	19.2	58089	17.6	109106	294503	b.d.l.	13031	26906	0.6	53.5	b.d.l.	7.3	1484.7	4.2	234.3	0.3	0.2	0.0	b.d.l.	769.9	23.0	25.9	1.9	4.8	0.3	6.6	b.d.l.	b.d.l.	0.1
grain20-21	Core	19.2	19.5	64006	22.0	110566	294503	22.0	12194	29313	0.6	59.7	b.d.l.	8.1	1580.8	4.3	246.1	0.2	b.d.l.	b.d.l.	b.d.l.	754.4	23.9	27.3	1.8	4.9	0.3	6.7	0.2	0.0	0.0
grain20-22	Core	23.2	20.0	60234	23.4	109015	294503	19.1	12517	27911	0.4	59.5	b.d.l.	7.8	1576.2	3.9	239.9	0.2	b.d.l.	b.d.l.	b.d.l.	720.7	23.2	25.3	1.9	4.9	0.4	6.9	b.d.l.	0.0	0.1
grain20-23	Core	21.7	21.5	56788	22.5	116401	294503	b.d.l.	14215	28592	b.d.l.	61.5	b.d.l.	7.9	1585.0	4.3	248.9	0.3	b.d.l.	0.0	b.d.l.	819.7	24.8	27.6	1.9	5.4	0.5	7.2	0.2	0.0	0.1
grain20-24	Core	19.3	19.3	59017	19.1	108727	294503	20.8	13698	26759	0.6	56.5	b.d.l.	7.1	1505.7	4.5	238.4	0.2	b.d.l.	b.d.l.	b.d.l.	745.7	22.6	25.3	1.7	4.5	0.3	6.6	b.d.l.	0.0	0.1
grain20-25	Core	20.2	19.2	59456	27.3	112951	294503	b.d.l.	13874	27462	0.6	58.5	b.d.l.	8.1	1566.4	5.2	265.0	0.3	0.2	0.1	b.d.l.	901.8	24.0	25.9	1.9	4.6	0.4	7.1	0.2	b.d.l.	0.1
grain20-26	Core	19.4	19.7	59976	23.7	114142	294503	17.8	14156	27195	0.7	61.6	b.d.l.	7.1	1568.3	4.6	256.3	0.2	b.d.l.	b.d.l.	b.d.l.	899.5	23.6	24.8	1.8	4.5	0.4	7.0	0.2	0.0	0.1
grain20-27	Core	22.6	20.2	58004	22.5	109256	294503	b.d.l.	13832	26043	b.d.l.	61.4	b.d.l.	7.4	1513.8	4.5	252.0	0.2	b.d.l.	b.d.l.	b.d.l.	866.6	22.7	24.7	1.7	4.6	0.5	6.8	0.2	b.d.l.	b.d.l.
grain20-28	Core	22.5	21.2	61580	28.3	111119	294503	19.3	14832	27359	0.6	66.8	b.d.l.	7.4	1588.1	4.4	267.1	0.2	b.d.l.	b.d.l.	b.d.l.	898.5	22.8	24.6	1.8	4.8	0.4	7.2	0.2	0.0	0.0
grain20-29	Core	22.1	20.5	57499	24.5	110364	294503	21.6	14807	26115	0.4	68.8	b.d.l.	7.0	1578.6	4.7	263.6	0.2	b.d.l.	b.d.l.	b.d.l.	920.5	22.2	23.6	1.7	4.5	0.3	7.0	0.1	0.0	0.0
grain20-30	Core	19.2	18.4	57501	16.7	112541	294503	b.d.l.	15147	28025	0.7	63.6	0.1	7.4	1547.0	4.8	265.9	0.2	0.1	b.d.l.	b.d.l.	886.0	21.8	23.8	1.7	4.3	0.4	7.0	0.2	0.0	b.d.l.
grain20-31	Core	17.0	16.0	57123	20.4	107301	294503	17.9	13787	25566	0.6	59.2	b.d.l.	7.0	1534.4	4.6	245.3	0.2	b.d.l.	b.d.l.	b.d.l.	854.9	22.3	23.7	1.6	4.4	0.3	6.8	b.d.l.	0.0	0.1
grain20-32	Core	20.8	18.8	62324	18.6	113064	294503	b.d.l.	13984	26896	0.6	60.1	b.d.l.	7.8	1592.9	4.7	251.0	0.2	b.d.l.	b.d.l.	b.d.l.	847.6	23.3	25.4	1.8	4.8	0.3	6.6	b.d.l.	0.0	b.d.l.
grain20-33	Core	24.4	20.5	59816	25.2	109560	294503	b.d.l.	14279	26725	0.9	57.6	b.d.l.	7.7	1532.7	4.0	243.9	0.1	b.d.l.	b.d.l.	b.d.l.	826.6	21.3	25.1	1.6	4.1	0.3	6.6	b.d.l.	0.0	0.0
grain20-34	Core	22.1	20.7	60553	25.3	104056	294503	b.d.l.	12976	25234	0.6	60.0	b.d.l.	7.4	1529.1	4.4	229.6	0.2	b.d.l.	b.d.l.	b.d.l.	800.3	21.4	23.6	1.7	3.9	0.4	6.2	0.1	0.0	0.1
grain20-35	Middle	24.3	22.3	61499	21.8	111720	294503	b.d.l.	14353	26914	0.7	65.5	0.1	7.6	1645.6	5.0	243.3	0.2	b.d.l.	b.d.l.	b.d.l.	882.4	23.7	26.3	1.9	4.5	0.4	6.8	0.2	0.0	0.1
grain20-36	Middle	23.1	22.4	57333	20.8	108242	294503	b.d.l.	14730	26340	0.9	61.3	0.1	6.5	1507.5	4.9	228.7	0.2	b.d.l.	b.d.l.	b.d.l.	850.0	22.2	24.5	1.7	3.8	0.4	6.3	0.2	0.0	b.d.l.
grain20-37	Middle	24.3	24.2	63114	25.6	115885	294503	b.d.l.	14571	27044	0.6	62.9	b.d.l.	7.2	1621.8	4.9	227.5	0.2	b.d.l.	b.d.l.	b.d.l.	842.9	23.0	25.2	1.8	4.4	0.3	6.5	0.2	0.0	0.1
grain20-38	Middle	21.6	22.6	54256	18.8	101100	294503	b.d.l.	12794	25351	0.4	59.1	0.1	6.5	1462.2	4.1	199.9	0.2	b.d.l.	b.d.l.	b.d.l.	684.5	20.8	23.4	1.6	4.2	0.4	5.4	b.d.l.	0.0	0.0
grain20-39	Middle	24.7	23.6	56157	24.5	110383	294503	b.d.l.	13559	27329	0.5	51.2	b.d.l.	7.9	1538.6	4.1	204.7	0.2	b.d.l.	b.d.l.	b.d.l.	647.1	21.5	25.1	1.8	4.8	0.4	5.4	0.2	0.0	0.1
grain20-40	Middle	21.2	19.9	54678	22.0	104111	294503	b.d.l.	13725	24608	b.d.l.	60.6	b.d.l.	10.9	1610.3	9.4	180.5	1.1	4.2	0.7	0.1	574.4	20.7	23.7	1.7	4.8	0.5	4.9	0.4	0.0	0.3
grain20-41	Rim	18.1	16.7	58301	16.8	109612	294503	b.d.l.	14074	27442	0.5	54.3	b.d.l.	8.8	1520.8	4.6	178.8	0.3	0.3	0.1	b.d.l.	513.2	20.8	23.6	1.7	4.6	0.3	4.7	0.2	0.0	0.1
grain20-42	Rim	17.4	16.3	58922	24.9	114724	294503	b.d.l.	12058	29208	0.4	58.7	b.d.l.	8.8	1494.1	3.7	175.9	0.3	0.1	0.0	b.d.l.	439.7	22.0	25.4	1.8	5.0	0.4	4.5	0.2	b.d.l.	0.1
grain20-43	Rim	15.9	14.8	58347	25.6	112302	294503	b.d.l.	11852	27969	0.4	51.8	b.d.l.	8.4	1524.1	4.1	160.8	0.3	b.d.l.	b.d.l.	b.d.l.	351.7	22.1	25.6	1.8	5.4	0.4	4.2	0.3	0.0	0.0
grain20-44	Rim	12.2	10.5	59342	24.0	115193	294503	15.0	11900	26970	0.5	50.2	b.d.l.	8.1	1492.2	3.9	155.0	0.3	b.d.l.	b.d.l.	b.d.l.	321.8	20.9	24.2	1.8	4.4	0.4	3.9	0.1	0.0	0.1
MFT-plag25 - 1	Rim	11.9	9.2	61472	28.7	127670	299178	b.d.l.	12034	26223	b.d.l.	49.8	b.d.l.	b.d.l.	1377.1	3.9	55.4	0.2	b.d.l.	b.d.l.	b.d.l.	51.3	21.1	23.6	1.6	4.1	0.5	1.8	b.d.l.	b.d.l.	b.d.l.
MFT-plag25 - 2	Rim	13.5	15.6	59926	26.8	126765	299178	46.6	11534	26331	b.d.l.	45.1	b.d.l.	b.d.l.	1440.6	3.7	54.9	0.3	b.d.l.	0.0	b.d.l.	52.9	22.0	23.5	1.7	4.3	0.5	1.3	0.2	0.0	0.1
MFT-plag25 - 3	Middle	21.3	19.8	61373	29.3	128879	299178	b.d.l.	11807	26969	b.d.l.	46.0	b.d.l.	19.0	1431.8	3.8	56.4	0.3	b.d.l.	b.d.l.	b.d.l.	51.9	23.3	25.0	1.8	5.0	0.4	1.4	0.2	0.0	b.d.l.
MFT-plag25 - 4	Middle	26.0	22.0	62199	28.0	131145	299178	b.d.l.	12073	28253	b.d.l.	50.6	b.d.l.	b.d.l.	1482.0	4.5	58.1	0.2	b.d.l.	b.d.l.	b.d.l.	56.2	23.7	24.7	1.6	4.4	0.4	1.4	b.d.l.	b.d.l.	b.d.l.
MFT-plag25 - 5	Middle	24.2	22.1	62351	22.8	133199	299178	b.d.l.	12048	27865	b.d.l.	49.0	b.d.l.	b.d.l.	1466.5	3.9	57.3	0.3	b.d.l.	b.d.l.	b.d.l.	55.9	22.9	24.8	1.8	3.9	0.5	1.6	b.d.l.	b.d.l.	b.d.l.
MFT-plag25 - 6	Middle	19.4	20.7	60704	25.6	127457	299178	b.d.l.	11767	27411	0.7	46.8	b.d.l.	14.3	1432.5	3.9	54.8	0.3	b.d.l.	b.d.l.	0.1	51.5	21.8	23.4	1.6	4.5	0.2	1.4	b.d.l.	b.d.l.	b.d.l.
MFT-plag25 - 7	Middle	19.4	19.2	58416	20.6	123300	299178	b.d.l.	11003	25796	b.d.l.	54.7	b.d.l.	b.d.l.	1320.7	4.0	54.5	0.3	b.d.l.	b.d.l.	b.d.l.	46.0	22.0	23.8	1.7	4.1	0.2	1.2	0.2	0.0	b.d.l.
MFT-plag25 - 8	Core	20.3	18.5	57690	27.2	122877	299178	b.d.l.	11033	25005	0.6	44.0	b.d.l.	12.0	1279.3	4.0	53.0	0.2	b.d.l.	b.d.l.	0.0	45.2	21.4	23.9	1.7	3.8	0.5	1.2	b.d.l.	0.0	b.d.l.
MFT-plag25 - 9	Core	15.8	18.1	60244	22.7	127753	299178	43.1	11693	26423	b.d.l.	53.5	b.d.l.	b.d.l.	1336.3	3.5	53.6	0.2	0.1	0.0	b.d.l.	47.7	22.3	23.6	1.7	4.5	0.4	1.3	0.3	0.0	b.d.l.
MFT-plag25 - 10	Core	19.5	18.4	60573	25.7	125968	299178	b.d.l.	11859	26833	b.d.l.	57.5	b.d.l.	b.d.l.	1345.1	3.9	55.2	0.2	b.d.l.	b.d.l.	b.d.l.	52.6	21.9	23.7	1.6	4.2	0.5	1.4	b.d.l.	b.d.l.	b.d.l.
MFT-plag25 - 11	Core	18.5	17.7	58001	19.9	121841	299178	b.d.l.	11275	25129	b.d.l.	54.9	b.d.l.	b.d.l.	1337.0	3.4	52.2	0.2	b.d.l.	b.d.l.	b.d.l.	46.4	21.1	22.6	1.6	4.1	b.d.l.	1.4	b.d.l.	b.d.l.	b.d.l.
MFT-plag25 - 12	Core	17.0	18.2	59469	22.9	125906	299178	b.d.l.	11769	25986	b.d.l.	53.5	b.d.l.	26.6	1369.8	4.1	54.0	0.1	b.d.l.	b.d.l.	b.d.l.	47.3	22.5	24.5	1.7	4.8	0.4	1.4	b.d.l.	0.1	b.d.l.
MFT-plag25 - 13	Core	18.0	17.9	58120	26.3	124932	299178	b.d.l.	11196	27021	b.d.l.	50.9	b.d.l.	20.9	1355.6	3.7	54.0	0.2	0.0	b.d.l.	b.d.l.	51.8	23.6	25.3	1.7	4.5	0.3	1.2	0.2	0.0	b.d.l.
MFT-plag25 - 14	Core	16.1	17.3	58572	22.1	128081	299178	b.d.l.	11070	27457	b.d.l.	57.2	b.d.l.	b.d.l.	1443.0	3.6	56.9	0.3	0.0	b.d.l.	b.d.l.	44.9	23.7	26.3	1.8	4.4	0.5	1.4	0.3	b.d.l.	b.d.l.
MFT-plag25 - 15	Core	19.8	17.5	58190	25.0	125157	299178	108.4	11014	27234	b.d.l.	58.5	b.d.l.	17.0	1404.6	3.4	54.8	0.2	b.d.l.	0.0	b.d.l.	48.7	23.2	26.5	2.0	4.7	0.5	1.1	b.d.l.	b.d.l.	b.d.l.

Table A1.7: continued

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.4	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	12.9	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	14.1	0.0	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.3	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	13.8	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	14.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	15.0	b.d.l.	b.d.l.
0.0	0.1	b.d.l.	0.1	0.0	b.d.l.	b.d.l.	14.5	0.1	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	14.7	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	13.7	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.4	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.8	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	13.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.6	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.3	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	14.2	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	14.9	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.8	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.9	0.0	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.6	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.6	0.0	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	14.0	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	14.3	0.0	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	14.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	14.4	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	0.0	b.d.l.	b.d.l.	13.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.6	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	13.4	b.d.l.	b.d.l.
0.0	0.1	0.0	0.2	0.0	0.1	0.1	14.8	0.4	0.2
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	0.0	15.3	0.0	0.0
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	14.5	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.8	0.0	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	17.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	17.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	18.1	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.2	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	18.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.6	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	16.6	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	15.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	17.3	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.3	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
b.d.l.	0.1	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	17.1	b.d.l.	b.d.l.

Table A1.7: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
MFT-plag25 - 16	Core	18.8	16.5	59389	20.1	125616	299178	b.d.l.	11063	27585	0.7	51.6	b.d.l.	12.8	1317.7	3.2	54.4	0.5	b.d.l.	b.d.l.	0.1	46.0	23.6	26.5	2.0	4.8	0.5	1.4	0.2	b.d.l.	b.d.l.
MFT-plag25 - 17	Core	15.0	17.5	60851	26.1	131754	299178	b.d.l.	11694	29136	b.d.l.	63.7	b.d.l.	b.d.l.	1460.2	3.4	58.7	0.3	b.d.l.	b.d.l.	b.d.l.	52.9	25.7	28.7	2.2	5.0	0.6	1.7	0.3	b.d.l.	b.d.l.
MFT-plag25 - 18	Core	17.7	17.5	61145	25.7	135076	299178	65.4	11382	29657	b.d.l.	51.5	b.d.l.	17.5	1577.6	3.7	60.0	0.2	b.d.l.	b.d.l.	b.d.l.	55.3	25.9	29.5	2.1	5.2	0.4	1.6	0.2	0.0	b.d.l.
MFT-plag25 - 19	Core	18.9	17.3	59061	28.0	131182	299178	b.d.l.	11123	29332	b.d.l.	63.3	0.7	11.4	1434.5	3.5	55.7	0.4	0.1	b.d.l.	0.0	52.3	24.7	28.0	2.0	5.4	0.5	1.3	b.d.l.	0.0	b.d.l.
MFT-plag25 - 20	Core	17.5	16.6	57235	25.5	123887	299178	b.d.l.	10422	27827	b.d.l.	54.2	b.d.l.	b.d.l.	1392.8	3.3	55.2	0.3	b.d.l.	b.d.l.	b.d.l.	53.4	23.8	26.5	2.0	5.1	0.5	1.4	0.3	0.0	b.d.l.
MFT-plag25 - 21	Core	20.2	17.8	59826	23.6	131348	299178	57.2	10790	29872	b.d.l.	58.4	b.d.l.	12.4	1461.7	3.9	58.9	0.3	b.d.l.	b.d.l.	b.d.l.	56.7	26.1	29.0	2.1	5.1	0.6	1.7	0.2	0.0	b.d.l.
MFT-plag25 - 22	Core	18.7	17.9	59647	23.7	130782	299178	49.3	10843	29963	b.d.l.	58.4	b.d.l.	b.d.l.	1416.8	4.1	58.8	0.3	b.d.l.	0.0	b.d.l.	62.9	25.8	28.7	2.2	5.1	0.6	1.5	0.4	b.d.l.	b.d.l.
MFT-plag25 - 23	Core	17.8	17.3	58435	25.4	125702	299178	b.d.l.	10268	28690	b.d.l.	57.8	b.d.l.	18.6	1319.0	2.8	58.3	0.4	0.0	0.0	b.d.l.	62.3	25.1	29.0	1.9	5.4	0.6	1.3	0.3	b.d.l.	0.1
MFT-plag25 - 24	Core	17.9	18.5	59651	22.7	131939	299178	b.d.l.	10279	30052	b.d.l.	53.0	b.d.l.	b.d.l.	1299.9	2.8	61.1	0.4	b.d.l.	b.d.l.	b.d.l.	71.4	26.6	28.9	2.2	5.7	0.6	1.6	0.2	0.0	b.d.l.
MFT-plag25 - 25	Core	22.3	18.6	59476	25.6	132120	299178	47.8	10398	31264	0.8	62.0	b.d.l.	23.7	1387.3	3.6	64.0	0.3	b.d.l.	0.0	0.0	79.1	26.8	29.8	2.3	6.1	0.5	1.5	b.d.l.	b.d.l.	0.2
MFT-plag25 - 26	Core	20.6	19.0	59634	26.0	133201	299178	b.d.l.	10356	31004	0.7	60.5	b.d.l.	16.1	1443.9	2.6	61.4	0.4	0.1	0.0	b.d.l.	74.6	26.6	31.0	2.1	5.6	0.5	1.6	0.3	b.d.l.	b.d.l.
MFT-plag25 - 27	Core	18.5	19.0	59305	28.5	127795	299178	b.d.l.	10035	29590	0.8	61.4	b.d.l.	21.3	1487.3	2.9	61.3	0.3	b.d.l.	b.d.l.	b.d.l.	65.7	26.0	30.2	2.2	5.7	0.6	1.6	b.d.l.	b.d.l.	b.d.l.
MFT-plag25 - 28	Middle	21.8	19.0	56020	25.1	123406	299178	b.d.l.	9731	28183	b.d.l.	55.7	b.d.l.	b.d.l.	1402.0	3.0	59.7	0.3	b.d.l.	0.0	b.d.l.	71.4	24.7	28.3	1.9	5.0	0.5	1.5	0.3	b.d.l.	b.d.l.
MFT-plag25 - 29	Middle	20.9	20.5	60807	20.2	131466	299178	b.d.l.	11042	30292	b.d.l.	55.9	b.d.l.	b.d.l.	1518.1	3.5	62.1	0.3	b.d.l.	b.d.l.	0.0	74.3	24.5	28.5	2.0	5.4	0.4	1.5	b.d.l.	b.d.l.	b.d.l.
MFT-plag25 - 30	Middle	27.2	21.8	62379	24.8	134402	299178	b.d.l.	11311	31329	0.6	70.4	b.d.l.	b.d.l.	1596.8	3.3	63.8	0.2	b.d.l.	b.d.l.	0.0	66.7	24.8	28.6	2.1	5.1	0.5	1.7	0.3	0.0	b.d.l.
MFT-plag25 - 31	Middle	22.8	21.5	58711	23.1	125505	299178	b.d.l.	10818	28470	b.d.l.	63.7	b.d.l.	b.d.l.	1463.2	4.0	61.4	0.2	b.d.l.	b.d.l.	b.d.l.	57.6	22.8	25.4	1.8	4.7	0.4	1.5	b.d.l.	b.d.l.	0.2
MFT-plag25 - 32	Middle	21.2	21.6	58260	26.5	123034	299178	b.d.l.	10766	28258	b.d.l.	51.6	b.d.l.	b.d.l.	1426.0	2.9	57.0	0.4	b.d.l.	b.d.l.	b.d.l.	54.3	22.2	24.6	1.6	4.9	0.6	1.4	0.3	b.d.l.	b.d.l.
MFT-plag25 - 33	Middle	21.4	20.4	60738	22.3	128332	299178	b.d.l.	11346	28128	0.8	51.9	0.8	b.d.l.	1327.6	3.4	58.3	0.2	0.1	0.0	b.d.l.	51.8	21.5	24.0	1.9	5.0	0.4	1.5	b.d.l.	b.d.l.	0.1
MFT-plag25 - 34	Rim	12.9	11.7	56418	18.5	120809	299178	b.d.l.	10188	27170	b.d.l.	38.9	b.d.l.	b.d.l.	1300.4	3.6	52.9	0.1	b.d.l.	b.d.l.	b.d.l.	44.8	18.0	20.4	1.4	4.2	0.4	1.5	0.2	b.d.l.	0.2
MFT-plag25 - 35	Rim	7.6	7.5	60568	23.5	130501	299178	b.d.l.	10822	29080	0.6	43.2	b.d.l.	b.d.l.	1426.2	3.3	55.5	0.3	b.d.l.	b.d.l.	0.0	51.9	21.5	23.7	1.7	4.4	0.4	1.4	0.3	0.0	0.1
MFT-Mount1-2 - 1	Rim	12.3	10.8	55888	18.1	105278	280479	16.5	14584	23826	0.6	45.1	b.d.l.	6.5	1207.8	4.3	40.3	0.2	b.d.l.	b.d.l.	b.d.l.	35.4	17.9	19.0	1.3	3.3	0.3	1.1	0.1	0.0	0.1
MFT-Mount1-2 - 2	Core	22.6	19.7	55351	20.8	105527	280479	20.1	14154	24041	0.5	39.7	b.d.l.	6.2	1214.9	4.1	41.5	0.2	b.d.l.	b.d.l.	b.d.l.	43.3	17.4	18.7	1.3	3.3	0.3	1.3	0.2	0.0	0.1
MFT-Mount1-2 - 4	Rim	22.2	21.9	55940	27.8	112106	280479	21.3	11544	29934	0.6	62.2	b.d.l.	8.5	1383.5	3.3	61.4	0.3	b.d.l.	b.d.l.	b.d.l.	119.6	26.7	29.8	2.2	5.6	0.5	1.6	0.1	0.0	0.1
mount1-1-10-1	Rim	20.4	21.6	57510	27.3	108919	280479	22.6	11581	26674	0.5	50.1	b.d.l.	7.5	1392.2	3.7	29.0	0.2	b.d.l.	0.0	b.d.l.	22.2	18.4	21.0	1.5	3.8	0.3	1.0	0.2	0.0	0.0
mount1-1-10-2	Core	21.9	20.3	56624	24.2	106917	280479	24.5	12375	25447	0.5	43.5	b.d.l.	6.8	1365.5	4.0	27.0	0.2	b.d.l.	b.d.l.	b.d.l.	22.7	18.2	19.8	1.4	3.6	0.3	0.9	0.2	0.0	0.1
mount1-1-10-3	Rim	13.4	13.0	56254	21.8	106540	280479	21.9	14424	23706	0.5	45.9	b.d.l.	6.3	1273.5	4.7	41.9	0.2	b.d.l.	0.0	b.d.l.	65.8	16.8	18.5	1.3	3.2	0.3	1.3	0.2	0.0	0.0
mount1-11-1	Rim	27.4	27.1	55538	28.3	114010	280479	24.1	11015	30762	0.5	66.8	b.d.l.	9.2	1576.8	2.9	184.3	0.3	b.d.l.	b.d.l.	b.d.l.	651.4	28.9	32.2	2.3	6.2	0.4	5.1	0.2	0.0	0.1
mount1-11-2	Core	23.5	22.7	55429	23.6	110888	280479	23.9	12443	28727	0.5	63.3	b.d.l.	8.0	1569.9	3.4	195.5	0.2	b.d.l.	0.0	b.d.l.	739.2	23.2	25.4	1.8	4.8	0.4	5.4	0.2	0.0	0.1
mount1-12-1	Rim	26.2	23.5	55894	25.1	108878	280479	20.3	13347	26057	0.5	47.2	b.d.l.	7.1	1376.6	3.9	79.7	0.2	b.d.l.	b.d.l.	b.d.l.	82.6	17.1	19.3	1.4	3.5	0.3	2.0	0.1	0.0	0.1
mount1-12-2	Core	24.8	23.4	55874	23.8	109866	280479	17.0	12368	27488	0.5	42.9	b.d.l.	7.7	1362.2	3.5	82.6	0.2	b.d.l.	b.d.l.	b.d.l.	75.1	17.3	20.1	1.4	3.8	0.4	2.1	0.1	0.0	0.1
mount1-12-3	Rim	10.8	10.7	55893	23.5	109545	280479	22.0	13001	26780	0.5	52.8	b.d.l.	7.4	1371.9	3.7	62.0	0.2	b.d.l.	b.d.l.	b.d.l.	35.9	18.0	20.3	1.4	3.5	0.3	1.6	0.1	0.0	0.1
mount1-13-1	Rim	16.7	15.7	55284	23.1	108822	280479	23.0	13637	26564	0.5	61.8	b.d.l.	7.3	1564.8	3.8	220.8	0.2	b.d.l.	b.d.l.	b.d.l.	745.7	20.1	22.6	1.6	4.2	0.3	5.7	0.1	0.0	0.1
mount1-13-2	Core	16.3	15.4	54922	20.7	109709	280479	19.3	13547	27859	0.5	65.6	b.d.l.	7.7	1568.0	3.8	251.8	0.2	b.d.l.	b.d.l.	b.d.l.	873.6	22.1	24.9	1.8	4.5	0.4	6.6	0.2	0.0	0.1
mount1-13-3	Rim	18.7	16.9	56202	19.6	108717	280479	22.5	13967	25913	0.5	54.0	0.0	7.1	1401.8	4.0	179.3	0.2	b.d.l.	b.d.l.	b.d.l.	371.4	20.4	22.4	1.5	4.2	0.4	4.7	0.1	b.d.l.	0.0
mount1-14-1	Rim	24.4	23.0	54980	24.4	107869	280479	17.1	13153	26598	0.5	47.5	b.d.l.	7.4	1405.9	3.9	168.4	0.2	b.d.l.	b.d.l.	b.d.l.	275.8	19.0	21.0	1.5	4.0	0.3	4.4	0.2	0.0	0.1
mount1-14-2	Rim	23.4	22.8	55651	26.0	111645	280479	21.9	11925	29567	0.4	68.1	0.1	8.3	1571.1	3.3	224.6	0.2	b.d.l.	b.d.l.	b.d.l.	622.0	22.1	25.8	1.9	5.2	0.4	5.6	0.2	0.0	0.1
mount1-14-3	Rim	14.5	13.7	55804	24.8	110723	280479	19.6	13383	27917	0.5	65.9	b.d.l.	7.3	1602.9	3.5	259.6	0.2	b.d.l.	b.d.l.	b.d.l.	744.6	22.0	24.3	1.7	4.8	0.3	6.7	0.2	0.0	0.1
mount1-20-1	Core	24.2	20.1	55558	23.3	109504	280479	25.4	13511	27535	0.5	63.7	b.d.l.	7.6	1520.0	3.9	233.1	0.2	b.d.l.	0.0	b.d.l.	745.1	22.3	24.6	1.8	4.4	0.3	6.4	0.2	0.0	0.0
mount1-20-2	Rim	23.1	23.8	56385	21.7	109552	280479	24.4	13415	26592	0.6	58.2	b.d.l.	7.6	1386.1	4.2	191.4	0.3	0.2	0.1	b.d.l.	543.4	20.2	22.3	1.6	4.4	0.3	5.2	0.2	0.0	0.1
mount1-20-3	Rim	27.0	23.8	55932	22.4	110292	280479	19.4	14008	27173	0.6	60.4	b.d.l.	7.2	1494.5	4.2	227.5	0.2	b.d.l.	b.d.l.	b.d.l.	713.2	20.4	22.8	1.6	4.3	0.3	6.1	0.1	0.0	0.1
mount1-21-1	Rim	13.4	12.5	55838	27.7	110279	280479	20.3	13186	28001	0.5	62.6	0.1	7.6	1558.9	3.8	271.6	0.2	b.d.l.	b.d.l.	b.d.l.	847.1	21.1	24.0	1.6	4.8	0.3	6.9	0.2	0.0	0.1
mount1-21-2	Rim	10.1	9.6	55721	23.7	111120	280479	24.1	13469	27711	0.6	62.1	b.d.l.	7.9	1548.3	4.4	288.6	0.3	0.5	0.1	b.d.l.	912.8	21.2	24.1	1.7	4.6	0.4	7.1	0.1	0.0	0.1
mount1-21-3	Rim	24.2	22.1	56017	26.8	109145	280479	22.4	15284	24837	0.5	66.0	b.d.l.	6.6	1448.2	4.7	254.7	0.2	b.d.l.	b.d.l.	b.d.l.	899.3	22.4	24.0	1.6	4.3	0.3	6.5	0.1	0.0	0.1
mount1-23-1	Rim	20.2	19.6	55742	21.8	111953	280479	22.8	13067	27102	0.6	44.2	b.d.l.	7.5	1278.8	3.6	61.7	0.2	b.d.l.	b.d.l.	b.d.l.	87.1	17.8	19.8	1.4	3.7	0.4	1.9	0.2	0.0	0.1
mount1-23-2	Core	21.5	21.7	56961	23.3	109780	280479	17.7	13938	27127	0.4	46.6	b.d.l.	7.5	1321.2	3.8	67.3	0.2	b.d.l.	b.d.l.	b.d.l.	104.0	20.0	22.3	1.5	4.1	0.4	2.0	b.d.l.	0.0	0.1
mount1-23-3	Rim	18.8	17.3	56019	18.4	105324	280479	21.2	17378	21364	0.5	39.1	b.d.l.	5.3	1129.0	5.7	51.7	0.2	b.d.l.	0.0	b.d.l.	44.7	15.9	17.0	1.2	2.9	0.2	1.6	b.d.l.	0.0	0.0
mount1-24-1	Rim	18.8	18.9	55851	19.7	108754	280479	21.6	14122	26515	0.5	65.6	b.d.l.	7.1	1513.4	4.1	248.1	0.2	b.d.l.	0.0	b.d.l.	741.7	22.3	24.2	1.7	4.5	0.3	6.2	0.2	0.0	0.1
mount1-24-2	Core	24.5	23.5	55970	23.0	110505	280479	21.7	12915	28344	0.4	65.4	b.d.l.	8.2	1542.7	3.8	237.5	0.2	b.d.l.	b.d.l.	b.d.l.	749.7	22.3	24.9	1.8	4.9	0.3	6.4	0.2	0.0	0.0
mount1-24-3	Rim	23.1	23.8	56039	23.2	110679	280479	19.2	12515	28212	0.4	63.5	b.d.l.	8.0	1493.9	3.5	234.3	0.2	b.d.l.	b.d.l.	b.d.l.	641.3	21.4	24.0	1.7	4.8	0.4	6.2	0.2	0.0	0.1
mount1-25-1	Rim	19.7	19.9	56674	24.1	110942	280479	22.4	12532	26597	0.4	49.4	b.d.l.	7.0	1345.2	3.8	53.3	0.2	b.d.l.	b.d.l.	b.d.l.	45.8	18.7	21.2	1.4	3.8	0.3	1.4	0.1	0.0	0.1

Table A1.7: continued

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.8	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	17.6	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.3	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	16.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.9	0.0	0.0
b.d.l.	0.1	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	16.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.2	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.5	0.0	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	17.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.1	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.1	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	15.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	17.1	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	20.0	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.9	b.d.l.	0.0
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	16.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	b.d.l.	18.5	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	0.0	16.4	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.4	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.5	b.d.l.	0.0
0.0	0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	17.2	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	14.1	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.5	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.2	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	14.0	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.2	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.9	b.d.l.	b.d.l.
0.0	0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	13.7	b.d.l.	b.d.l.
b.d.l.	0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	13.9	0.0	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	13.7	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.2	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.9	0.0	0.0
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.4	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.6	0.0	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.1	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.6	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.1	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.5	b.d.l.	b.d.l.

Table A1.7: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
mount1-25-2	Core	16.8	15.9	56475	28.0	109772	280479	21.3	11864	27452	0.4	57.3	b.d.l.	7.4	1412.9	3.6	53.7	0.2	b.d.l.	b.d.l.	b.d.l.	47.9	22.4	25.1	1.8	4.5	0.3	1.3	0.2	0.0	0.1
mount1-25-3	Rim	18.1	19.6	56735	30.4	111431	280479	22.8	11298	28689	0.5	64.9	b.d.l.	7.9	1462.4	3.2	54.4	0.2	b.d.l.	b.d.l.	b.d.l.	51.8	23.7	26.5	1.9	5.0	0.4	1.4	0.1	0.0	0.1
mount1-26-1	Rim	19.5	18.8	56324	22.5	109529	280479	24.7	14060	26196	0.6	54.9	b.d.l.	7.3	1429.9	4.1	154.7	0.2	b.d.l.	0.0	b.d.l.	357.1	19.2	21.6	1.6	4.2	0.3	4.1	0.2	0.0	0.1
mount1-26-2	Core	16.4	15.0	56181	19.9	109521	280479	20.4	13694	27079	0.5	44.4	b.d.l.	7.6	1334.2	3.8	59.3	0.2	b.d.l.	b.d.l.	b.d.l.	23.9	18.4	20.8	1.5	3.8	0.3	1.2	0.1	0.0	0.1
mount1-3-1-1	Rim	24.4	23.4	55966	29.1	112387	280479	21.0	10115	31607	0.5	71.3	b.d.l.	9.5	1382.1	2.6	55.4	0.3	b.d.l.	b.d.l.	b.d.l.	94.0	27.1	31.1	2.2	5.7	0.6	1.4	0.2	0.0	0.1
mount1-3-1-2	Core	18.0	16.6	55913	26.7	111042	280479	22.3	10783	29225	0.6	61.0	b.d.l.	8.4	1437.0	3.1	59.2	0.3	b.d.l.	b.d.l.	b.d.l.	83.4	23.8	27.3	1.9	4.9	0.5	1.5	0.2	0.0	0.1
mount1-3-1-3	Rim	16.3	16.8	56220	22.5	105255	280479	21.8	13559	24804	0.6	45.6	b.d.l.	6.5	1305.5	4.2	56.0	0.2	b.d.l.	b.d.l.	b.d.l.	102.6	18.5	20.5	1.4	3.5	0.3	1.6	0.2	b.d.l.	0.0
mount1-4-1	Rim	19.4	17.9	55732	24.9	110115	280479	22.0	11113	30068	0.4	54.8	b.d.l.	8.7	1428.3	3.1	84.1	0.3	b.d.l.	b.d.l.	b.d.l.	86.7	22.1	25.8	1.8	4.9	0.4	1.8	0.1	0.0	0.1
mount1-4-2	Core	15.0	15.5	55504	24.8	110159	280479	18.3	11448	28430	0.5	48.6	b.d.l.	8.3	1452.2	3.1	74.0	0.2	b.d.l.	b.d.l.	b.d.l.	57.7	20.6	23.5	1.8	4.2	0.4	1.7	0.2	0.0	0.1
mount1-4-3	Rim	16.1	15.2	55974	23.9	108672	280479	22.1	12211	27576	0.5	55.4	0.1	7.8	1433.2	3.5	147.5	0.2	b.d.l.	b.d.l.	b.d.l.	363.2	20.8	23.3	1.7	4.3	0.4	3.8	0.2	0.0	0.1
mount1-7-3	Rim	10.4	9.7	55554	23.3	111472	280479	23.1	13281	27571	0.5	65.6	b.d.l.	7.7	1507.3	3.8	217.4	0.2	0.1	b.d.l.	b.d.l.	751.0	22.8	24.7	1.8	4.6	0.4	6.0	0.2	0.0	0.1
mount1-8-1	Rim	21.7	20.6	56080	25.4	111370	280479	22.8	12515	27914	0.6	48.9	b.d.l.	8.0	1397.6	3.5	72.7	0.3	b.d.l.	b.d.l.	b.d.l.	150.1	21.1	23.3	1.7	4.3	0.4	2.1	0.3	0.0	0.1
mount1-8-2	Core	17.1	15.5	56120	33.2	116063	280479	28.2	9554	32641	0.6	69.6	b.d.l.	10.1	1603.4	2.8	135.3	0.3	b.d.l.	0.0	b.d.l.	218.9	29.2	33.2	2.5	6.2	0.6	2.6	0.3	0.0	0.1
mount1-8-3	Rim	19.6	17.3	55492	33.0	115518	280479	26.1	9230	33320	0.6	81.5	b.d.l.	10.3	1635.7	2.5	157.9	0.3	b.d.l.	b.d.l.	b.d.l.	336.0	32.0	36.2	2.6	7.0	0.6	2.8	0.3	0.0	0.1
mount1-9-1	Rim	16.5	16.3	56241	23.8	108986	280479	19.1	13178	26085	0.4	52.6	b.d.l.	7.2	1357.0	3.8	51.4	0.2	b.d.l.	0.0	b.d.l.	35.2	18.4	20.1	1.5	3.5	0.3	1.3	0.2	0.0	0.1
mount1-9-2	Core	21.4	19.8	55975	25.5	108176	280479	22.2	13312	25411	0.6	55.8	b.d.l.	6.9	1408.7	4.0	52.5	0.2	b.d.l.	b.d.l.	b.d.l.	35.1	18.6	20.5	1.4	3.7	0.3	1.2	0.1	0.0	0.1
mount1-9-3	Rim	13.9	15.6	56145	25.6	110529	280479	25.9	11928	28598	0.6	51.2	b.d.l.	8.1	1412.7	3.2	124.1	0.2	b.d.l.	b.d.l.	b.d.l.	96.0	20.9	24.1	1.7	4.2	0.3	3.0	0.2	0.0	0.1
mount2-1-1	Rim	9.9	8.7	56104	26.1	113420	280479	20.4	13227	28574	0.5	64.8	b.d.l.	7.6	1589.2	3.8	215.3	0.2	b.d.l.	b.d.l.	b.d.l.	666.8	21.6	24.5	1.7	4.4	0.4	5.7	0.1	0.0	0.0
mount2-1-3	Core	18.6	18.9	56598	28.1	115187	280479	20.0	12387	29805	0.4	71.4	b.d.l.	8.3	1498.7	3.5	205.8	0.3	b.d.l.	b.d.l.	b.d.l.	600.7	23.4	27.5	2.1	5.6	0.4	5.6	0.2	0.0	0.1
mount2-11-1	Rim	18.4	17.4	56609	23.3	111511	280479	17.1	13243	27591	0.4	67.7	b.d.l.	7.6	1552.9	3.7	255.5	0.3	b.d.l.	0.0	b.d.l.	870.2	22.2	24.5	1.7	4.7	0.3	6.5	0.2	0.0	0.1
mount2-11-2	Core	20.2	17.2	55866	21.5	110482	280479	18.4	12964	27553	0.4	67.0	b.d.l.	7.6	1538.1	3.7	255.0	0.2	b.d.l.	b.d.l.	b.d.l.	919.7	21.2	24.1	1.7	4.5	0.5	6.7	0.2	0.0	0.1
mount2-11-3	Core	17.9	18.7	56171	19.3	111466	280479	21.7	13916	27053	0.5	64.7	b.d.l.	7.5	1546.4	4.0	255.1	0.2	b.d.l.	b.d.l.	b.d.l.	986.5	20.8	22.8	1.6	4.2	0.3	6.9	0.2	0.0	0.1
mount2-11-4	Core	13.3	10.3	56704	25.7	111345	280479	17.9	13328	27717	0.3	64.0	b.d.l.	7.5	1532.2	3.9	248.7	0.2	b.d.l.	b.d.l.	b.d.l.	926.1	21.5	24.1	1.7	4.6	0.3	6.4	0.2	0.0	0.1
mount2-11-5	Core	24.4	24.0	56755	23.5	113056	280479	21.5	13190	28563	0.4	61.9	b.d.l.	7.9	1533.9	3.8	258.4	0.2	b.d.l.	b.d.l.	b.d.l.	1140.0	21.9	24.0	1.7	4.5	0.3	6.9	0.2	0.0	0.0
mount2-11-6	Rim	5.1	6.1	57219	35.4	111594	280479	20.2	12242	29029	0.3	73.2	b.d.l.	8.6	1497.3	3.6	218.8	0.3	0.2	0.1	b.d.l.	714.4	22.7	26.7	1.9	5.3	0.4	6.0	0.1	0.0	0.1
mount2-12-1	Rim	16.1	16.5	56486	23.7	112839	280479	23.8	13086	28053	0.4	60.8	b.d.l.	8.0	1516.1	3.9	193.4	0.2	b.d.l.	b.d.l.	0.0	575.2	23.8	25.5	1.8	4.7	0.4	5.2	0.2	0.0	0.0
mount2-12-2	Core	18.6	19.3	56135	25.7	113706	280479	24.2	13118	28907	0.4	62.1	b.d.l.	7.9	1514.1	3.8	218.3	0.2	b.d.l.	b.d.l.	b.d.l.	716.1	22.5	24.5	1.7	4.4	0.4	5.9	0.1	0.0	0.1
mount2-12-3	Rim	20.8	19.4	56663	22.8	111969	280479	28.0	14114	26869	0.3	66.9	b.d.l.	7.5	1526.2	4.2	222.5	0.2	b.d.l.	0.0	b.d.l.	784.1	21.9	23.8	1.7	4.5	0.3	6.0	0.2	0.0	0.0
mount2-12-4	Rim	22.8	22.7	56699	22.9	114536	280479	21.9	13862	28944	0.4	67.0	b.d.l.	7.5	1643.3	4.1	250.1	0.2	b.d.l.	0.0	b.d.l.	798.7	24.6	26.5	1.9	5.0	0.4	6.7	0.2	0.0	0.1
mount2-12-5	Core	7.0	7.2	56841	24.7	112796	280479	26.8	14296	26936	0.4	66.2	b.d.l.	7.3	1553.7	4.4	240.7	0.2	b.d.l.	0.0	b.d.l.	869.3	23.3	24.6	1.8	4.6	0.3	6.6	0.1	0.0	0.0
mount2-13-1	Rim	25.3	23.0	56450	21.6	112677	280479	22.3	13889	26531	0.3	57.8	b.d.l.	7.3	1585.7	4.1	255.6	0.2	b.d.l.	b.d.l.	b.d.l.	910.8	21.0	23.0	1.7	4.2	0.4	6.3	0.2	0.0	0.1
mount2-13-2	Rim	9.4	8.9	57000	22.2	111471	280479	25.2	13413	26893	0.3	50.8	b.d.l.	7.6	1412.6	4.0	156.4	0.2	b.d.l.	0.0	b.d.l.	317.3	20.3	21.9	1.6	4.2	0.3	4.1	0.2	0.0	0.1
mount2-13-3	Rim	19.4	16.2	56725	28.1	116592	280479	23.5	11632	31406	0.3	63.1	b.d.l.	9.2	1594.6	3.3	237.7	0.3	b.d.l.	b.d.l.	b.d.l.	581.3	25.7	28.8	2.1	5.3	0.6	5.8	0.2	0.0	0.1
mount2-13-4	Core	28.1	24.5	56852	24.0	113905	280479	26.3	12829	28758	0.4	52.4	b.d.l.	8.4	1546.0	3.8	259.0	0.2	0.1	0.0	b.d.l.	972.5	24.8	27.6	2.0	5.2	0.4	6.5	0.2	0.0	0.1
mount2-13-5	Core	25.9	25.7	56863	23.0	113735	280479	24.2	12399	29076	0.4	66.1	b.d.l.	8.7	1613.9	3.4	241.9	0.3	b.d.l.	b.d.l.	b.d.l.	281.7	25.1	27.9	2.0	5.1	0.4	5.3	0.2	0.0	0.1
mount2-13-6	Rim	23.5	23.0	55852	29.8	120456	280479	18.4	9171	37561	0.3	64.7	b.d.l.	11.9	1607.4	2.2	226.1	0.4	b.d.l.	b.d.l.	b.d.l.	499.9	30.6	35.7	2.6	7.0	0.6	5.4	0.3	0.0	0.1
mount2-15-1	Rim	15.0	14.1	56392	26.5	113209	280479	17.2	13291	29254	0.4	62.5	b.d.l.	8.3	1557.7	3.7	253.9	0.2	0.1	0.0	b.d.l.	752.9	22.1	24.7	1.8	4.7	0.3	6.5	0.2	0.0	0.1
mount2-15-2	Core	19.7	19.5	56304	24.6	112924	280479	21.3	13751	27513	0.5	62.8	b.d.l.	7.4	1532.9	4.2	264.7	0.2	b.d.l.	b.d.l.	b.d.l.	774.3	21.4	23.9	1.7	4.4	0.3	7.0	b.d.l.	b.d.l.	0.0
mount2-15-4	Rim	18.0	21.2	56528	24.0	111874	280479	20.3	13098	27844	0.4	62.9	b.d.l.	7.6	1546.0	3.9	214.8	0.2	b.d.l.	b.d.l.	b.d.l.	576.3	21.7	24.5	1.8	4.2	0.4	5.7	0.2	0.0	0.1
mount2-15-5	Core	16.4	16.2	56693	29.2	111359	280479	13.2	13381	28150	0.4	53.9	b.d.l.	7.3	1413.6	3.8	158.0	0.2	0.1	0.0	b.d.l.	289.1	19.2	21.7	1.6	4.2	0.4	4.1	0.2	0.0	0.1
mount2-17-2	Rim	15.3	13.8	56224	20.8	112977	280479	14.2	12899	28479	0.3	61.4	b.d.l.	8.1	1527.9	3.6	258.2	0.2	b.d.l.	b.d.l.	b.d.l.	787.5	22.4	25.6	1.9	4.9	0.4	6.7	0.2	0.0	0.1
mount2-17-3	Core	24.9	23.7	57235	25.7	113623	280479	16.8	12729	28277	0.3	59.6	b.d.l.	7.8	1508.2	3.6	210.2	0.2	b.d.l.	b.d.l.	b.d.l.	564.7	23.0	25.7	1.8	5.0	0.3	5.6	0.2	0.0	0.1
mount2-17-4	Core	21.0	20.3	57836	22.4	112454	280479	15.9	14338	26793	0.4	62.6	0.0	7.2	1494.4	4.0	253.7	0.2	b.d.l.	b.d.l.	b.d.l.	741.8	22.1	24.0	1.7	4.4	0.4	6.8	0.1	0.0	0.0
mount2-17-5	Core	18.3	18.2	55929	23.8	111233	280479	18.0	13393	27715	0.4	66.4	b.d.l.	8.0	1561.2	3.7	224.7	0.2	b.d.l.	b.d.l.	b.d.l.	651.8	23.2	26.0	1.9	4.8	0.4	5.6	0.2	0.0	0.1
mount2-17-6	Core	14.7	14.8	55929	20.3	110080	280479	19.0	14792	25920	0.3	49.0	b.d.l.	7.0	1520.4	4.4	193.4	0.2	b.d.l.	b.d.l.	b.d.l.	299.2	20.6	22.9	1.6	4.0	0.4	4.5	0.1	0.0	0.1
mount2-17-7	Core	15.4	16.8	56956	24.2	111581	280479	21.4	14033	26883	0.4	51.0	b.d.l.	7.5	1499.8	4.0	204.7	0.2	b.d.l.	0.0	b.d.l.	296.7	21.5	23.8	1.6	4.2	0.3	4.8	0.2	0.0	0.1
mount2-17-8	Rim	18.3	16.4	56867	23.0	113282	280479	17.9	13439	27701	0.4	48.9	b.d.l.	7.8	1490.0	3.7	169.3	0.2	b.d.l.	b.d.l.	b.d.l.	202.3	20.9	23.7	1.7	4.4	0.4	3.7	0.2	0.0	0.1
mount2-17-9	Rim	16.3	14.8	55785	23.1	111453	280479	17.6	13765	27518	0.4	70.9	b.d.l.	8.0	1506.3	3.8	239.2	0.2	b.d.l.	0.0	b.d.l.	698.3	21.5	24.5	1.8	4.6	0.4	6.1	0.2	0.0	0.1
mount2-2-1	Rim	9.6	9.3	57052	23.8	112725	280479	23.3	14040	25993	0.4	42.3	b.d.l.	6.9	1327.1	4.0	68.2	0.2	b.d.l.	b.d.l.	b.d.l.	56.4	16.4	18.4	1.3	3.3	0.3	1.6	0.2	0.0	0.1

Table A1.7: continued

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	17.3	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.5	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.4	b.d.l.	b.d.l.
0.0	0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	15.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.0	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.1	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	15.3	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.2	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.2	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	14.2	0.0	b.d.l.
0.0	0.0	b.d.l.	0.0	0.0	0.0	b.d.l.	16.3	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	16.1	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.0	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.4	b.d.l.	b.d.l.
0.0	0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	16.2	b.d.l.	b.d.l.
0.0	0.0	0.0	0.0	b.d.l.	0.0	b.d.l.	14.3	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.8	b.d.l.	b.d.l.
0.0	0.0	0.0	0.0	b.d.l.	0.0	b.d.l.	14.5	0.0	0.0
0.0	0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	12.9	0.0	b.d.l.
0.0	0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	12.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.6	0.0	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.1	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.3	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	0.0	0.0	14.1	0.0	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.5	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.4	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	14.4	0.0	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.0	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.3	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.9	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	0.0	b.d.l.	13.4	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.9	b.d.l.	0.0
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.3	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.7	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.5	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.1	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	14.6	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	12.9	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.3	0.0	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.6	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.6	b.d.l.	b.d.l.
0.0	0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	13.8	b.d.l.	b.d.l.
b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	13.3	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	0.0	b.d.l.

Table A1.7: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
mount2-2-2	Core	16.5	17.2	56160	30.6	119375	280479	20.6	10959	32353	0.4	62.2	b.d.l.	9.8	1495.6	3.0	82.7	0.2	b.d.l.	0.0	b.d.l.	90.9	25.5	29.9	2.2	5.5	0.4	1.7	0.2	0.0	0.1
mount2-2-3	Core	23.3	21.2	57119	30.0	116904	280479	20.2	11846	31033	0.4	58.8	b.d.l.	9.1	1463.8	3.1	63.6	0.3	b.d.l.	0.0	b.d.l.	97.8	25.1	28.4	2.1	5.4	0.5	1.6	0.3	0.0	0.1
mount2-2-4	Core	22.9	20.2	56088	30.0	116227	280479	22.3	11533	31339	0.3	67.3	b.d.l.	9.3	1538.6	3.1	100.5	0.3	b.d.l.	0.0	b.d.l.	99.2	25.2	28.4	2.0	5.2	0.5	2.4	0.2	0.0	0.1
mount2-2-5	Rim	19.3	19.8	56733	26.2	114637	280479	20.9	12807	29008	0.3	60.6	b.d.l.	8.0	1448.7	3.5	61.3	0.2	b.d.l.	b.d.l.	b.d.l.	76.8	25.5	28.1	2.0	5.1	0.4	1.4	0.2	0.0	0.1
mount2-24-1	Rim	16.5	13.9	56809	23.7	111939	280479	16.6	14169	26724	0.4	56.7	b.d.l.	7.5	1358.2	4.1	121.3	0.2	b.d.l.	b.d.l.	b.d.l.	283.2	20.9	22.8	1.6	4.3	0.3	3.4	0.2	0.0	0.1
mount2-24-2	Core	21.2	21.8	56342	24.2	109176	280479	20.0	14182	25980	0.2	54.1	b.d.l.	7.0	1289.4	4.0	122.8	0.2	b.d.l.	0.0	b.d.l.	280.4	20.6	22.4	1.6	4.0	0.3	3.5	0.2	0.0	0.1
mount2-24-3	Core	24.8	24.5	56864	23.9	113237	280479	25.0	12668	29030	0.4	51.3	b.d.l.	8.5	1345.7	3.3	97.1	0.3	b.d.l.	b.d.l.	b.d.l.	149.2	22.4	25.7	1.9	4.8	0.4	2.5	0.2	0.0	0.1
mount2-24-4	Rim	21.3	19.6	56831	25.3	114081	280479	23.4	12792	29384	0.3	56.6	b.d.l.	8.4	1388.5	3.5	97.8	0.2	b.d.l.	b.d.l.	b.d.l.	100.2	23.6	26.1	1.8	4.7	0.5	2.3	0.2	0.0	0.1
mount2-24-5	Rim	16.3	18.3	56880	26.3	110536	280479	23.5	13827	27018	0.4	50.8	b.d.l.	7.4	1349.3	3.9	107.7	0.2	b.d.l.	0.0	b.d.l.	197.3	19.9	21.8	1.7	4.4	0.4	3.2	0.2	0.0	0.1
mount2-3-1	Rim	21.1	20.2	55449	24.1	112926	280479	18.1	12397	29200	0.4	62.7	b.d.l.	8.2	1523.4	3.4	201.3	0.2	b.d.l.	b.d.l.	b.d.l.	484.9	22.6	25.9	1.9	5.0	0.4	5.2	0.1	0.0	0.1
mount2-3-2	Core	27.7	26.6	55895	25.3	112996	280479	24.6	12849	29052	0.4	66.8	0.1	8.5	1617.6	3.7	209.6	0.2	b.d.l.	b.d.l.	b.d.l.	705.8	22.8	26.0	1.8	4.9	0.4	5.8	0.2	0.0	0.1
mount2-3-3	Core	22.5	21.2	55782	20.5	112041	280479	21.6	14165	27366	0.5	72.1	0.1	7.4	1629.3	4.1	282.0	0.2	b.d.l.	0.0	b.d.l.	1064.8	22.4	25.2	1.7	4.5	0.4	7.3	0.1	0.0	0.1
mount2-3-4	Core	21.4	20.8	56882	24.3	113956	280479	20.8	13566	28527	0.4	69.3	b.d.l.	7.7	1593.2	4.0	219.5	0.2	b.d.l.	0.0	b.d.l.	791.0	21.4	24.3	1.8	4.7	0.4	5.7	b.d.l.	0.0	0.0
mount2-3-5	Rim	10.2	10.9	55401	21.8	111962	280479	22.5	13835	27938	0.5	88.1	b.d.l.	7.7	1643.0	3.9	272.1	0.2	b.d.l.	b.d.l.	b.d.l.	827.7	18.2	21.0	1.5	4.2	0.3	6.9	0.1	b.d.l.	0.0
mount2-4-1	Rim	16.8	16.0	55135	23.0	109730	280479	19.4	14251	27111	0.4	59.6	b.d.l.	7.1	1591.7	4.3	260.9	0.1	b.d.l.	b.d.l.	b.d.l.	971.2	20.9	23.4	1.6	4.3	0.3	7.0	0.1	0.0	0.0
mount2-4-2	Rim	20.5	19.7	56084	22.9	112710	280479	21.7	13617	28539	0.4	74.8	b.d.l.	7.8	1665.5	3.7	269.9	0.2	b.d.l.	0.0	b.d.l.	874.2	22.8	25.4	1.8	5.1	0.4	6.9	0.1	0.0	0.1
mount2-4-3	Core	15.6	15.3	55503	22.1	110418	280479	21.4	14087	26729	0.5	73.7	0.0	7.4	1590.3	4.0	266.2	0.2	b.d.l.	b.d.l.	b.d.l.	935.7	22.4	24.6	1.7	4.3	0.3	7.0	0.2	0.0	0.1
mount2-4-4	Core	19.3	19.4	55375	22.8	112580	280479	18.5	13141	28508	0.4	67.6	b.d.l.	7.9	1651.4	3.7	270.7	0.2	b.d.l.	0.0	b.d.l.	887.5	22.1	25.1	1.8	4.8	0.3	6.9	0.2	0.0	0.1
mount2-4-5	Rim	22.3	22.3	56360	23.2	112317	280479	21.4	12669	28929	0.4	68.7	b.d.l.	8.4	1597.4	3.6	250.5	0.2	b.d.l.	0.0	b.d.l.	852.5	23.0	26.3	1.9	4.9	0.4	6.3	0.2	0.0	0.1
mount2-5-1	Rim	10.2	9.9	60212	30.4	121454	280479	21.7	13852	29816	0.4	46.7	b.d.l.	8.4	1472.6	4.0	95.5	0.2	b.d.l.	b.d.l.	b.d.l.	66.3	20.2	22.0	1.6	4.5	0.4	2.3	0.2	0.0	0.1
mount2-5-2	Rim	7.2	7.6	59017	27.5	116515	280479	16.8	12768	30104	0.4	50.6	b.d.l.	8.5	1478.4	3.5	121.3	0.3	b.d.l.	0.0	b.d.l.	156.5	22.1	24.9	1.8	4.5	0.5	3.0	0.2	0.0	0.1
mount2-5-3	Core	10.7	9.9	55943	27.4	111684	280479	18.9	12463	28201	0.4	47.5	b.d.l.	7.9	1387.4	3.6	69.3	0.3	0.1	0.0	b.d.l.	82.0	20.2	23.5	1.7	4.2	0.4	1.7	0.2	0.0	0.1
mount2-5-4	Rim	7.2	6.7	56752	24.9	110120	280479	22.5	13140	27153	0.5	48.7	b.d.l.	8.2	1383.5	3.7	74.8	0.3	0.1	0.0	b.d.l.	80.4	19.7	22.5	1.6	4.0	0.3	1.8	0.2	0.0	0.1
mount2-6-1	Rim	22.9	22.7	55570	26.4	112558	280479	20.8	12857	28337	0.4	61.0	b.d.l.	8.1	1536.3	3.6	209.0	0.2	0.1	b.d.l.	b.d.l.	559.8	22.4	25.8	1.8	5.0	0.4	5.6	0.2	0.0	0.1
mount2-6-2	Core	19.2	19.0	56442	25.6	112024	280479	22.4	13400	27537	0.4	61.6	b.d.l.	7.7	1501.0	3.8	206.2	0.2	b.d.l.	b.d.l.	b.d.l.	532.1	21.7	24.5	1.7	4.5	0.4	5.6	0.2	0.0	0.1
mount2-6-3	Core	10.1	11.7	56273	23.8	111454	280479	19.1	13378	28283	0.4	64.0	b.d.l.	7.9	1571.3	3.9	228.2	0.2	b.d.l.	0.0	b.d.l.	690.3	20.8	23.7	1.7	4.3	0.4	5.8	0.2	0.0	0.1
mount2-6-4	Core	15.2	16.1	56153	34.2	112834	280479	17.6	12889	27697	0.4	61.9	b.d.l.	8.3	1576.1	3.6	217.9	0.2	b.d.l.	0.0	b.d.l.	584.3	19.7	22.7	1.6	4.3	0.3	5.9	0.2	0.0	0.1
mount2-6-5	Core	24.0	24.1	55816	22.1	112442	280479	20.1	13582	28014	0.4	64.8	b.d.l.	7.9	1524.8	4.1	225.0	0.2	b.d.l.	b.d.l.	b.d.l.	665.6	20.7	23.3	1.7	4.3	0.4	6.2	0.2	0.0	0.1
mount2-6-6	Rim	23.5	23.0	56166	22.9	110418	280479	22.7	13371	28758	0.4	64.5	0.1	7.6	1520.1	3.8	205.2	0.2	b.d.l.	0.0	b.d.l.	590.2	19.7	22.7	1.6	4.4	0.3	5.6	0.2	0.0	0.1
mount2-7-4	Core	23.3	22.8	55543	30.2	123345	280479	24.9	8649	39039	0.6	105.8	0.1	12.5	1559.2	2.0	245.0	0.4	b.d.l.	b.d.l.	b.d.l.	811.0	38.2	44.6	3.2	8.6	0.7	5.7	0.3	0.0	0.1
mount2-7-5	Rim	28.0	28.5	55023	26.9	119167	280479	21.5	9142	36885	0.4	97.2	0.1	11.2	1549.3	2.2	252.8	0.4	b.d.l.	0.0	b.d.l.	974.1	36.3	42.8	3.1	8.4	0.8	5.6	0.4	0.0	0.1
mount2-9-1	Rim	19.6	19.2	56601	25.5	114921	280479	21.3	11789	30515	0.5	48.9	b.d.l.	8.6	1398.0	3.1	129.7	0.3	b.d.l.	b.d.l.	b.d.l.	184.5	21.2	24.8	1.7	4.8	0.5	3.2	0.2	0.0	0.1
mount2-9-3	Rim	23.4	22.9	56331	27.2	117142	280479	23.4	10605	33033	0.5	101.7	b.d.l.	10.0	1442.2	2.9	127.7	0.3	b.d.l.	b.d.l.	b.d.l.	428.9	28.0	34.9	2.5	6.6	0.5	3.7	0.2	0.0	0.0
mount2-9-4	Rim	28.1	26.1	56960	28.9	117519	280479	27.3	10408	33801	0.4	97.8	0.1	10.4	1421.1	2.7	118.2	0.3	0.2	0.0	b.d.l.	436.1	25.6	30.4	2.2	6.0	0.6	3.1	0.2	0.0	0.1

Table A1.7: continued

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.8	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	15.5	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.6	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.0	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	15.7	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.9	b.d.l.	b.d.l.
b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.6	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.4	b.d.l.	b.d.l.
0.0	b.d.l.	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	13.1	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.4	b.d.l.	b.d.l.
b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.4	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.6	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.7	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.4	0.0	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.2	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	13.5	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	16.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.2	0.0	b.d.l.
b.d.l.	b.d.l.	0.0	0.0	b.d.l.	b.d.l.	0.0	15.6	0.0	b.d.l.
0.0	0.0	b.d.l.	0.0	0.0	0.0	0.0	16.6	0.0	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.2	b.d.l.	b.d.l.
0.0	0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.1	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	13.8	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	13.3	0.0	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	14.3	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.1	b.d.l.	b.d.l.
0.0	0.0	0.0	0.0	0.0	b.d.l.	b.d.l.	14.0	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	13.6	b.d.l.	b.d.l.
0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	14.9	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	16.1	b.d.l.	b.d.l.
0.0	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	15.6	0.0	b.d.l.

Table A1.8: Major elements - orthopyroxene

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	Cr_2O_3	MnO	Total	Wo	En	Fs
MFT-3 - 3	larger grain	48.9	0.2	0.4	38.4	8.4	3.7	0.0	0.0	0.0	1.3	101.3	8	26	66
MFT-4 - 1	larger grain	48.4	0.2	0.2	42.0	7.2	1.6	0.0	0.0	0.0	1.5	101.2	4	23	74
MFT-10 - 6	larger grain	47.7	1.0	0.2	41.0	5.7	3.3	0.0	0.0	0.0	1.6	100.6	8	18	74
MFT-11-1	larger grain	48.2	0.7	0.3	39.8	8.8	1.5	0.0	0.0	0.0	1.4	100.7	3	27	69
MFT-11-2	larger grain	48.5	0.9	0.2	40.2	8.4	1.5	0.0	0.0	0.0	1.5	101.1	3	26	70
MFT-11-3	larger grain	48.0	0.7	0.2	40.9	7.6	1.7	0.0	0.0	0.0	1.5	100.5	4	24	72
MFT-11-5	larger grain	48.1	0.9	0.3	39.6	8.9	1.5	0.0	0.0	0.0	1.4	100.7	3	28	69
MFT-11-6	larger grain	49.8	1.0	0.3	39.3	8.4	1.5	0.0	0.0	0.0	1.3	101.6	3	27	70
MFT-11-7	larger grain	48.8	0.6	0.3	38.8	9.8	1.4	0.0	0.0	0.0	1.2	100.9	3	30	67
MFT-11-8	larger grain	48.7	1.0	0.4	38.5	9.9	1.4	0.0	0.0	0.0	1.2	101.2	3	30	66
MFT-11-9	larger grain	48.8	0.9	0.3	39.2	9.3	1.5	0.0	0.0	0.0	1.3	101.3	3	29	68
MFT-15 - 1	larger grain	48.7	0.2	0.2	41.1	8.0	1.5	0.0	0.0	0.0	1.5	101.2	3	25	72
MFT-17 - 2	larger grain	48.7	0.2	0.3	40.2	8.8	1.5	0.0	0.0	0.0	1.5	101.2	3	27	70
MFT-17 - 4	larger grain														
MFT-25 - 1	larger grain	48.5	0.2	0.2	41.4	8.2	1.5	0.0	0.0	0.0	1.5	101.5	3	25	71
MFT-25 - 4	larger grain														
MFT-27 - 1	larger grain	49.1	0.1	0.2	39.7	9.6	1.3	0.0	0.0	0.0	1.4	101.4	3	29	68
MFT-27 - 3	larger grain														
MFT-34 - 1	larger grain	48.5	0.2	0.2	40.9	8.4	1.5	0.0	0.0	0.0	1.5	101.2	3	26	71
MFT-41 - 1	larger grain	48.8	0.2	0.2	41.3	8.1	1.6	0.0	0.0	0.0	1.5	101.6	4	25	72
MFT-47 - 1	larger grain	49.1	0.1	0.3	38.5	10.8	1.1	0.0	0.0	0.0	1.2	101.2	2	32	65
MFT-49 - 1	larger grain	48.6	0.2	0.2	40.1	9.3	1.3	0.0	0.0	0.0	1.4	101.2	3	28	69
MFT-49 - 2	larger grain	48.5	0.2	0.3	40.9	8.5	1.5	0.0	0.0	0.0	1.5	101.3	3	26	71
MFT-50 - 1	larger grain	47.9	0.2	0.2	42.5	7.0	1.6	0.0	0.0	0.0	1.5	100.9	3	22	75
MFT-54 - 1	larger grain	48.2	0.2	0.3	41.4	8.1	1.4	0.0	0.0	0.0	1.5	101.1	3	25	72
MFT-58 - 1	larger grain	47.8	0.2	0.2	41.4	6.3	3.3	0.1	0.0	0.0	1.6	100.9	7	20	73
MFT-63 - 1	larger grain	48.3	0.2	0.2	40.6	8.5	1.5	0.0	0.0	0.0	1.5	100.9	3	26	70
MFT-64 - 1	larger grain	49.5	0.1	0.3	38.1	10.9	1.3	0.0	0.0	0.0	1.2	101.5	3	33	64
MFT-6 - 1	small grain	48.5	0.8	0.3	39.3	9.2	1.5	0.0	0.0	0.0	1.4	101.0	3	29	68
MFT-6 - 2	small grain	48.6	0.6	0.2	38.8	9.5	1.5	0.0	0.0	0.0	1.3	100.5	3	29	67

Table A1.9: Trace elements - orthopyroxene

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-4 - 1	larger grain	8.6	8.3	129.1	57585	1488	233733	94.0	b.d.l.	13301	55.1	1080.7	7.7	10314	347958	b.d.l.	0.1	71.8	3.6	0.1	b.d.l.	b.d.l.	1.0	4.5	0.9	6.3	3.2	0.1	5.6	1.4	11.0	3.0
MFT-4 - 2	larger grain	8.8	8.7	121.9	51243	1336	233733	11.6	b.d.l.	12508	45.7	969.9	3.2	10961	364373	b.d.l.	b.d.l.	73.3	3.0	0.1	b.d.l.	b.d.l.	0.4	2.5	0.6	4.5	3.0	0.1	5.2	1.4	11.5	3.0
MFT-4 - 3	larger grain	9.3	8.8	122.2	52923	1390	233733	12.3	b.d.l.	12501	46.6	960.7	3.1	10862	363372	b.d.l.	b.d.l.	71.7	3.1	0.1	b.d.l.	b.d.l.	0.4	2.4	0.7	4.6	2.7	0.1	5.2	1.4	11.5	3.0
MFT-15 - 3	larger grain	8.4	8.5	109.9	56333	1240	233733	4.4	b.d.l.	11483	42.1	833.8	2.4	10533	328268	b.d.l.	b.d.l.	63.9	2.2	0.1	b.d.l.	b.d.l.	0.3	1.8	0.5	3.3	2.3	0.1	4.4	1.1	9.9	2.5
MFT-15 - 4	larger grain	8.8	8.6	112.5	55479	1341	233733	9.0	b.d.l.	11659	46.9	937.9	3.0	10684	331751	b.d.l.	b.d.l.	69.4	2.5	0.1	b.d.l.	b.d.l.	0.4	2.0	0.5	3.7	2.4	0.1	4.9	1.2	10.7	2.8
MFT-17 - 2	larger grain	7.9	8.3	120.2	55919	1374	233733	12.4	b.d.l.	12159	53.1	993.6	4.6	10753	326327	0.0	b.d.l.	74.4	3.0	0.1	b.d.l.	b.d.l.	0.4	2.3	0.6	4.1	2.7	0.0	5.0	1.3	11.3	3.0
MFT-17 - 4	larger grain	8.8	8.4	113.2	52351	1341	233733	8.4	b.d.l.	12341	51.6	964.3	4.0	11017	330856	b.d.l.	b.d.l.	75.4	2.8	0.1	b.d.l.	b.d.l.	0.4	2.0	0.5	3.8	2.3	0.0	5.0	1.3	11.5	3.1
MFT-25 - 1	larger grain	9.3	8.9	118.5	51331	1197	233733	12.6	b.d.l.	11185	43.5	830.0	2.3	10512	332528	b.d.l.	b.d.l.	57.1	2.2	0.1	b.d.l.	b.d.l.	0.3	2.1	0.5	3.7	2.3	0.1	4.2	1.1	9.1	2.4
MFT-25 - 4	larger grain	9.6	9.2	122.7	48291	1513	233733	8.6	5.2	11909	51.1	916.5	3.4	10591	332463	0.1	0.3	65.7	3.6	0.6	0.1	2.4	0.6	9.9	0.7	4.5	2.7	0.1	5.0	1.2	10.7	2.8
MFT-27 - 1	larger grain	8.8	8.9	112.4	57867	1387	233733	8.2	b.d.l.	10214	43.6	821.3	5.2	9996	314374	b.d.l.	b.d.l.	64.4	2.1	0.0	b.d.l.	b.d.l.	0.2	1.5	0.4	3.2	2.0	0.1	4.2	1.1	9.8	2.6
MFT-27 - 3	larger grain	9.1	8.7	109.5	54890	1260	233733	9.6	b.d.l.	11276	46.2	867.2	2.5	10717	326133	b.d.l.	b.d.l.	66.2	2.3	0.1	b.d.l.	b.d.l.	0.3	1.9	0.5	3.7	2.4	0.1	4.2	1.2	10.4	2.7
MFT-34 - 1	larger grain	8.5	8.8	125.4	51794	1698	233733	13.4	7.6	11712	39.7	924.2	2.9	10819	314010	0.1	0.3	69.3	3.5	0.3	0.1	1.6	0.4	2.8	0.6	3.9	2.6	0.1	4.9	1.2	10.8	2.9
MFT-34 - 3	larger grain	9.1	8.3	120.1	53634	1377	233733	11.9	b.d.l.	12358	51.8	998.8	4.4	10626	309266	b.d.l.	0.0	71.7	3.1	0.1	b.d.l.	b.d.l.	0.5	2.5	0.6	4.4	2.7	0.1	5.0	1.3	11.2	3.0
MFT-47 - 1	larger grain	8.6	8.8	95.5	63732	1468	233733	11.5	b.d.l.	8965	40.4	765.5	3.9	9019	302880	b.d.l.	0.0	55.4	1.8	0.0	b.d.l.	b.d.l.	0.2	1.3	0.4	2.6	1.8	0.1	3.4	0.9	8.2	2.1
MFT-49 - 1	larger grain	9.1	8.5	104.0	53814	1292	233733	13.6	b.d.l.	10440	45.6	790.4	2.8	10515	325226	b.d.l.	b.d.l.	63.3	2.0	0.1	b.d.l.	b.d.l.	0.3	1.6	0.4	2.9	2.0	0.0	4.2	1.1	9.6	2.5
MFT-49 - 2	larger grain	8.7	8.7	112.7	51980	1259	233733	12.0	b.d.l.	11515	46.3	802.7	2.7	10918	335856	b.d.l.	b.d.l.	67.8	2.2	0.1	b.d.l.	b.d.l.	0.3	1.8	0.5	3.5	2.4	0.0	4.4	1.2	10.2	2.8
MFT-50 - 1	larger grain	8.8	8.7	119.7	44212	1322	233733	11.6	b.d.l.	12477	48.0	896.6	5.6	11232	347654	b.d.l.	0.0	72.3	3.1	0.1	b.d.l.	b.d.l.	0.4	2.4	0.6	4.3	2.9	0.1	4.9	1.3	11.2	3.0
MFT-63 - 1	larger grain	8.6	8.5	117.6	52579	1385	233733	11.0	b.d.l.	12548	50.4	1005.3	4.1	11058	333154	0.0	b.d.l.	73.4	3.0	0.1	b.d.l.	b.d.l.	0.3	2.1	0.5	4.0	2.5	0.1	4.8	1.3	11.2	3.0
MFT-66 - 1	larger grain	9.0	8.7	105.8	57747	1496	233733	13.1	b.d.l.	10340	37.7	812.3	6.8	9094	321886	b.d.l.	0.0	57.9	2.4	0.0	b.d.l.	b.d.l.	0.3	2.1	0.5	3.8	2.4	0.1	4.3	1.1	9.3	2.3
MFT-maf-3 - 16	larger grain	8.2	8.0	143.5	40273	1471	233733	15.6	10.6	11559	46.7	861.2	6.3	9565	277985	0.3	0.5	57.7	4.0	1.0	0.2	4.5	1.0	11.6	0.8	4.7	2.5	0.1	4.4	1.1	9.2	2.3
MFT-maf-3 - 17	larger grain	8.3	7.8	140.6	38906	1427	233733	b.d.l.	31.9	9687	45.4	828.6	6.3	9258	270095	0.5	0.7	55.2	3.1	0.8	0.3	5.3	0.8	11.6	0.7	4.4	2.2	0.1	4.2	1.0	8.4	2.3
MFT-maf-3 - 21	larger grain	9.0	8.2	141.5	39866	1438	233733	10.8	21.7	11021	44.6	834.0	6.8	9638	279242	0.2	0.5	57.6	3.5	0.7	0.1	3.3	1.1	8.5	0.8	4.8	2.7	0.1	5.0	1.1	9.7	2.3
MFT-maf-3 - 22	larger grain	8.1	8.4	125.1	40328	1372	233733	b.d.l.	4.2	11058	43.5	831.2	6.5	9637	282037	0.1	b.d.l.	57.0	2.9	0.2	b.d.l.	b.d.l.	0.5	3.0	0.6	4.1	2.3	0.1	4.3	1.0	8.8	2.3
MFT-maf-3 - 23	larger grain	9.9	9.2	155.8	39030	1630	233733	16.2	15.0	10814	43.8	861.5	6.7	9691	278263	0.2	2.0	57.5	5.9	2.8	0.1	25.8	1.4	30.0	0.8	5.3	2.8	0.1	4.4	1.1	9.4	2.3
MFT-maf-3 - 24	larger grain	7.7	7.8	164.4	38043	1306	233733	12.4	68.1	10287	41.5	799.1	6.2	9314	269504	0.4	b.d.l.	53.6	2.7	0.1	b.d.l.	0.4	0.4	2.8	0.5	3.6	2.0	0.1	3.7	1.0	8.6	2.2
MFT-maf-3 - 25	larger grain	7.5	8.2	261.9	36847	1461	233733	20.2	147.4	14174	45.7	782.9	6.8	9198	266354	0.8	2.2	62.2	4.4	0.3	0.1	9.4	2.1	8.2	1.6	8.9	3.7	0.1	5.8	1.2	10.9	2.6
MFT-maf-3 - 26	larger grain	8.7	8.4	232.0	40434	1461	233733	b.d.l.	10.9	17196	52.0	858.9	7.0	10198	292501	b.d.l.	0.3	70.1	4.5	0.3	b.d.l.	2.1	2.5	10.9	2.0	10.9	4.6	0.2	6.8	1.5	12.4	3.0
MFT-maf-3 - 28	larger grain	7.8	8.0	167.9	38475	1620	233733	b.d.l.	47.8	12318	45.3	816.4	6.6	9728	279339	0.5	1.1	60.8	4.4	1.1	0.3	10.7	1.3	16.1	1.0	6.6	3.2	0.1	5.0	1.2	10.1	2.4
MFT-maf-3 - 29	larger grain	9.3	9.1	174.6	38341	2857	233733	10.1	57.6	11407	43.9	842.2	6.4	9712	280103	0.6	2.0	60.0	6.0	1.6	0.3	10.5	0.9	9.2	0.7	4.8	2.6	0.1	4.8	1.1	9.5	2.4
MFT-maf-3 - 30	larger grain	9.8	8.3	137.9	39353	1411	233733	b.d.l.	10.7	11209	44.6	856.7	6.1	10022	288493	0.3	0.5	59.9	2.9	0.2	0.2	3.6	0.9	7.7	0.8	5.0	2.8	0.1	4.4	1.1	9.5	2.3
MFT-maf-11 - 1	larger grain	8.8	8.6	132.8	46339	1751	233733	33.8	5.5	10127	39.0	841.3	18.6	9062	267685	0.2	1.3	53.6	5.3	1.7	0.2	12.5	1.7	21.1	0.8	4.7	2.2	0.1	3.9	0.9	8.1	2.2
MFT-maf-11 - 1	larger grain	7.9	8.5	124.8	44122	1667	233733	12.3	6.5	10011	38.1	823.2	17.7	9089	267195	0.1	0.2	54.5	3.7	0.7	0.1	1.8	0.6	5.6	0.5	3.5	2.1	0.1	4.0	0.9	8.1	2.2
MFT-maf-11 - 11	larger grain	8.3	7.9	121.2	42369	1594	233733	445.3	8.2	10254	40.2	834.5	17.5	9071	266601	b.d.l.	b.d.l.	57.0	3.1	0.1	b.d.l.	b.d.l.	0.9	5.2	0.7	4.2	2.5	0.1	3.8	1.0	8.8	2.3
MFT-maf-11 - 13	larger grain	7.3	8.3	121.2	43251	1610	233733	b.d.l.	b.d.l.	9853	41.2	798.7	18.2	9523	278815	b.d.l.	0.1	59.9	3.5	0.1	b.d.l.	0.3	0.9	4.1	0.8	4.4	2.5	0.1	4.4	1.1	9.7	2.4
MFT-maf-11 - 14	larger grain	7.8	8.5	126.9	43068	1751	233733	b.d.l.	7.2	9980	42.0	779.4	17.8	9538	277376	b.d.l.	0.1	59.2	4.1	0.2	0.0	0.6	0.9	4.1	0.6	5.0	2.2	0.1	4.6	1.0	9.4	2.4

Table A1.9: T continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
10.6	1.8	14.7	2.5	0.2	b.d.l.	0.0	0.1	0.0
10.8	1.9	14.8	2.5	0.2	b.d.l.	b.d.l.	0.0	b.d.l.
10.6	1.8	14.8	2.5	0.1	b.d.l.	0.0	0.0	b.d.l.
9.1	1.6	13.1	2.2	0.1	b.d.l.	0.0	0.0	b.d.l.
10.1	1.8	14.0	2.3	0.2	b.d.l.	0.1	0.0	0.0
10.7	1.9	15.1	2.6	0.2	b.d.l.	0.0	0.0	b.d.l.
11.1	1.9	15.4	2.6	0.2	b.d.l.	0.0	0.0	0.0
8.3	1.5	11.7	1.9	0.1	b.d.l.	b.d.l.	0.0	b.d.l.
9.4	1.7	13.5	2.3	0.2	0.0	1.5	0.1	0.0
9.2	1.7	13.1	2.1	0.1	b.d.l.	0.1	0.0	b.d.l.
9.4	1.7	13.8	2.2	0.1	b.d.l.	0.0	0.0	b.d.l.
10.0	1.8	14.2	2.4	0.2	0.0	0.3	0.0	0.0
10.4	1.8	14.5	2.4	0.2	b.d.l.	0.0	0.0	b.d.l.
7.9	1.3	11.0	1.8	0.1	b.d.l.	b.d.l.	0.0	b.d.l.
9.1	1.6	12.9	2.2	0.1	b.d.l.	0.0	0.0	b.d.l.
10.0	1.7	14.1	2.2	0.1	b.d.l.	b.d.l.	0.0	0.0
10.4	1.8	14.6	2.4	0.2	b.d.l.	0.1	0.0	b.d.l.
10.7	1.9	14.8	2.5	0.2	0.0	0.0	0.0	0.0
8.3	1.4	11.6	2.0	0.1	b.d.l.	b.d.l.	0.0	0.0
8.2	1.5	11.3	1.9	0.2	0.0	2.0	0.1	0.0
8.3	1.4	11.2	1.8	0.1	b.d.l.	3.1	0.1	0.0
8.5	1.5	10.9	1.9	0.2	0.0	3.3	0.1	0.0
8.1	1.5	11.5	1.9	0.1	b.d.l.	0.4	0.0	0.0
8.4	1.5	11.7	1.9	0.2	0.1	8.0	0.3	0.0
7.7	1.4	10.6	1.8	0.1	b.d.l.	0.3	0.0	0.0
8.7	1.5	11.5	1.9	0.2	b.d.l.	0.7	0.3	0.0
9.9	1.7	12.9	2.1	0.3	0.0	0.4	0.2	0.0
8.7	1.5	11.3	1.9	0.2	0.0	5.9	0.2	0.0
8.6	1.4	12.1	2.0	0.3	0.0	2.9	0.2	0.0
8.8	1.5	12.0	1.9	0.2	b.d.l.	4.0	0.1	0.0
7.5	1.3	11.0	1.7	0.2	0.1	9.8	0.2	0.0
7.8	1.4	10.7	1.8	0.2	0.0	2.5	0.1	b.d.l.
7.9	1.5	11.4	2.0	0.2	b.d.l.	0.4	0.0	0.0
8.6	1.5	12.1	2.0	0.1	b.d.l.	0.3	0.0	0.0
8.7	1.5	12.0	1.9	0.2	0.0	0.4	0.0	0.0

Table A1.10: Major elements - clinopyroxene

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	Cr_2O_3	MnO	Total	Wo	En	Fs
mft-cpx-6 - 3	smaller grain - Rim	49.5	0.8	0.5	24.1	6.0	18.1	0.3	0.0	0.0	0.8	100.2	40	18	42
mft-cpx-6 - 6	smaller grain - Rim	48.6	0.8	0.7	25.5	5.0	18.4	0.3	0.0	0.0	0.8	100.1	41	15	44
mft-cpx-25 - 1	smaller grain - Rim	48.9	1.1	0.5	23.9	6.0	18.3	0.2	0.0	0.0	0.8	99.9	40	18	41
mft-cpx-25 - 2	smaller grain - Core	48.8	0.7	0.6	25.0	5.0	18.4	0.2	0.0	0.0	0.8	99.6	41	16	43
mft-cpx-25 - 3	smaller grain - Rim	48.6	0.8	0.6	24.0	5.7	18.5	0.2	0.0	0.0	0.8	99.2	41	18	41
mft-cpx-33 - 1	smaller grain - Rim	49.4	0.8	0.5	23.2	6.7	17.9	0.3	0.0	0.0	0.8	99.6	39	21	40
mft-cpx-33 - 2	smaller grain - Core	49.4	0.6	0.5	23.3	6.6	17.9	0.2	0.0	0.0	0.9	99.4	39	20	40
mft-cpx-33 - 3	smaller grain - Rim	49.2	0.6	0.6	23.3	6.8	17.7	0.2	0.0	0.0	0.9	99.2	39	21	40
MFT-2 - 1	larger grain -Core	49.9	0.3	0.6	24.6	6.2	17.9	0.2	0.0	0.0	0.9	100.5	39	19	42
MFT-2 - 2	larger grain - Rim	49.3	0.3	0.6	26.4	4.2	18.3	0.2	0.0	0.0	0.9	100.3	41	13	46
MFT-3 - 1	larger grain -Core	50.1	0.2	0.5	24.3	6.2	18.1	0.2	0.0	0.0	0.9	100.6	40	19	41
MFT-3 - 2	larger grain - Rim	49.7	0.2	0.6	24.9	5.4	18.6	0.2	0.0	0.0	0.8	100.4	41	16	43
MFT-4 - 2	larger grain -Core	50.0	0.2	0.6	24.7	5.9	17.8	0.2	0.0	0.0	0.9	100.4	39	18	42
MFT-4 - 3	larger grain -Core	49.8	0.2	0.5	25.4	5.6	18.1	0.3	0.0	0.0	0.9	100.8	40	17	43
MFT-5 - 1	larger grain - Rim	51.1	0.2	0.6	19.7	8.8	19.4	0.2	0.0	0.0	0.7	100.8	41	26	33
MFT-5 - 2	larger grain -Core	49.6	0.3	0.6	28.0	6.4	14.7	0.2	0.0	0.0	1.0	100.8	32	20	48
MFT-8 - 1	larger grain -Core	49.5	0.3	0.7	24.3	6.1	18.5	0.2	0.0	0.0	0.9	100.4	40	18	41
MFT-8 - 2	larger grain - Rim	49.0	0.2	0.5	23.9	6.2	18.3	0.2	0.0	0.0	0.8	99.3	40	19	41
MFT-9 - 1	larger grain -Core	50.0	0.2	0.5	22.4	7.4	18.5	0.2	0.0	0.0	0.9	100.1	40	22	38
MFT-9 - 2	larger grain - Rim	49.8	0.2	0.5	23.6	6.7	18.2	0.2	0.0	0.0	0.9	100.0	40	20	40
MFT-10 - 1	larger grain - Rim	48.9	1.0	0.6	25.6	4.7	18.3	0.3	0.0	0.0	0.8	100.3	41	14	45
MFT-10 - 2	larger grain -Core	49.3	0.7	0.5	24.4	5.9	18.0	0.2	0.0	0.0	0.9	99.9	40	18	42
MFT-10 - 3	larger grain -Core	49.7	1.1	0.6	22.8	7.2	17.8	0.2	0.0	0.0	0.8	100.2	39	22	39
MFT-10 - 4	larger grain -Core	49.9	1.1	0.5	22.3	7.6	17.6	0.2	0.0	0.0	0.8	100.1	39	23	38
MFT-10 - 5	larger grain -Core	49.1	1.1	0.6	24.1	5.9	18.1	0.2	0.0	0.0	0.8	100.1	40	18	42
MFT-10 - 7	larger grain -Core	48.9	1.2	0.6	25.6	5.0	17.9	0.2	0.0	0.0	0.9	100.4	40	15	45
MFT-10 - 8	larger grain -Core	48.8	0.8	0.6	26.2	4.9	18.0	0.2	0.0	0.0	0.8	100.3	40	15	45
MFT-10 - 9	larger grain -Core	48.9	0.6	0.6	25.7	5.1	17.6	0.3	0.0	0.0	0.8	99.6	39	16	45
MFT-10 - 10	larger grain - Rim	48.9	0.9	0.6	25.4	4.9	18.4	0.3	0.0	0.0	0.9	100.2	41	15	44
MFT-11 - 1	larger grain -Core	51.1	0.3	0.8	18.0	10.0	19.2	0.3	0.0	0.0	0.6	100.3	41	30	30
MFT-11 - 2	larger grain - Rim	49.2	0.3	0.6	25.4	5.2	18.5	0.2	0.0	0.0	0.8	100.2	41	16	44
MFT-11 - 4	larger grain - Rim	49.8	0.2	0.5	25.5	5.0	18.7	0.2	0.0	0.0	0.9	100.9	41	15	44
MFT-12 - 1	larger grain -Core	49.2	0.3	0.6	25.5	5.7	17.7	0.2	0.0	0.0	0.9	100.2	39	17	44
MFT-12 - 2	larger grain - Rim	49.7	0.3	0.7	24.5	6.0	18.4	0.3	0.0	0.0	0.8	100.6	40	18	42
MFT-13 - 1	larger grain -Core	49.6	0.8	0.5	23.0	6.7	18.0	0.2	0.0	0.0	0.9	99.7	40	21	40
MFT-13 - 2	larger grain - Rim	49.5	1.0	0.5	22.7	6.8	18.5	0.3	0.0	0.0	0.8	100.1	40	21	39
MFT-13 - 3	larger grain -Core	49.7	0.8	0.6	23.5	6.4	18.1	0.3	0.0	0.0	0.8	100.2	40	20	40
MFT-15 - 2	larger grain - Rim	49.7	0.2	0.6	23.0	6.8	18.5	0.2	0.0	0.0	0.8	99.8	40	21	39
MFT-16 - 2	larger grain - Rim	49.3	0.3	0.6	24.5	6.5	17.7	0.2	0.0	0.0	0.8	99.9	39	20	42
MFt-17 - 3	larger grain -Core	49.3	0.2	0.5	24.8	6.2	17.7	0.2	0.0	0.0	0.9	99.7	39	19	42
MFT-18 - 1	larger grain -Core	49.7	0.2	0.5	25.0	5.7	18.4	0.2	0.0	0.0	0.8	100.6	40	17	43
MFT-18 - 2	larger grain - Rim	49.5	0.2	0.6	24.2	6.3	18.3	0.3	0.0	0.0	0.9	100.3	40	19	41
MFT-19 - 1	larger grain -Core	49.7	0.2	0.5	24.5	6.0	18.3	0.3	0.0	0.0	0.9	100.3	40	18	42
MFT-19 - 2	larger grain - Rim	49.3	0.2	0.6	24.5	5.9	18.5	0.3	0.0	0.0	0.9	100.2	40	18	42
MFT-21 - 1	larger grain -Core	51.1	0.2	0.5	20.0	9.0	19.2	0.2	0.0	0.0	0.7	100.9	41	26	33
MFT-21 - 2	larger grain - Rim	49.7	0.3	0.6	25.5	5.3	18.4	0.2	0.0	0.0	0.8	100.7	40	16	44
MFT-24 - 1	larger grain - Rim	49.3	1.0	0.5	24.3	5.7	18.2	0.2	0.0	0.0	0.8	100.1	40	18	42
MFT-24 - 2	larger grain -Core	48.9	0.9	0.6	24.1	5.7	18.2	0.3	0.0	0.0	0.8	99.6	41	18	42
MFT-24 - 3	larger grain -Core	49.2	0.7	0.5	24.0	6.4	17.7	0.3	0.0	0.0	0.8	99.6	39	20	41
MFT-24 - 4	larger grain -Core	48.6	1.1	0.6	26.3	4.4	17.7	0.3	0.0	0.0	0.9	100.0	40	14	46
MFT-24 - 5	larger grain - Rim	48.9	1.0	0.5	24.3	5.6	18.3	0.2	0.0	0.0	0.8	99.5	41	17	42
MFT-25 - 2	larger grain - Rim	49.4	0.2	0.6	24.7	6.3	17.5	0.2	0.0	0.0	0.9	99.8	38	19	42
MFt-26 - 1	larger grain -Core	49.3	0.2	0.5	25.2	5.3	18.3	0.3	0.0	0.0	0.9	100.0	40	16	44
MFt-26 - 2	larger grain - Rim	49.4	0.2	0.5	23.9	6.2	18.0	0.2	0.0	0.0	0.8	99.3	40	19	41
MFT-27 - 2	larger grain - Rim	49.2	0.2	0.5	23.2	6.7	18.2	0.2	0.0	0.0	0.9	99.1	40	20	40
MFT-28 - 2	larger grain - Rim	50.3	0.2	0.5	22.9	6.9	18.7	0.2	0.0	0.0	0.8	100.5	40	21	39
MFT-29 - 1	larger grain -Core	51.7	0.2	0.7	15.3	11.4	19.9	0.3	0.0	0.0	0.5	99.9	42	33	25
MFT-34 - 2	larger grain - Rim	48.8	0.2	0.5	25.2	5.3	18.1	0.2	0.0	0.0	0.9	99.1	40	16	44
MFT-36 - 1	larger grain -Core	50.5	0.2	0.6	19.2	9.3	18.9	0.2	0.0	0.0	0.7	99.7	40	28	32
MFT-36 - 2	larger grain - Rim	49.7	0.2	0.6	24.1	5.9	18.2	0.2	0.0	0.0	0.9	99.7	40	18	42
MFT-37 - 2	larger grain - Rim	49.6	0.2	0.5	24.5	6.1	18.5	0.2	0.0	0.0	0.9	100.4	40	18	41
MFT-41 - 2	larger grain - Rim	48.9	0.3	0.6	25.9	4.8	18.1	0.2	0.0	0.0	0.8	99.6	40	15	45
MFT-43 - 1	larger grain -Core	48.8	0.3	0.7	24.5	5.9	17.9	0.3	0.0	0.0	0.8	99.2	40	18	42
MFT-43 - 2	larger grain - Rim	49.4	0.2	0.5	24.5	5.8	18.3	0.2	0.0	0.0	0.8	99.8	40	18	42
MFT-46 - 1	larger grain -Core	50.2	0.2	0.8	18.3	9.8	19.2	0.2	0.0	0.0	0.7	99.4	41	29	30
MFT-46 - 2	larger grain - Rim	49.1	0.2	0.6	24.4	6.1	18.4	0.3	0.0	0.0	0.8	99.9	40	18	41
MFT-47 - 2	larger grain - Rim	49.3	0.3	0.6	26.0	4.9	18.3	0.2	0.0	0.0	0.8	100.4	40	15	45
MFT-49 - 3	larger grain - Rim	50.1	0.2	0.5	23.1	6.8	18.4	0.3	0.0	0.0	0.9	100.1	40	21	39
MFT-50 - 2	larger grain - Rim	49.5	0.2	0.6	24.7	5.8	18.4	0.2	0.0	0.0	0.8	100.1	40	18	42
MFT-52 - 1	larger grain -Core	49.6	0.2	0.5	24.7	6.8	17.0	0.2	0.0	0.0	0.9	100.1	37	21	42
MFT-52 - 2	larger grain - Rim	49.2	0.2	0.6	24.6	6.3	17.8	0.3	0.0	0.0	0.9	99.8	39	19	42
MFT-53 - 1	larger grain -Core	50.5	0.2	0.7	17.8	10.3	19.5	0.2	0.0	0.0	0.6	99.7	41	30	29
MFT-53 - 2	larger grain - Rim	49.5	0.2	0.5	23.3	6.8	18.3	0.2	0.0	0.0	0.8	99.7	40	21	40
MFT-55 - 1	larger grain -Core	49.5	0.2	0.6	23.2	6.7	18.5	0.3	0.0	0.0	0.8	99.7	40	20	39
MFT-55 - 2	larger grain - Rim	49.4	0.2	0.5	26.6	6.5	16.0	0.2	0.0	0.0	1.0	100.3	35	20	45
MFT-57 - 1	larger grain -Core	49.3	0.3	0.7	24.5	6.3	17.9	0.2	0.0	0.0	0.9	100.1	39	19	42
MFT-57 - 2	larger grain - Rim	49.7	0.2	0.5	23.4	6.7	18.7	0.3	0.0	0.0	0.8	100.3	40	20	39
MFT-58 - 2	larger grain - Rim	49.6	0.2	0.6	24.3	5.8	18.8	0.3	0.0	0.0	0.8	100.3	41	18	41
MFT-61 - 1	larger grain -Core	50.2	0.2	0.7	18.0	10.0	19.4	0.2	0.0	0.0	0.6	99.3	41	29	30
MFT-61 - 2	larger grain - Rim	49.3	0.2	0.5	24.2	6.0	18.5	0.2	0.0	0.0	0.9	99.8	40	18	41
MFT-63 - 2	larger grain - Rim	49.6	0.2	0.4	22.9	6.9	18.6	0.2	0.0	0.0	0.9	99.5	40	21	39
MFT-68 - 1	larger grain -Core	49.2	0.2	0.5	24.3	6.0	18.0	0.2	0.0	0.0	0.9	99.3	40	18	42
MFT-68 - 2	larger grain - Rim	49.1	0.2	0.5	25.2	5.5	17.7	0.2	0.0	0.0	0.8	99.3	39	17	44
MFT-69 - 1	larger grain -Core	48.3	0.4	0.8	26.2	4.5	17.9	0.3	0.0	0.0	0.8	99.2	40	14	46
MFT-69 - 2	larger grain - Rim	48.9	0.3	0.7	25.1	5.3	18.1	0.3	0.0	0.0	0.9	99.6	40	16	43

Table A1.11: Trace elements - clinopyroxene

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
mft-cpx-1 - 3	smaller grain - Rim	10.6	11.0	1933	35036	2852	233733	20.0	b.d.l.	132000	186.4	1190.2	15.1	5890	183881	0.1	4.5	256.4	32.3	0.8	0.1	0.2	40.8	160.9	29.8	156.3	49.5	1.3	53.8	9.3	57.8	11.2
mft-cpx-2 - 1	smaller grain - Rim	11.0	11.1	1906	35970	2852	233733	19.0	2.2	135208	184.3	1141.1	18.4	5908	184980	0.1	3.8	263.1	30.2	0.5	0.0	2.6	39.2	157.4	29.0	151.8	50.1	1.3	54.8	9.5	59.2	11.5
mft-cpx-3 - 1	smaller grain - Rim	10.5	10.6	1856	36418	2805	233733	15.2	b.d.l.	131630	175.4	1076.7	15.9	5770	218480	b.d.l.	3.4	263.3	28.1	0.3	0.0	b.d.l.	37.3	147.9	27.8	150.5	48.2	1.1	54.0	9.5	58.6	11.4
mft-cpx-3 - 2	smaller grain - Core	10.9	10.6	1858	32717	2763	233733	23.1	4.2	130688	190.1	1137.1	19.8	5789	225878	b.d.l.	3.8	256.4	29.8	0.4	b.d.l.	b.d.l.	38.6	154.3	28.7	153.2	49.1	1.3	54.4	9.2	57.1	11.3
mft-cpx-3 - 3	smaller grain - Rim	10.0	10.6	1822	37015	2775	233733	11.9	b.d.l.	131008	176.4	1076.3	15.8	5776	220580	b.d.l.	3.5	263.1	27.0	0.2	b.d.l.	b.d.l.	36.2	146.7	27.7	147.4	49.2	1.2	54.1	9.5	59.4	11.5
mft-cpx-4 - 2	smaller grain - Core	11.9	11.1	1845	31345	3178	233733	23.5	b.d.l.	136185	159.2	1402.4	20.9	5940	241325	b.d.l.	7.0	234.8	38.3	0.3	b.d.l.	b.d.l.	48.7	185.9	33.8	179.6	52.8	2.1	55.2	9.0	53.6	10.5
mft-cpx-4 - 3	smaller grain - Rim	10.3	11.1	1900	28163	3212	233733	20.4	b.d.l.	131996	177.7	1591.5	20.0	5950	248559	0.1	8.4	229.6	47.2	0.8	b.d.l.	0.2	51.1	195.4	35.3	186.7	53.0	2.4	53.7	8.8	53.3	9.9
mft-cpx-5 - 2	smaller grain - Core	11.2	10.7	1872	30661	2986	233733	12.8	6.8	135592	180.1	1306.9	17.1	5836	245901	b.d.l.	5.4	244.2	36.3	0.2	b.d.l.	b.d.l.	44.0	172.4	32.0	169.3	51.5	1.7	54.9	9.2	55.9	10.7
mft-cpx-5 - 3	smaller grain - Rim	11.6	10.9	1869	33520	2850	233733	15.1	b.d.l.	135639	175.5	1167.0	16.5	5811	241455	b.d.l.	4.3	255.4	30.5	0.3	b.d.l.	b.d.l.	40.6	163.2	30.6	159.3	49.7	1.4	53.6	9.3	57.5	11.2
mft-cpx-6 - 3	smaller grain - Rim	10.1	10.7	1796	41365	2529	233733	15.9	b.d.l.	130744	157.2	888.0	6.3	5847	226174	b.d.l.	1.6	282.0	22.1	0.2	b.d.l.	b.d.l.	31.3	128.8	24.9	131.7	46.7	0.7	53.5	9.8	62.1	12.3
mft-cpx-6 - 4	smaller grain - Core	9.9	11.0	1812	41702	2519	233733	19.9	b.d.l.	131884	154.4	885.5	6.4	5909	230082	b.d.l.	1.5	278.9	20.9	0.1	b.d.l.	b.d.l.	30.9	127.8	24.4	134.5	46.3	0.7	54.0	9.7	62.6	12.3
mft-cpx-8 - 4	smaller grain - Rim	12.2	11.1	1758	39462	2447	233733	18.5	b.d.l.	129474	124.7	869.9	4.6	6097	237546	b.d.l.	1.5	283.0	20.6	0.2	b.d.l.	b.d.l.	29.7	124.0	23.9	129.9	46.0	0.8	52.0	9.6	61.7	12.2
mft-cpx-9 - 1	smaller grain - Rim	10.3	11.0	1873	32494	3009	233733	15.1	b.d.l.	134721	172.2	1242.3	16.7	5819	259632	b.d.l.	5.3	253.7	34.8	0.3	b.d.l.	b.d.l.	43.6	168.8	31.0	167.3	51.6	1.6	55.7	9.5	58.1	11.2
mft-cpx-9 - 2	smaller grain - Core	10.9	11.3	1861	30645	3184	233733	17.4	b.d.l.	133832	181.2	1415.5	18.1	5978	266108	b.d.l.	6.5	245.4	40.8	0.3	b.d.l.	b.d.l.	50.0	191.6	35.0	185.6	54.5	2.0	56.5	9.3	55.7	11.0
mft-cpx-9 - 3	smaller grain - Rim	11.0	11.7	1847	35387	3110	233733	12.9	9.4	127261	173.1	1274.4	18.0	6119	257241	0.1	4.4	274.3	35.8	0.2	b.d.l.	b.d.l.	42.2	166.7	31.8	172.6	55.0	1.7	58.4	9.9	62.2	12.2
mft-cpx-12 - 1	smaller grain - Rim	10.7	10.6	1848	37101	2834	233733	20.6	3.5	133424	186.9	1063.2	17.4	5800	253627	0.1	3.4	272.7	27.3	0.2	b.d.l.	b.d.l.	37.3	148.2	27.7	149.6	49.7	1.2	54.9	9.8	60.6	11.9
mft-cpx-12 - 2	smaller grain - Core	10.8	10.5	1854	34061	2915	233733	30.1	6.1	132973	187.6	1200.1	18.0	5708	258295	0.1	4.8	262.4	33.8	0.9	0.1	1.0	42.7	167.0	30.4	162.3	50.5	1.4	54.4	9.5	58.1	11.6
mft-cpx-12 - 4	smaller grain - Rim	10.7	10.7	1809	35892	2815	233733	14.0	b.d.l.	135160	149.7	1088.3	12.1	5786	256167	b.d.l.	3.6	271.2	28.4	0.2	b.d.l.	b.d.l.	38.8	155.5	28.8	153.0	51.2	1.3	55.4	9.9	61.4	11.8
mft-cpx-13 - 1	smaller grain - Rim	10.7	10.7	1799	40474	2560	233733	14.3	b.d.l.	131267	161.1	881.8	6.3	5681	244662	b.d.l.	1.9	279.8	22.6	0.2	b.d.l.	b.d.l.	32.9	134.1	25.3	135.2	46.6	0.8	53.5	9.7	63.2	12.1
mft-cpx-13 - 2	smaller grain - Core	10.9	10.8	1863	40076	2858	233733	33.1	9.0	129579	164.7	912.3	7.1	5883	247675	0.2	1.9	296.9	32.3	3.6	0.4	1.2	34.2	142.6	25.8	137.7	48.6	0.8	56.4	10.2	65.8	12.9
mft-cpx-13 - 3	smaller grain - Rim	10.7	10.6	1776	39831	2550	233733	15.6	b.d.l.	132428	158.9	911.4	6.5	5758	245059	b.d.l.	1.9	279.1	22.7	0.2	b.d.l.	b.d.l.	32.8	135.3	25.6	136.2	47.7	0.8	53.5	9.8	62.6	12.2
mft-cpx-14 - 2	smaller grain - Core	11.4	11.0	1839	35935	3061	233733	19.3	b.d.l.	127915	172.7	1168.8	23.5	5855	260596	b.d.l.	4.9	250.5	34.0	0.3	0.0	0.1	42.2	170.3	31.4	168.4	51.8	1.6	54.1	9.1	56.8	10.9
mft-cpx-14 - 3	smaller grain - Rim	12.5	11.7	1875	35237	3092	233733	26.0	5.5	127127	194.6	1223.8	18.9	5961	267837	b.d.l.	4.9	259.9	34.8	0.2	b.d.l.	b.d.l.	40.2	162.9	30.6	163.6	52.1	1.6	54.8	9.5	58.0	11.5
mft-cpx-16 - 1	smaller grain - Rim	11.7	11.2	1853	31284	3140	233733	23.5	8.6	131343	165.8	1119.2	16.3	5558	317516	0.1	5.5	248.1	34.0	1.5	b.d.l.	12.7	42.2	163.9	30.2	157.3	49.8	1.5	53.4	9.0	57.0	11.1
mft-cpx-16 - 2	smaller grain - Core	12.0	10.7	1863	31588	2948	233733	11.1	b.d.l.	136399	168.6	1141.5	16.6	5778	297129	b.d.l.	4.7	249.7	33.7	0.6	b.d.l.	b.d.l.	42.7	170.0	30.8	162.7	51.2	1.5	54.8	9.1	58.9	11.1
mft-cpx-17 - 1	smaller grain - Rim	10.6	10.4	1842	39703	2720	233733	13.9	b.d.l.	133307	175.8	902.6	7.4	5672	273705	0.1	2.0	292.7	24.6	0.2	b.d.l.	b.d.l.	34.0	141.0	26.6	142.1	50.0	0.8	57.3	10.3	64.9	12.8
mft-cpx-17 - 2	smaller grain - Core	11.0	10.1	1836	40212	2660	233733	18.7	b.d.l.	132679	182.9	874.0	6.1	5653	280632	b.d.l.	1.5	301.5	24.1	0.2	b.d.l.	b.d.l.	32.9	136.2	26.1	138.5	50.5	0.7	58.0	10.3	67.4	13.3
mft-cpx-17 - 3	smaller grain - Rim	11.0	10.4	1890	40485	2757	233733	17.3	4.6	133757	178.2	887.9	4.9	5810	294114	b.d.l.	1.4	324.3	25.4	0.2	b.d.l.	b.d.l.	34.6	142.5	27.3	145.7	52.1	0.6	61.3	11.3	72.0	14.3
mft-cpx-18 - 4	smaller grain - Rim	12.2	10.8	1847	42150	2486	233733	12.7	b.d.l.	130024	153.3	800.6	5.2	5901	329248	b.d.l.	1.3	288.1	20.0	0.2	b.d.l.	b.d.l.	29.1	123.2	23.4	125.9	45.8	0.6	53.8	9.8	63.8	12.8
mft-cpx-19 - 1	smaller grain - Rim	11.0	10.8	1847	34061	2980	233733	13.8	b.d.l.	131139	174.8	1268.8	15.2	5601	391806	b.d.l.	5.8	236.6	34.9	0.2	b.d.l.	b.d.l.	42.0	165.4	30.3	160.4	48.7	1.7	51.8	8.8	54.1	10.6
mft-cpx-20 - 1	smaller grain - Rim	12.7	11.3	1846	42557	2606	233733	19.5	b.d.l.	131208	164.4	888.1	6.5	5913	435033	b.d.l.	1.7	289.1	22.7	0.1	b.d.l.	b.d.l.	31.5	131.1	24.8	134.8	47.9	0.7	53.6	10.1	64.2	12.7
mft-cpx-20 - 2	smaller grain - Core	11.3	11.8	1816	40710	2685	233733	10.9	b.d.l.	125653	126.9	960.7	5.2	6152	457975	b.d.l.	1.8	293.9	25.3	0.7	0.0	1.6	33.6	140.9	26.4	143.0	48.1	0.8	56.3	10.0	64.9	12.7
mft-cpx-20 - 3	smaller grain - Rim	11.2	11.1	1844	41446	2632	233733	22.4	b.d.l.	126593	148.2	890.0	5.7	6008	481226	0.1	3.8	290.0	23.5	0.6	0.1	43.9	31.4	130.5	24.9	134.2	47.2	0.8	55.0	10.1	64.0	12.7
mft-cpx-21 - 1	smaller grain - Rim	12.0	11.0	1832	37903	2916	233733	17.0	b.d.l.	127873	161.0	1106.9	13.4	5884	518271	b.d.l.	3.8	267.7	31.2	0.2	b.d.l.	b.d.l.	39.5	159.4	30.0	159.9	50.5	1.4	56.4	9.5	60.1	12.0
mft-cpx-21 - 2	smaller grain - Core	13.0	11.6	1810	42396	2996	233733	20.8	b.d.l.	128236	172.6	1140.1	15.8	5921	540722	b.d.l.	3.5	280.6	31.1	0.2	b.d.l.	b.d.l.	41.7	165.5	31.2	168.9	52.7	1.3	58.0	10.0	63.2	12.4
mft-cpx-21 - 3	smaller grain - Core	12.0	10.9	1811	38423	2826	233733	13.2	b.d.l.	131826	172.3	1026.5	10.2	5720	538871	0.1	2.9	261.9	28.4	0.6	0.0	b.d.l.	38.4	153.2	28.4	151.5	49.5	1.2	55.6	9.5	59.9	11.8
mft-cpx-21 - 4	smaller grain - Rim	11.0	11.2	1881	36278	2928	233733	21.5	3.9	129850	167.8	1139.2	13.3	5965	543481	b.d.l.	4.2	271.4	31.2	0.2	b.d.l.	b.d.l.	39.5	158.8	29.9	160.1	50.8	1.4	57.4	9.7	61.8	12.0
mft-cpx-24 - 1	smaller grain - Rim	12.3	10.8	1849	35807	2756	233733	15.5	b.d.l.	131546	190.7	1061.6	16.2	5770	380203	b.d.l.	3.5	265.0	27.6	0.2	b.d.l.	b.d.l.	37.6	150.3	28.0	148.8	48.9	1.3	54.3	9.6	60.5	11.7
mft-cpx-25 - 2	smaller grain - Core	11.0	11.7	1841	36777	3561	233733	28.7	4.1	124365	145.7	1358.5	23.5	5956	331972	0.1	5.8	264.4	42.2	1.9	0.1	0.4	48.3	189.1	35.0	185.8	55.5	2.0	59.6	9.8	60.2	11.6
mft-cpx-25 - 3	smaller grain - Rim	12.1	11.9	1863	36961	3622	233733	23.2	b.d.l.	126575	136.4	1404.5	23.6	5941	324559	b.d.l.	6.2	264.2	42.6	0.4	b.d.l.	b.d.l.	51.4	197.4	36.0	192.0	57.5	2.2	58.9	9.8	59.9	11.6
mft-cpx-27 - 1	smaller grain - Rim	12.0	11.2	1833	28826	2951	233733	26.1	7.5	130883	164.7	1258.1	16.6	5732	291200	b.d.l.	5.1	242.4	35.1	0.2	b.d.l.	b.d.l.	44.7	172.9	31.7	165.5	51.3	1.7	53.7	9.1	55.8	10.7
mft-cpx-27 - 2	smaller grain - Core	11.1	11.4	1878	30836	2832	233733	26.6	b.d.l.	130876	163.6	1132.2	15.7	5729	279700	0.1	4.1	250.2	30.4	0.2	b.d.l.	b.d.l.	40.2	157.3	29.3	152.6	50.4	1.3	52.7	9.2	56.9	11.3
mft-cpx-27 - 3	smaller grain - Rim	11.4	11.4	1830	27500	3029	233733	17.3	b.d.l.	132737	168.4	1444.2	18.5	5827	278130	b.d.l.	7.2	231.0	38.8	0.2	b.d.l.	b.d.l.	49.2	187.9	34.0	177.1	53.4	2.1	53.6	8.9	53.1	10.3
mft-cpx-28 - 2	smaller grain - Core	10.4	10.9	1886	31013	2964	233733	22.0	b.d.l.	132705	190.4	1184.5	19.3	5871	258370	b.d.l.	3.8	255.2	31.6	0.2	b.d.l.	b.d.l.	40.1	158.7	29.8	158.1	50.8	1.3	54.2	9.4	57.7	11.3
mft-cpx-28 - 3	smaller grain - Rim	11.5	11.1	1891	23797	3218	233733	26.5	b.d.l.	136189	173.2	1645.8	20.4	6059	269563	b.d.l.	8.8	226.1	49.4	0.3	b.d.l.	b.d.l.	55.6	206.9	37.5	193.5	56.2	2.5	54.7	8.9	52.4	10.2
mft-cpx-29 - 2	smaller grain - Core	10.8	10.9	1885	30801	2981	233733	14.6	b.d.l.	131149	160.7	1256.1	14.4	5857	223077	b.d.l.	4.5	249.9	34.3	0.2	b.d.l.	b.d.l.	42.4	167.0	31.0	161.9	51.6	1.5	55.0	9.5	56.7	10.8
mft-cpx-29 - 3	smaller grain - Rim	9.9	10.2	1797	38321	2628	233733	12.1	b.d.l.	129475	170.8	903.3	7.0	5653	200155	0.1	2.0	279.1	23.0	0.1	b.d.l.	b.d.l.	32.7	134.3	25.6	135.5	48.9	0.8	55.6	10.1	62.6	12.4
mft-cpx-30 - 1	smaller grain - Rim	12.6	11.4	1873	31947	2980	233733	21.9	b.d.l.	135201	169.7	1218.0	15.7	5928	222788	0.2	4.7	257.6	34.5	1.8	0.2	0.3	43.1	169.2	31.2	163.2	51.6	1.5	55.1	9.5	58.1	11.3
mft-cpx-30 - 2	smaller grain - Core	11.1	10.9	1857	33859	2766	233733	19.1	b.d.l.	131102	173.6	1045.5	14.1	5681	209227	0.1	3.4	262.7	27.3	0.2	b.d.l.	b.d.l.	37.6	149.9	28.1	146.5	48.9	1.0	53.3	9.7	59.7	11.6
mft-cpx-30 - 3	smaller grain - Rim	11.1	11.2	1883	29713	2985	233733	14.7	b.d.l.	132053	178.3	1240.8	17.3	5766	216446	b.d.l.	5.3	252.0	35.2	0.3	b.d.l.	b.d.l.	42.9	167.8	31.0	162.6	51.9	1.6	55.1	9.2	57.2	11.3
mft-cpx-31 - 1	smaller grain - Rim	13.2	11.7	1907	32920	3083	233733	28.5	b.d.l.	127678	155.0	1175.1	11.7	6015	212214	0.1	3.4	278.3	37.4	1.5	0.0	0.2	40.7	164.2	30.5	159.9	53.7	1.2	58.2	10.1	63.2	12.2
mft-cpx-33 - 1	smaller grain - Rim	11.1	10.9	1837	32008	2843	233733	28.3	b.d.l.	129125	159.1	1081.3	5.8	5777	206030	b.d.l.	4.1	252.9	30.0	0.3	b.d.l.	b.d.l.	39.1	156.0	29.1	152.8	50.8	1.4	54.4	9.4	57.4	11.3
MFT-2 - 1	larger grain -Core	11.9	11.7	1935	45605	3254	233733	23.7	1.4	132803	210.0	1458.0	19.0	6198	211063	0.0	4.8	291.7	43.2	0.3	b.d.l.	b.d.l.	45.1	177.6	33.7	182.6	57.0	1.6	62.1	10.7	66.3	13.0
MFT-4 - 5	larger grain - Rim	11.7	11.1	1973	39822	2880	233733	15.3	b.d.l.	137357	178.1	1283.8	11.5	6244	217692	0.0	5.0	280.5	35.4	0.2	b.d.l.	b.d.l.	43.1	170.7	32.2	172.6	54.8	1.6	59.7	10.4	64.3	12.5

Table A1.11: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
30.2	4.1	29.3	4.6	1.7	0.1	1.2	0.1	0.0
30.7	4.2	29.4	4.8	1.7	0.0	1.2	0.1	0.0
30.8	4.2	28.6	4.6	1.6	0.0	1.1	0.1	0.0
30.0	4.1	28.8	4.7	1.7	0.0	1.1	0.1	0.0
30.8	4.2	29.5	4.5	1.5	0.0	1.0	0.1	0.0
27.6	3.8	26.2	4.4	2.0	0.0	1.0	0.1	0.0
26.8	3.7	26.4	4.4	2.3	0.0	1.3	0.1	0.0
29.2	4.1	28.2	4.7	1.9	0.0	1.1	0.1	0.0
29.7	4.1	28.5	4.7	1.7	0.0	1.2	0.1	0.0
33.4	4.5	30.5	4.8	1.4	b.d.l.	1.0	0.1	0.0
33.1	4.3	30.8	4.7	1.3	0.0	0.9	0.1	0.0
33.7	4.5	30.9	4.8	1.2	0.0	0.9	0.1	0.0
30.6	4.1	29.2	4.8	1.7	0.0	1.1	0.1	0.0
28.8	4.0	28.4	4.7	2.0	0.0	1.0	0.1	0.0
32.8	4.3	30.5	4.7	2.1	0.0	0.9	0.1	0.0
32.3	4.3	29.9	4.8	1.6	0.0	1.0	0.1	0.0
31.1	4.2	28.9	4.7	1.9	0.0	1.6	0.2	0.0
31.7	4.4	29.7	4.7	1.6	0.0	1.1	0.1	0.0
33.0	4.5	30.2	4.8	1.5	b.d.l.	1.0	0.1	0.0
35.5	4.6	31.4	4.9	1.8	0.3	2.1	0.7	0.0
33.1	4.3	30.6	4.7	1.4	0.0	1.0	0.1	0.0
29.6	4.0	28.2	4.4	1.7	0.0	1.3	0.1	0.0
30.5	4.2	28.4	4.6	1.9	0.0	0.9	0.1	0.0
29.3	4.0	28.2	4.6	2.0	0.1	8.8	0.4	0.0
30.1	4.1	28.3	4.7	1.8	0.0	1.2	0.2	0.0
34.3	4.5	30.8	5.1	1.6	0.0	1.0	0.1	0.0
35.5	4.7	31.9	5.1	1.7	0.0	1.1	0.1	0.0
37.9	5.1	34.1	5.4	1.9	0.0	1.2	0.1	0.0
33.9	4.4	30.8	4.8	1.2	0.0	1.0	0.1	0.0
27.7	3.8	26.1	4.2	1.7	0.0	1.0	0.1	0.0
34.0	4.5	30.5	4.9	1.4	0.0	1.0	0.1	0.0
34.2	4.8	30.6	4.8	1.6	0.0	1.1	0.1	0.0
33.6	4.6	30.8	5.0	1.6	0.0	1.3	0.1	0.0
30.8	4.2	28.5	4.8	1.7	0.0	1.0	0.1	0.0
32.1	4.4	29.3	4.6	1.7	0.0	0.9	0.1	0.0
30.4	4.1	27.6	4.6	1.5	0.0	1.1	0.1	0.0
32.2	4.4	30.7	4.9	1.8	0.0	1.0	0.1	0.0
31.4	4.2	28.7	4.7	1.5	b.d.l.	1.0	0.1	0.0
31.0	4.1	28.4	4.5	2.3	0.2	1.2	0.4	0.0
30.8	4.2	28.2	4.5	2.0	0.0	0.9	0.1	0.0
28.9	3.9	27.5	4.6	1.9	b.d.l.	1.0	0.1	0.0
29.5	4.1	28.5	4.8	1.7	0.0	1.0	0.1	0.0
27.8	3.7	26.3	4.4	2.0	b.d.l.	1.0	0.1	0.0
30.0	4.1	29.1	4.6	1.8	b.d.l.	1.0	0.1	0.0
26.9	3.7	26.4	4.6	2.3	0.0	1.1	0.1	0.0
29.4	4.0	28.3	4.6	1.9	b.d.l.	1.1	0.1	0.0
33.1	4.5	30.4	4.7	1.7	b.d.l.	1.0	0.1	0.0
30.4	4.2	29.0	4.8	1.8	0.1	1.4	0.2	0.0
31.3	4.2	29.4	4.7	1.5	b.d.l.	1.1	0.1	0.0
30.0	4.1	29.1	4.8	2.0	0.0	1.1	0.1	0.0
33.2	4.3	30.7	4.9	2.4	0.1	1.6	0.2	0.0
30.5	4.0	28.8	4.7	1.6	0.0	1.1	0.1	0.0
34.6	4.7	31.5	5.0	2.5	0.0	0.9	0.1	0.0
33.5	4.5	31.8	5.2	2.0	0.0	1.1	0.1	0.0

Table A1: Trace elements - clinopyroxene continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-4 - 6	larger grain - Rim	10.9	10.6	1308	43367	2256	233733	14.9	6.5	93947	108.7	1103.2	7.2	7974	264622	0.1	2.9	221.4	22.6	0.4	0.0	0.2	27.2	109.0	20.6	111.1	36.6	1.0	42.2	7.5	48.6	9.8
MFT-5 - 1	larger grain - Rim	11.8	11.7	1821	47240	3217	233733	12.7	14.9	132203	163.1	1314.4	22.0	6229	209159	0.1	6.3	247.8	38.3	0.2	b.d.l.	0.1	43.1	173.4	32.3	171.7	51.9	2.0	55.5	9.3	57.8	11.1
MFT-5 - 3	larger grain -Core	12.7	12.0	1853	45862	3500	233733	14.5	b.d.l.	128822	178.7	1592.8	21.6	6436	215670	0.0	8.4	247.6	48.0	0.3	b.d.l.	b.d.l.	45.1	175.1	32.4	172.4	51.4	2.4	54.8	9.2	55.8	11.0
MFT-8 - 2	larger grain - Rim	11.0	10.7	1918	49038	2425	233733	13.4	b.d.l.	137057	176.7	866.1	5.4	6174	191790	0.0	1.3	304.4	21.9	0.2	b.d.l.	b.d.l.	30.8	127.7	24.5	132.1	48.2	0.6	57.4	10.5	68.4	13.4
MFT-8 - 3	larger grain -Core	11.9	11.6	1965	37926	3193	233733	12.8	b.d.l.	136351	167.1	1416.9	16.7	6106	210745	b.d.l.	5.9	269.6	41.5	0.3	b.d.l.	b.d.l.	49.8	193.1	35.8	189.7	58.0	1.8	61.5	10.2	63.0	12.0
MFT-9 - 1	larger grain -Core	10.7	10.5	1899	52656	2616	233733	13.3	b.d.l.	133151	174.3	963.2	7.5	5895	184117	0.0	1.7	300.8	24.5	0.2	b.d.l.	b.d.l.	34.0	139.7	26.8	143.1	50.3	0.8	58.5	10.6	67.6	13.4
MFT-9 - 2	larger grain - Rim	10.8	10.4	1913	47346	2642	233733	10.0	b.d.l.	133865	166.9	994.8	6.9	6103	191687	0.0	1.9	295.4	26.1	0.2	b.d.l.	b.d.l.	34.3	140.1	26.7	141.9	50.3	0.9	57.6	10.6	66.8	13.0
MFT-9 - 3	larger grain - Rim	10.2	10.0	1965	67230	3119	233733	8.2	b.d.l.	138198	163.1	1022.1	20.9	4566	147727	0.0	2.9	255.1	26.1	0.1	b.d.l.	b.d.l.	35.0	143.3	27.4	145.7	47.3	1.1	53.8	9.1	56.8	11.1
MFT-10 - 1	larger grain - Rim	12.2	11.9	1874	49341	3064	233733	10.0	b.d.l.	130520	193.3	1257.0	28.8	6054	195616	0.0	4.4	270.1	35.8	0.2	b.d.l.	b.d.l.	44.5	174.6	32.5	173.9	53.6	1.6	58.0	9.8	60.9	11.8
MFT-10 - 3	larger grain -Core	12.1	11.6	1979	44642	3273	233733	9.0	2.5	133546	175.1	1386.1	37.9	5922	195467	0.0	7.1	251.1	39.8	0.2	b.d.l.	b.d.l.	44.9	178.1	33.2	174.9	53.7	2.0	55.3	9.2	56.6	11.1
MFT-11 - 2	larger grain - Rim	11.4	11.5	2006	38787	3232	233733	11.8	6.4	135960	151.9	1679.2	50.9	6156	205975	0.1	8.3	246.7	43.5	0.3	0.0	0.3	45.3	177.6	32.7	169.7	52.4	2.1	54.8	9.1	56.0	10.9
MFT-11 - 4	larger grain - Rim	11.0	10.9	1958	35058	2949	233733	13.2	2.2	137705	186.3	1385.9	20.7	6072	207129	0.0	6.2	252.4	38.5	0.3	b.d.l.	0.2	47.7	183.8	33.8	174.8	54.4	1.8	56.2	9.5	58.6	11.2
MFT-13 - 1	larger grain -Core	10.3	10.4	1912	47430	2550	233733	7.8	b.d.l.	136398	176.0	946.0	6.9	6003	186392	b.d.l.	2.0	299.9	24.6	0.2	b.d.l.	b.d.l.	34.9	143.3	27.3	146.9	52.0	0.8	59.6	10.6	68.4	13.3
MFT-13 - 2	larger grain - Rim	10.6	10.3	1894	47092	2417	233733	9.5	b.d.l.	135191	172.2	874.8	5.2	6056	184546	0.0	1.4	300.8	21.8	0.2	b.d.l.	b.d.l.	31.2	129.1	24.7	131.1	48.8	0.6	57.3	10.4	67.3	13.2
MFT-13 - 3	larger grain -Core	10.2	10.4	1899	46657	2606	233733	7.7	1.5	132958	180.9	952.1	7.2	5997	187379	0.0	2.1	298.1	25.2	0.2	b.d.l.	b.d.l.	34.8	142.8	27.5	144.8	51.2	0.9	59.0	10.6	67.6	13.1
MFT-15 - 2	larger grain - Rim	11.0	10.7	1927	42799	2638	233733	13.1	b.d.l.	134261	170.4	1027.7	8.9	6011	190743	0.0	2.6	286.8	27.7	0.2	b.d.l.	b.d.l.	36.7	148.6	28.2	149.4	51.4	1.0	58.2	10.1	65.0	12.6
MFT-15 - 5	larger grain - Rim	11.1	10.7	1903	41889	2732	233733	12.7	b.d.l.	132127	155.8	1134.0	10.3	5979	192019	0.0	3.2	271.0	29.9	0.2	b.d.l.	0.0	38.7	155.3	29.4	154.7	51.6	1.1	57.1	9.9	61.6	12.1
MFT-18 - 1	larger grain -Core	11.3	10.7	1973	35387	2672	233733	12.8	1.8	135637	193.5	1094.4	18.0	5937	201019	0.0	3.7	265.1	29.6	0.2	b.d.l.	b.d.l.	39.6	155.5	29.2	155.2	51.7	1.3	56.3	9.7	60.6	11.8
MFT-18 - 2	larger grain - Rim	11.0	11.1	1952	34351	2831	233733	12.6	b.d.l.	134353	169.7	1185.7	16.0	6238	204367	0.0	4.1	277.2	33.6	0.2	b.d.l.	b.d.l.	42.2	166.9	31.1	162.7	54.5	1.5	59.0	10.0	64.5	12.2
MFT-19 - 2	larger grain - Rim	11.2	10.8	1969	34846	2824	233733	7.5	b.d.l.	134273	177.4	1146.9	15.7	6038	199361	0.0	4.4	263.2	33.2	0.2	b.d.l.	b.d.l.	41.8	164.7	30.5	160.5	53.0	1.5	58.1	9.7	60.8	11.7
MFT-21 - 1	larger grain -Core	11.4	10.7	1952	56551	3296	233733	11.0	b.d.l.	132703	223.0	1140.4	17.1	5153	158344	0.0	1.9	321.7	29.9	0.2	b.d.l.	b.d.l.	38.1	155.2	29.8	162.4	56.2	0.9	66.1	11.3	72.6	14.1
MFT-21 - 2	larger grain - Rim	11.7	10.9	1910	31585	2595	233733	9.1	b.d.l.	127168	120.6	1196.2	10.8	6238	203769	0.0	5.0	258.3	34.1	0.2	b.d.l.	b.d.l.	41.9	164.9	30.8	161.2	52.1	1.7	56.3	9.3	58.8	11.6
MFT-24 - 1	larger grain - Rim	10.9	10.8	1933	37572	2704	233733	15.5	b.d.l.	133787	194.5	1070.5	19.6	6080	193148	0.0	3.5	270.5	28.4	0.2	b.d.l.	0.1	37.9	151.9	28.6	150.2	50.4	1.3	56.0	9.8	61.9	12.0
MFT-24 - 2	larger grain -Core	11.1	10.9	1949	34514	2749	233733	12.8	b.d.l.	132987	209.4	1155.4	23.4	6156	199879	0.0	4.1	262.6	32.2	0.2	b.d.l.	b.d.l.	41.7	164.6	30.5	161.8	52.2	1.4	56.4	9.7	60.6	11.7
MFT-24 - 4	larger grain -Core	11.3	10.6	1929	37706	2657	233733	12.1	b.d.l.	133622	195.7	1056.9	18.8	6078	193071	0.0	3.5	268.1	27.7	0.2	b.d.l.	b.d.l.	37.5	150.2	28.2	150.0	49.8	1.2	55.7	9.7	61.4	11.9
MFT-25 - 2	larger grain - Rim	12.7	12.4	1920	38644	2941	233733	15.4	b.d.l.	128065	174.0	1189.8	22.0	6190	195899	0.0	4.9	257.4	33.6	0.2	b.d.l.	0.5	42.7	169.0	31.8	166.6	51.8	1.6	56.4	9.3	58.6	11.4
MFT-25 - 3	larger grain -Core	12.2	12.1	1803	38977	2887	233733	10.7	b.d.l.	132625	138.7	1136.4	8.6	6276	200218	0.0	3.8	255.9	32.2	0.3	b.d.l.	b.d.l.	43.2	171.7	31.6	165.7	52.1	1.6	55.4	9.5	58.4	11.3
MFT-27 - 2	larger grain - Rim	11.7	11.0	1888	41682	2467	233733	12.0	b.d.l.	130441	166.8	873.9	5.6	6206	182165	0.0	1.4	295.7	22.8	0.2	b.d.l.	b.d.l.	31.0	128.8	24.5	132.4	47.3	0.7	56.5	10.4	66.1	13.0
MFT-28 - 2	larger grain - Rim	11.0	10.6	1951	42452	2597	233733	13.5	b.d.l.	136409	170.6	933.6	7.1	6064	185848	b.d.l.	2.0	299.2	25.3	0.2	b.d.l.	b.d.l.	35.1	145.0	27.6	147.6	51.1	0.8	60.5	10.7	67.5	13.2
MFT-34 - 2	larger grain - Rim	11.3	11.0	1949	38149	2825	233733	16.6	14.8	134465	166.8	1099.2	12.1	6149	187832	0.1	3.5	272.6	32.8	1.0	0.1	1.7	38.4	158.5	28.7	152.9	50.8	1.3	56.7	9.9	62.4	12.1
MFT-36 - 1	larger grain -Core	11.8	11.6	1880	56807	3948	233733	12.9	7.0	136074	136.1	1123.1	60.7	5260	149076	0.1	4.4	266.8	30.0	0.3	0.0	0.5	37.5	157.2	29.8	159.8	51.8	1.7	56.8	9.8	60.4	11.8
MFT-36 - 2	larger grain - Rim	11.4	10.9	1967	36731	2710	233733	13.0	b.d.l.	135277	181.4	1094.3	15.5	6032	184890	0.0	3.8	266.6	29.0	0.2	b.d.l.	b.d.l.	38.7	152.8	28.8	153.1	50.3	1.3	55.9	9.6	60.6	11.7
MFT-43 - 4	larger grain - Rim	11.5	10.8	1957	32068	2819	233733	15.0	b.d.l.	132164	182.3	1238.9	17.5	5957	189165	0.0	5.1	254.4	35.5	0.2	b.d.l.	b.d.l.	43.0	167.2	31.0	164.4	51.8	1.6	55.0	9.4	57.9	11.2
MFT-49 - 3	larger grain - Rim	10.9	10.5	1932	40607	2565	233733	13.2	b.d.l.	134487	166.3	939.8	7.5	5992	188798	0.0	2.0	285.2	25.3	0.2	b.d.l.	b.d.l.	34.3	140.1	26.8	141.5	49.8	0.8	55.7	10.1	62.9	12.4
MFT-50 - 2	larger grain - Rim	11.9	11.2	1959	36773	2713	233733	15.0	b.d.l.	133855	167.3	1074.3	12.5	6190	201204	0.0	3.5	260.9	30.7	0.2	b.d.l.	0.0	40.4	160.2	30.0	160.2	50.9	1.3	55.2	9.4	59.1	11.4
MFT-52 - 1	larger grain -Core	12.2	12.2	1952	41475	2979	233733	15.5	b.d.l.	129966	179.4	1206.6	17.1	6360	197666	0.0	3.4	288.5	34.1	0.3	0.0	0.4	39.3	160.6	30.5	165.1	53.2	1.2	58.6	10.1	63.6	12.6
MFT-52 - 2	larger grain - Rim	12.0	11.6	1944	38756	2820	233733	12.4	b.d.l.	132638	172.7	1121.0	10.5	6212	195928	0.0	3.4	281.0	30.7	0.2	b.d.l.	b.d.l.	39.5	158.2	30.1	159.1	52.3	1.2	57.3	10.1	62.4	12.4
MFT-53 - 1	larger grain -Core	10.7	10.6	1929	39014	2450	233733	10.3	b.d.l.	136601	173.6	919.4	9.5	6113	191548	0.0	2.7	273.8	25.0	0.2	b.d.l.	0.1	34.8	140.1	26.3	139.2	48.2	1.0	54.4	9.6	61.2	12.1
MFT-53 - 2	larger grain - Rim	11.1	10.9	1929	39585	2885	233733	12.3	11.9	134168	159.3	991.7	7.8	6155	189119	0.1	2.5	280.0	27.0	1.6	0.0	2.1	35.2	150.9	26.7	141.8	48.6	0.9	55.4	9.8	62.7	12.2
MFT-54 - 3	larger grain - Rim	10.7	11.1	2029	31493	3213	233733	10.0	b.d.l.	137278	161.3	1397.1	16.5	6162	206279	b.d.l.	5.9	273.2	44.2	0.3	b.d.l.	b.d.l.	50.8	195.2	35.9	190.0	58.8	1.9	61.2	10.2	62.6	12.2
MFT-55 - 1	larger grain -Core	11.4	11.3	1998	37174	2865	233733	13.0	8.9	134998	166.1	1071.5	7.6	6278	198684	0.1	3.1	292.6	32.0	0.5	0.0	0.4	38.9	156.7	29.4	156.0	53.4	1.2	59.8	10.6	66.7	13.2
MFT-55 - 2	larger grain - Rim	11.9	11.7	1825	41160	2998	233733	14.0	b.d.l.	119246	170.1	1172.4	6.6	7221	207023	b.d.l.	1.7	373.7	30.1	0.2	b.d.l.	b.d.l.	32.4	136.2	26.6	147.3	55.5	1.0	68.1	12.6	81.4	16.5
MFT-57 - 1	larger grain -Core	13.6	12.6	2042	37350	3422	233733	19.7	b.d.l.	131531	199.6	1576.7	34.4	6269	198817	0.0	7.8	261.7	49.8	0.7	b.d.l.	b.d.l.	43.9	170.5	32.1	168.8	52.2	1.9	55.6	9.6	58.8	11.5
MFT-57 - 2	larger grain - Rim	10.8	11.1	1972	37775	2849	233733	13.8	b.d.l.	133905	172.4	1079.2	10.5	6069	189554	0.0	3.0	283.4	31.4	0.2	b.d.l.	b.d.l.	40.2	160.8	30.2	160.9	53.7	1.1	59.5	10.2	63.2	12.5
MFT-58 - 2	larger grain - Rim	11.7	11.0	1997	32135	3005	233733	13.7	b.d.l.	137885	184.4	1383.1	19.3	6234	206656	0.0	6.9	252.3	40.1	0.2	b.d.l.	0.1	49.2	188.9	34.6	182.6	54.7	1.9	58.1	9.6	58.3	11.4
MFT-61 - 1	larger grain -Core	10.4	9.9	2126	63409	3356	233733	12.7	b.d.l.	141062	170.2	1076.6	28.8	4381	137584	0.0	3.6	258.8	28.2	0.1	b.d.l.	b.d.l.	37.8	155.3	29.4	156.0	49.6	1.3	55.9	9.2	57.5	11.3
MFT-62 - 4	larger grain -Core	11.3	11.1	2009	29806	3152	233733	13.0	b.d.l.	136773	183.9	1566.9	22.1	6298	211045	b.d.l.	7.7	246.0	49.2	0.3	b.d.l.	b.d.l.	50.9	196.0	35.8	184.2	54.1	2.2	56.4	9.3	56.3	10.7
MFT-maf-2 - 1	larger grain - Rim	12.3	10.8	1886	27516	2861	233733	10.0	b.d.l.	121738	161.3	970.6	13.6	6023	172170	0.1	3.7	249.5	30.7	0.2	0.0	b.d.l.	39.5	156.5	29.3	153.7	49.4	1.6	52.7	8.8	56.1	10.8
MFT-maf-2 - 2	larger grain -Core	11.3	11.3	1858	30521	2953	233733	b.d.l.	b.d.l.	120632	165.0	1027.9	15.7	6137	170231	b.d.l.	3.7	258.2	31.1	0.2	b.d.l.	b.d.l.	37.8	154.3	28.9	154.4	49.6	1.5	54.9	9.2	58.3	11.0
MFT-maf-2 - 3	larger grain -Core	12.2	11.6	1838	33035	3135	233733	13.9	b.d.l.	124163	173.0	1134.9	16.8	6145	170404	b.d.l.	3.7	268.6	33.6	0.2	b.d.l.	b.d.l.	40.8	162.3	30.1	161.0	52.3	1.4	56.2	9.3	58.9	11.5
MFT-maf-2 - 4	larger grain -Core	11.4	11.7	1858	33483	3129	233733	8.6	b.d.l.	119499	178.7	1138.5	19.3	5908	164054	b.d.l.	3.9	266.7	34.1	0.2	b.d.l.	b.d.l.	40.1	160.8	30.0	158.3	52.1	1.4	56.1	9.4	59.4	11.5
MFT-maf-2 - 5	larger grain -Core	11.6	11.5	1845	33666	3073	233733	13.3	b.d.l.	119984	172.9	1085.3	19.3	5899	164579	0.1	3.9	262.8	32.4	0.2	b.d.l.	b.d.l.	38.9	157.9	29.6	154.6	50.6	1.4	55.7	8.8	57.1	11.1
MFT-maf-2 - 6	larger grain -Core	12.1	11.4	1818	33509	3019	233733	15.8	12.5	118372	165.2	1082.6	19.4	5920	163787	b.d.l.	3.9	253.8	31.5	0.2	b.d.l.	0.7	36.5	148.6	27.7	147.9	48.2	1.4	53.5	8.7	55.6	10.9
MFT-maf-2 - 7	larger grain -Core	12.6	11.0	1811	33337	2983	233733	19.8	b.d.l.	116215	159.4	1049.8	19.1	5764	159729	b.d.l.	3.6	246.3	30.3	0.2	b.d.l.	0.6	35.7	145.1	27.2	146.2	47.8	1.4	53.3	8.6	55.3	10.7

Table A1: Trace elements - clinopyroxene continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
26.8	3.9	27.0	4.4	1.3	0.0	0.9	0.2	0.0
29.4	4.0	27.3	4.2	2.0	0.0	0.9	0.1	0.0
29.3	4.0	26.9	4.4	2.3	0.0	0.8	0.1	0.0
35.9	4.9	32.9	5.2	1.4	0.0	1.0	0.1	0.0
32.0	4.4	29.7	5.0	2.5	0.0	1.1	0.1	0.0
36.1	4.8	31.8	5.0	1.6	0.0	0.9	0.1	0.0
34.8	4.7	32.3	5.1	1.7	0.0	1.0	0.1	0.0
29.2	3.9	25.3	3.7	1.6	0.0	0.8	0.1	0.0
31.9	4.3	28.5	4.5	1.9	0.0	0.8	0.1	0.0
29.3	4.0	26.8	4.2	2.0	0.0	0.9	0.1	0.0
29.0	4.0	27.5	4.5	2.4	0.0	1.1	0.2	0.0
29.5	4.1	28.7	4.9	2.0	0.0	1.1	0.1	0.0
35.1	4.7	32.3	5.0	1.6	0.0	1.1	0.1	0.0
35.0	4.8	32.3	5.0	1.4	0.0	1.1	0.1	0.0
34.9	4.7	31.8	5.0	1.7	0.0	1.0	0.1	0.0
33.2	4.5	30.8	4.9	1.7	0.0	1.1	0.1	0.0
31.9	4.3	29.4	4.7	1.7	0.0	1.0	0.1	0.0
30.9	4.3	29.7	4.8	1.7	0.0	1.1	0.1	0.0
32.8	4.5	31.1	5.1	1.8	0.0	1.1	0.1	0.0
31.4	4.4	30.0	4.9	2.0	0.0	1.1	0.1	0.0
37.3	4.9	31.5	4.5	2.1	0.0	0.8	0.1	0.0
30.4	4.3	29.2	4.8	1.8	0.0	1.0	0.1	0.0
32.0	4.4	30.1	4.8	1.7	0.0	1.2	0.1	0.0
31.2	4.3	29.5	4.9	1.9	0.0	1.0	0.1	0.0
31.6	4.4	29.4	4.8	1.6	0.0	1.0	0.1	0.0
30.4	4.1	27.7	4.5	1.9	0.0	1.2	0.1	0.0
29.9	4.1	28.2	4.4	1.8	0.0	0.9	0.1	0.0
34.6	4.8	31.9	5.0	1.4	0.0	1.0	0.1	0.0
35.3	4.7	32.2	5.1	1.6	0.0	1.0	0.1	0.0
32.3	4.4	30.3	4.9	1.9	0.1	1.5	0.2	0.0
30.3	4.0	25.5	3.6	1.8	0.0	1.4	0.1	0.0
31.2	4.3	29.8	4.8	1.7	0.0	1.1	0.1	0.0
29.7	4.1	28.6	4.7	1.9	0.0	1.1	0.1	0.0
33.4	4.5	30.3	4.8	1.6	0.0	1.0	0.1	0.0
30.2	4.2	28.7	4.6	1.7	0.0	0.9	0.1	0.0
33.8	4.6	30.9	4.8	1.9	0.0	0.9	0.1	0.0
33.0	4.5	30.1	4.9	1.8	0.0	1.0	0.1	0.0
31.9	4.4	29.9	4.8	1.5	0.0	1.1	0.1	0.0
33.0	4.4	30.3	4.8	1.6	0.1	1.9	0.4	0.0
32.2	4.5	30.6	5.2	2.5	0.0	1.1	0.1	0.0
34.5	4.7	31.8	5.0	1.9	0.0	1.2	0.1	0.0
45.1	6.0	39.7	5.9	1.9	0.0	0.7	0.1	0.0
31.2	4.2	29.0	4.6	2.5	0.0	1.0	0.1	0.0
33.1	4.5	30.9	4.9	1.9	0.0	1.0	0.1	0.0
30.0	4.1	29.2	4.8	2.1	0.0	1.0	0.1	0.0
29.2	3.9	24.7	3.7	1.7	0.0	0.8	0.1	0.0
28.8	4.0	28.8	4.7	2.4	0.0	1.1	0.1	0.0
29.2	3.9	27.1	4.3	1.5	0.0	0.9	0.1	0.0
30.3	4.1	27.9	4.3	1.9	0.0	0.8	0.1	0.0
31.3	4.3	27.3	4.5	2.0	0.0	0.9	0.1	0.0
30.6	4.1	26.9	4.3	2.0	0.0	0.8	0.1	0.0
30.5	4.1	26.9	4.3	2.0	0.0	0.8	0.1	0.0
29.1	4.0	26.4	4.1	1.8	b.d.l.	1.1	0.1	0.0
28.6	3.8	25.6	4.0	1.8	b.d.l.	0.8	0.1	0.0

Table A1.11: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-maf-2 - 8	larger grain -Core	10.9	11.1	1794	34438	3078	233733	16.9	b.d.l.	116181	162.1	1054.1	20.1	5940	163400	0.1	3.9	253.1	31.9	0.2	b.d.l.	0.5	36.2	148.6	28.2	148.4	49.3	1.3	53.4	8.8	56.4	11.1
MFT-maf-2 - 9	larger grain -Core	10.2	11.2	1821	35683	3086	233733	9.8	b.d.l.	117631	159.7	1031.4	21.2	5798	160915	b.d.l.	3.7	251.8	31.4	0.2	b.d.l.	b.d.l.	35.8	146.9	27.5	147.2	47.3	1.3	52.5	8.8	55.8	10.7
MFT-maf-2 - 10	larger grain -Core	11.8	11.6	1903	35484	3196	233733	b.d.l.	92.6	120127	161.5	1031.3	20.7	5719	159271	0.4	3.6	256.0	31.7	0.3	b.d.l.	b.d.l.	36.2	150.1	28.0	149.0	49.0	1.3	52.8	8.8	55.7	11.0
MFT-maf-2 - 11	larger grain -Core	12.3	10.9	1895	35464	3062	233733	b.d.l.	53.6	118723	154.8	986.8	20.9	5532	152459	0.3	3.5	250.3	30.1	0.2	b.d.l.	b.d.l.	36.2	148.3	27.5	147.2	47.7	1.3	52.0	8.5	54.0	10.4
MFT-maf-2 - 12	larger grain -Core	12.4	11.0	1821	35181	3063	233733	10.9	b.d.l.	121671	162.5	1012.9	21.7	5625	157073	b.d.l.	3.8	256.2	31.0	0.2	b.d.l.	b.d.l.	37.8	154.7	28.8	154.1	49.4	1.4	53.9	8.9	56.8	10.8
MFT-maf-2 - 13	larger grain -Core	12.5	11.3	1847	33005	3012	233733	13.5	207.1	111660	150.3	951.8	20.8	5892	162525	0.9	3.6	235.3	27.8	0.4	0.1	1.0	35.3	140.0	26.0	139.4	43.5	1.4	49.6	8.1	52.1	10.0
MFT-maf-2 - 15	larger grain -Core	11.5	11.3	1886	34991	3057	233733	241.7	b.d.l.	124339	165.6	1000.8	21.8	5730	158992	0.1	4.0	261.0	30.4	0.2	b.d.l.	1.2	41.4	160.6	29.4	158.0	49.2	1.4	54.7	9.1	56.7	11.1
MFT-maf-2 - 16	larger grain -Core	11.1	11.3	1844	36212	3116	233733	16.9	b.d.l.	130573	160.3	995.1	21.7	5623	158063	0.1	3.6	256.6	29.6	0.2	b.d.l.	1.8	38.2	158.0	29.7	156.6	49.4	1.5	53.9	9.1	57.4	11.2
MFT-maf-2 - 17	larger grain -Core	12.0	11.3	1845	38040	3080	233733	16.5	b.d.l.	125615	150.8	936.1	22.8	5457	151646	0.1	3.6	245.6	28.1	0.2	b.d.l.	1.3	37.0	150.8	28.0	147.7	47.5	1.3	52.6	8.8	55.2	10.6
MFT-maf-2 - 18	larger grain -Core	11.5	11.3	1857	37869	3084	233733	216.0	6.8	124028	149.4	933.7	23.5	5399	152437	0.1	3.9	249.4	27.3	0.2	b.d.l.	1.6	41.6	160.8	29.0	151.6	49.1	1.3	52.6	8.7	55.0	10.5
MFT-maf-2 - 19	larger grain -Core	12.0	11.3	1936	36286	3299	233733	18.2	127.3	123970	159.8	996.3	21.8	5592	157213	0.6	3.7	250.7	30.5	0.3	b.d.l.	1.5	38.2	154.3	28.7	153.5	48.8	1.4	52.0	8.7	55.6	10.7
MFT-maf-2 - 21	larger grain -Core	12.2	11.4	1827	35435	3150	233733	23.5	19.2	118549	173.7	1148.5	19.4	5854	164735	0.1	4.0	253.5	34.8	0.2	b.d.l.	0.6	37.9	157.9	29.2	156.2	49.1	1.4	53.7	8.9	55.2	11.0
MFT-maf-2 - 22	larger grain -Core	11.6	11.3	1881	35797	3169	233733	b.d.l.	31.8	120946	168.9	1115.0	20.9	5713	162975	0.1	4.0	255.5	35.2	0.3	b.d.l.	b.d.l.	39.1	158.2	29.6	158.6	49.7	1.5	54.5	9.0	54.8	11.1
MFT-maf-2 - 23	larger grain -Core	10.9	11.4	1840	35308	3078	233733	16.6	b.d.l.	120170	160.1	1028.2	21.7	5621	160818	b.d.l.	3.9	245.4	31.7	0.2	b.d.l.	b.d.l.	38.0	153.3	28.7	152.7	49.2	1.3	52.4	8.6	54.0	10.4
MFT-maf-2 - 24	larger grain -Core	9.9	11.1	1845	34951	3123	233733	b.d.l.	66.0	121437	164.5	1065.3	20.9	5817	162102	0.4	3.9	247.2	31.8	0.2	b.d.l.	b.d.l.	38.6	156.2	29.0	151.2	48.4	1.5	51.8	8.5	55.5	10.7
MFT-maf-2 - 26	larger grain -Core	12.8	11.5	1885	34602	3119	233733	9.5	79.5	120069	163.5	1021.1	19.8	5709	162753	0.4	3.5	250.8	30.7	0.3	b.d.l.	b.d.l.	37.5	151.1	28.1	148.9	48.6	1.2	52.3	8.8	55.4	10.9
MFT-maf-2 - 27	larger grain -Core	10.5	11.3	1852	35003	3002	233733	16.4	b.d.l.	122203	156.6	968.3	20.0	5538	159193	b.d.l.	3.2	250.0	29.1	0.2	b.d.l.	b.d.l.	36.8	151.4	28.1	148.6	48.6	1.3	52.2	8.8	55.3	10.7
MFT-maf-2 - 28	larger grain -Core	12.3	11.5	1876	35172	3213	233733	9.9	53.2	122286	166.3	1056.6	20.0	5751	163272	0.7	4.1	260.5	32.2	0.5	0.4	1.8	38.4	157.1	29.5	153.5	49.4	1.3	53.9	9.0	57.7	11.1
MFT-maf-2 - 29	larger grain -Core	11.8	11.5	1851	34443	3063	233733	b.d.l.	b.d.l.	119254	165.5	1123.8	19.6	5773	165094	b.d.l.	4.7	252.4	33.4	0.2	b.d.l.	0.4	39.3	161.1	30.1	155.1	50.0	1.3	54.6	8.8	55.6	10.9
MFT-maf-2 - 30	larger grain -Core	12.6	11.5	1819	33027	3027	233733	b.d.l.	b.d.l.	120972	174.1	1114.8	19.7	5898	168829	0.1	4.3	250.1	34.4	0.2	b.d.l.	0.4	41.1	163.3	30.4	159.1	49.9	1.4	53.4	9.0	56.4	10.6
MFT-maf-2 - 31	larger grain -Core	13.1	11.2	1825	31860	2971	233733	13.1	b.d.l.	117763	169.2	1113.4	18.6	5995	171293	0.1	4.1	249.2	34.2	0.2	b.d.l.	0.2	41.0	164.3	30.4	160.9	49.3	1.3	54.0	8.7	55.1	10.8
MFT-maf-2 - 40	larger grain -Core	10.8	11.4	1851	30295	2744	233733	26.0	b.d.l.	120303	146.3	1042.7	12.4	5859	172939	0.1	2.9	249.8	28.0	0.4	b.d.l.	b.d.l.	39.7	156.4	28.6	147.3	49.1	1.2	53.4	8.7	55.7	10.7
MFT-maf-2 - 41	larger grain -Core	12.3	11.3	1846	30329	2787	233733	19.9	b.d.l.	124264	145.0	1040.8	11.5	6017	176808	0.2	2.9	257.7	27.4	0.9	0.1	0.7	40.4	160.2	29.1	151.7	48.4	1.2	54.1	8.9	58.6	11.1
MFT-maf-2 - 53	larger grain - Rim	10.8	10.3	1887	25865	2700	233733	66.0	25.5	117962	150.9	973.9	14.9	5608	178105	0.3	4.6	228.1	28.5	0.3	0.1	b.d.l.	38.4	152.8	27.8	144.2	46.4	1.4	49.3	8.1	51.4	9.9
MFT-maf-3 - 1	larger grain - Rim	10.3	10.6	1841	28234	2852	233733	9.2	b.d.l.	131192	171.1	1027.0	15.5	5874	179979	b.d.l.	4.3	253.7	30.5	0.3	b.d.l.	0.3	40.0	158.6	29.2	155.6	50.5	1.4	54.9	9.3	57.6	11.1
MFT-maf-3 - 2	larger grain -Core	9.5	10.5	1913	24509	3096	233733	b.d.l.	b.d.l.	130060	174.7	1250.2	15.7	5925	187992	b.d.l.	5.9	239.5	39.5	0.3	b.d.l.	b.d.l.	46.9	181.1	32.5	171.3	52.9	1.8	54.9	8.7	54.4	10.6
MFT-maf-3 - 3	larger grain -Core	10.2	10.9	1874	26996	2832	233733	b.d.l.	b.d.l.	128667	158.5	1012.2	12.9	5937	183083	b.d.l.	3.8	246.5	30.1	0.1	b.d.l.	b.d.l.	41.5	162.0	29.2	157.2	49.6	1.3	53.8	8.8	56.4	10.6
MFT-maf-3 - 4	larger grain -Core	10.9	11.0	1883	28342	2920	233733	b.d.l.	b.d.l.	127564	154.2	1076.5	14.2	5871	180883	0.1	4.4	242.7	31.8	0.2	b.d.l.	b.d.l.	42.0	165.0	29.7	157.7	49.3	1.5	53.0	8.7	54.8	10.5
MFT-maf-3 - 5	larger grain -Core	11.4	11.0	1868	29639	2882	233733	b.d.l.	b.d.l.	126294	143.2	1051.5	12.0	5757	174501	0.1	3.9	245.4	30.1	0.2	b.d.l.	b.d.l.	39.7	156.4	28.8	152.6	48.5	1.4	53.0	8.9	55.3	10.6
MFT-maf-3 - 6	larger grain -Core	10.5	11.1	1829	31897	2686	233733	16.7	b.d.l.	126425	149.7	905.4	9.4	5693	169417	b.d.l.	2.3	251.6	24.6	0.2	b.d.l.	b.d.l.	35.5	142.9	26.4	139.8	47.5	0.9	52.7	8.8	57.2	11.1
MFT-maf-3 - 7	larger grain -Core	10.9	11.1	1810	33686	2736	233733	b.d.l.	b.d.l.	127473	149.9	947.5	10.2	5743	169684	b.d.l.	2.6	256.2	26.5	0.2	b.d.l.	b.d.l.	37.0	148.1	27.6	145.6	48.9	1.0	53.7	9.1	58.3	11.0
MFT-maf-3 - 8	larger grain -Core	11.3	11.5	1883	32295	2984	233733	9.2	b.d.l.	124141	161.3	1122.0	16.2	5805	172643	b.d.l.	4.2	252.3	32.8	0.2	b.d.l.	b.d.l.	40.4	162.0	29.7	157.8	50.7	1.2	54.1	8.9	56.7	11.0
MFT-maf-3 - 9	larger grain -Core	12.0	11.5	1848	32215	2936	233733	10.7	b.d.l.	120218	169.4	1110.3	18.0	5903	174140	0.1	4.4	242.5	34.2	0.2	b.d.l.	b.d.l.	39.4	160.8	29.7	157.1	49.4	1.2	52.9	8.6	54.5	10.4
MFT-maf-3 - 37	larger grain -Core	14.7	12.2	1831	31363	3075	233733	73.4	9.6	133523	174.2	1097.9	15.0	6445	184742	0.1	4.1	271.0	34.3	0.5	b.d.l.	1.8	43.7	176.2	32.5	169.7	53.1	1.4	58.7	9.9	62.8	11.9
MFT-maf-3 - 39	larger grain -Core	12.3	11.2	1872	28629	2784	233733	77.8	b.d.l.	117746	153.4	989.6	14.6	5666	164825	b.d.l.	3.6	238.0	30.0	0.3	b.d.l.	0.6	39.0	154.5	28.1	150.3	45.0	1.2	50.6	8.5	55.1	10.3
MFT-maf-3 - 40	larger grain -Core	11.6	11.8	1977	28605	4027	233733	88.4	293.7	119826	155.5	1067.8	13.8	5849	171818	1.9	5.9	247.0	41.7	5.1	0.8	17.6	46.6	190.2	30.5	157.5	48.2	1.3	53.2	8.8	55.5	10.6
MFT-maf-3 - 41	larger grain -Core	12.8	12.0	1842	29337	2987	233733	145.8	10.7	130318	167.3	1074.8	14.0	6083	179066	0.1	4.4	264.5	32.1	0.6	b.d.l.	0.6	46.0	175.0	32.2	169.3	53.1	1.4	56.8	9.6	59.0	11.6
MFT-maf-3 - 44	larger grain -Core	11.8	12.1	1897	30331	2988	233733	20.3	15.9	126020	168.7	1060.0	18.3	6219	174432	0.1	3.8	273.2	31.9	0.4	0.0	1.0	42.6	164.9	31.3	160.9	52.3	1.5	56.2	9.6	61.0	12.0
MFT-maf-3 - 47	larger grain -Core	13.1	11.7	1939	28899	3029	233733	51.0	b.d.l.	124507	164.4	1099.7	17.4	6145	176924	0.2	4.4	260.7	34.8	0.9	0.1	1.1	44.4	171.4	30.7	163.1	52.2	1.5	54.5	9.7	59.3	11.5
MFT-maf-3 - 48	larger grain -Core	11.5	11.9	1903	29355	3067	233733	13.4	10.8	126755	162.8	1049.7	15.9	6115	177696	0.2	4.2	261.7	33.1	1.1	0.1	1.6	41.6	174.2	30.4	162.5	50.1	1.4	55.6	9.3	59.5	11.4
MFT-maf-3 - 49	larger grain -Core	11.4	12.1	1894	28893	4154	233733	b.d.l.	35.2	122319	154.3	1031.9	14.3	5982	172556	0.4	5.0	257.1	34.2	1.7	0.2	5.7	43.1	174.8	30.2	155.9	49.6	1.3	54.3	9.0	58.4	11.1
MFT-maf-3 - 51	larger grain -Core	9.6	11.4	1918	27665	3570	233733	23.0	52.9	126105	153.7	1081.6	14.8	5993	175311	1.0	6.0	247.0	42.3	5.9	0.7	9.4	41.9	198.8	29.9	156.9	48.8	1.4	53.7	8.8	56.2	10.7
MFT-maf-3 - 53	larger grain -Core	12.5	11.0	1927	24524	3207	233733	18.4	b.d.l.	127588	171.0	1269.4	17.2	5969	182223	b.d.l.	6.2	241.6	39.7	0.3	b.d.l.	0.2	46.8	184.6	33.1	170.6	52.0	1.7	54.5	8.9	54.6	10.5
MFT-maf-3 - 54	larger grain -Core	11.8	11.6	1883	26667	3000	233733	b.d.l.	b.d.l.	127861	154.3	1127.0	14.8	5984	176316	b.d.l.	4.5	245.3	34.3	0.2	b.d.l.	b.d.l.	43.0	167.8	30.8	161.9	51.2	1.5	53.2	8.9	57.2	10.7
MFT-maf-3 - 56	larger grain -Core	11.0	11.5	1877	29379	3264	233733	10.1	17.9	125494	152.7	1003.5	12.3	5936	172411	0.3	4.2	250.3	34.3	2.0	0.3	3.4	40.0	165.4	29.4	152.5	49.3	1.4	53.6	8.9	56.6	10.9
MFT-maf-3 - 57	larger grain -Core	12.0	11.6	1920	28463	3035	233733	b.d.l.	50.0	128366	151.7	1092.7	13.6	5954	175887	0.4	4.7	247.0	33.6	1.0	0.2	1.5	41.3	166.4	29.9	156.8	48.9	1.4	53.5	9.0	55.8	10.6
MFT-maf-3 - 58	larger grain -Core	13.4	11.5	1899	28641	3000	233733	b.d.l.	11.0	125257	152.9	1094.5	13.7	5946	173890	0.4	4.3	256.4	34.1	1.7	0.3	2.4	41.1	165.4	30.3	156.3	49.2	1.4	54.0	9.0	56.9	10.9
MFT-maf-3 - 59	larger grain -Core	11.2	11.2	1875	27141	2985	233733	b.d.l.	10.2	117249	142.3	1015.2	11.5	6050	171001	0.3	4.0	251.3	30.8	0.5	0.2	5.3	39.2	160.3	29.0	149.1	48.1	1.4	54.3	8.8	56.7	10.8
MFT-maf-3 - 60	larger grain -Core	11.2	11.8	1874	27945	3130	233733	b.d.l.	20.4	124513	147.2	1052.0	12.1	6217	177193	0.5	4.0	264.6	31.8	0.4	0.3	2.0	40.1	163.9	29.8	155.5	49.2	1.4	56.2	9.4	59.6	11.5
MFT-maf-3 - 61	larger grain -Core	12.3	12.0	1889	26724	3080	233733	b.d.l.	8.0	123613	147.6	1067.0	12.2	6173	179830	0.3	4.9	263.2	33.3	0.4	0.2	17.7	42.4	168.1	30.8	161.2	50.9	1.5	55.4	9.3	59.0	11.5
MFT-maf-3 - 62	larger grain -Core	12.3	11.4	1889	24762	3141	233733	11.0	12.5	126653	156.9	1195.9	14.9	6141	182843	0.2	5.5	252.3	38.7	0.4	0.1	1.0	46.2	179.0	32.2	169.1	51.5	1.7	55.6	9.1	57.4	10.9
MFT-maf-3 - 64	larger grain -Core	11.1	11.3	1895	25574	3019	233733	10.8	6.4	126035	152.0	1111.9	13.1	6121	180724	0.2	4.4	254.7	35.4	0.2	0.0	b.d.l.	43.4	169.8	31.1	162.4	51.2	1.6	56.0	9.1	58.3	11.1
MFT-maf-3 - 66	larger grain -Core	12.4	11.9	1899	25927	2950	233733	b.d.l.	7.0	125889	148.9	1056.1	12.1	6151	178699	0.1	3.9	256.5	32.8	0.2	b.d.l.	0.2	41.5	163.3	30.1	156.7	49.9	1.5	54.8	9.2	57.4	11.0
MFT-maf-3 - 68	larger grain -Core	12.5	11.7	1950	26666	3184	233733	13.9	153.5	123153	146.6	1071.7	12.1	6151	177530	0.8	3.8	256.7	34.5	0.4	b.d.l.	0.9	42.5	165.6	30.6	158.2	50.0	1.5	54.8	9.3	58.4	11.3

Table A1.11: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
29.7	4.0	26.1	4.0	1.7	b.d.l.	0.9	0.1	0.0
29.4	4.0	25.5	4.0	1.9	0.0	0.8	0.1	0.0
29.4	3.9	25.8	4.0	1.8	0.0	0.9	0.1	0.0
28.8	3.8	25.1	3.7	1.7	0.0	0.8	0.1	0.0
28.8	3.9	26.1	3.9	1.7	0.0	0.9	0.1	0.0
27.3	3.6	24.7	3.8	1.5	0.0	1.2	0.1	0.1
29.7	4.0	26.1	4.0	1.6	0.0	0.9	0.1	0.0
29.2	4.0	25.9	4.0	1.5	b.d.l.	0.9	0.1	0.0
28.6	3.8	23.8	3.6	1.6	0.0	0.8	0.1	0.0
28.5	3.7	24.1	3.6	1.4	0.0	0.7	0.2	0.0
29.0	4.0	25.4	3.9	1.7	0.0	0.9	0.2	0.0
29.3	4.0	26.4	4.0	2.0	0.0	0.8	0.1	0.0
29.0	4.1	25.8	4.1	1.9	0.0	0.8	0.1	0.0
28.3	3.7	24.6	3.9	1.7	b.d.l.	0.8	0.1	0.0
28.5	3.8	25.0	4.0	1.8	0.0	0.9	0.1	0.0
29.2	4.0	25.8	4.0	1.7	0.0	0.9	0.1	0.0
28.7	3.9	24.3	3.9	1.6	0.0	0.9	0.1	0.0
29.8	4.0	26.9	4.2	1.7	0.0	2.0	0.1	0.0
29.3	3.9	26.3	4.1	1.9	0.0	1.6	0.1	0.0
29.4	3.9	26.3	4.1	1.8	0.0	1.0	0.1	0.0
28.9	3.9	26.3	4.1	1.7	0.0	1.3	0.1	0.0
29.0	3.9	25.9	4.1	1.6	0.0	1.0	0.1	0.0
29.6	4.0	26.7	4.2	1.6	0.0	1.4	0.1	0.0
26.5	3.6	24.9	4.1	1.6	b.d.l.	1.2	0.1	0.0
30.1	4.0	28.7	4.5	1.7	0.0	1.2	0.1	0.0
27.8	3.9	27.0	4.6	2.1	0.0	1.1	0.1	0.0
29.2	3.8	26.6	4.2	1.6	0.0	1.0	0.1	0.0
28.4	3.8	26.1	4.3	1.6	0.0	1.0	0.1	0.0
29.0	3.9	26.6	4.2	1.7	0.0	0.9	0.1	0.0
30.0	3.9	26.7	4.3	1.5	b.d.l.	0.9	0.0	0.0
29.6	4.0	26.8	4.3	1.6	0.0	0.9	0.1	0.0
29.7	4.0	26.4	4.3	1.9	0.0	0.9	0.1	0.0
28.2	3.9	25.6	4.1	1.6	0.0	0.8	0.1	0.0
32.1	4.2	27.8	4.8	1.8	0.0	1.3	0.1	0.0
27.3	3.9	25.7	4.2	1.5	0.0	1.0	0.1	0.0
29.0	3.9	26.5	4.2	2.0	0.3	6.7	1.5	0.1
31.6	4.3	27.9	4.5	1.8	0.0	1.5	0.3	0.1
32.2	4.4	27.9	4.6	1.8	0.0	1.4	0.4	0.0
30.4	4.0	27.7	4.4	1.8	0.0	1.6	0.5	0.1
30.0	4.2	27.7	4.5	1.8	0.0	1.5	0.3	0.0
29.3	4.2	27.3	4.4	1.9	0.1	1.9	0.7	0.1
29.2	4.0	27.1	4.4	2.1	0.2	4.8	0.8	0.1
28.5	4.0	27.3	4.6	1.9	0.0	1.1	0.1	0.0
28.9	4.0	27.5	4.5	1.7	0.0	1.0	0.1	0.0
29.3	3.9	26.5	4.3	1.7	0.1	1.9	0.3	0.0
29.0	3.9	26.5	4.3	1.9	0.0	1.7	0.2	0.0
29.9	4.0	27.3	4.4	2.0	0.0	1.9	0.2	0.0
29.6	3.9	26.4	4.4	1.6	0.0	4.6	0.1	0.0
30.1	4.2	28.8	4.5	1.7	0.0	2.0	0.1	0.0
31.3	4.2	27.6	4.7	1.9	0.0	1.3	0.1	0.0
29.4	4.1	28.3	4.7	2.1	0.0	1.5	0.1	0.0
30.0	4.1	27.4	4.6	1.9	0.0	1.0	0.1	0.0
30.2	4.1	27.9	4.6	1.7	0.0	1.0	0.1	0.0
29.9	4.2	28.1	4.6	1.8	0.0	1.1	0.2	0.1

Table A1.11: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-maf-3 - 69	larger grain -Core	10.8	11.9	1854	27653	2992	233733	b.d.l.	11.3	125592	150.1	1071.7	12.6	6246	178359	0.1	4.0	265.6	33.3	0.2	b.d.l.	0.2	42.6	166.1	30.8	161.6	52.2	1.4	56.2	9.6	60.8	11.5
MFT-maf-3 - 71	larger grain -Core	12.9	11.5	1877	26426	2974	233733	b.d.l.	12.3	129772	152.0	1039.4	11.6	6180	179723	0.1	4.5	251.6	33.1	0.2	b.d.l.	0.3	42.9	168.4	30.8	160.8	51.1	1.5	54.2	9.0	57.4	10.9
MFT-maf-3 - 72	larger grain -Core	11.0	11.6	1906	24958	3196	233733	b.d.l.	b.d.l.	135508	173.2	1247.6	15.3	6254	186014	b.d.l.	5.6	258.9	40.7	0.3	b.d.l.	0.4	48.2	187.4	34.1	177.9	56.3	1.9	57.7	9.4	60.6	11.5
MFT-maf-3 - 73	larger grain -Core	11.7	11.4	1945	24528	3139	233733	b.d.l.	8.6	129303	164.7	1266.6	16.8	6094	183944	0.2	7.7	245.6	44.6	5.3	b.d.l.	15.0	48.1	237.2	33.3	172.0	52.9	1.7	57.4	9.0	56.6	10.6
MFT-maf-3 - 74	larger grain -Core	12.4	11.0	1922	24234	3053	233733	b.d.l.	b.d.l.	129328	164.1	1208.3	17.9	5939	180365	0.1	6.5	241.0	39.2	0.8	b.d.l.	2.5	46.7	185.2	32.8	170.3	51.5	1.8	54.2	8.9	55.3	10.5
MFT-maf-3 - 75	larger grain - Rim	12.5	11.7	2018	24888	3396	233733	17.9	61.8	131509	162.0	1177.9	16.9	5948	180873	1.2	21.1	245.4	42.4	5.0	0.9	16.0	48.8	201.2	32.9	170.7	52.2	1.7	55.5	8.9	55.9	10.7
MFT-maf-12 - 1	larger grain - Rim	12.5	11.0	1891	24629	3166	233733	b.d.l.	b.d.l.	128342	168.3	1247.8	19.2	6013	183954	0.1	6.5	243.4	40.6	0.5	0.0	0.7	48.2	185.1	33.6	173.6	51.9	1.9	55.4	9.0	57.3	10.5
MFT-maf-12 - 2	larger grain -Core	10.7	11.1	1930	21285	3188	233733	b.d.l.	b.d.l.	130980	167.5	1303.5	17.8	6000	186351	0.1	7.7	229.0	43.6	0.3	b.d.l.	b.d.l.	50.2	188.3	34.3	177.7	53.0	2.2	54.2	8.4	52.9	9.9
MFT-maf-12 - 3	larger grain -Core	10.1	11.4	1919	21340	3610	233733	b.d.l.	9.1	128756	160.6	1352.8	21.3	5995	187770	0.3	8.8	220.6	48.2	1.4	0.1	3.0	50.8	195.2	34.1	174.9	51.4	2.4	51.9	8.3	50.8	9.5
MFT-maf-12 - 4	larger grain -Core	11.5	11.8	2234	20558	3787	233733	b.d.l.	544.0	122708	163.2	1420.8	22.2	5988	187981	3.4	8.9	210.7	49.7	1.7	0.3	3.9	51.9	198.1	34.1	174.4	50.2	2.4	49.9	8.1	49.9	9.2
MFT-maf-12 - 5	larger grain -Core	11.1	11.3	1813	30844	2822	233733	b.d.l.	7.3	136823	195.0	1013.9	21.2	6278	181070	b.d.l.	3.0	273.7	28.3	0.2	b.d.l.	b.d.l.	37.6	151.3	28.8	153.6	50.4	1.1	54.0	9.7	63.1	11.4
MFT-maf-12 - 6	larger grain -Core	10.8	11.1	1934	29014	2809	233733	14.5	12.0	125155	180.2	991.3	22.3	6043	174143	0.2	3.3	255.1	26.5	0.6	0.1	1.1	35.3	145.2	26.6	139.8	48.6	1.1	52.7	9.0	57.0	11.0
MFT-maf-12 - 7	larger grain -Core	12.5	11.0	1893	28815	2699	233733	b.d.l.	15.6	127252	180.6	998.5	22.7	5962	172929	0.3	3.7	254.7	27.0	0.2	0.3	0.8	36.1	147.5	27.2	143.2	47.6	1.2	53.4	8.9	57.1	11.0
MFT-maf-12 - 10	larger grain -Core	12.1	12.0	1984	24378	3661	233733	21.0	b.d.l.	126781	170.7	1630.6	32.3	6158	185680	0.1	9.1	224.8	57.7	0.5	0.0	0.5	50.6	191.5	34.9	175.6	50.2	2.4	53.4	8.4	51.3	9.8
MFT-maf-12 - 16	larger grain -Core	12.2	12.4	2332	29477	4388	233733	17.4	518.4	119092	159.0	1503.3	31.2	5822	168730	2.1	9.9	205.9	58.1	0.9	0.1	12.0	45.5	171.1	31.3	158.0	46.0	2.5	47.9	7.3	45.9	8.8
MFT-maf-12 - 17	larger grain -Core	12.3	12.3	1949	29931	3771	233733	59.9	49.1	124159	170.8	1544.6	31.3	6060	175772	0.3	10.2	220.6	56.1	0.4	0.1	1.9	46.6	181.2	32.5	167.6	48.2	2.7	48.8	8.0	49.5	9.5
MFT-maf-12 - 18	larger grain -Core	13.3	12.5	1903	29803	3848	233733	b.d.l.	18.0	122526	169.6	1531.6	31.0	6037	176377	0.3	9.9	227.6	56.3	1.0	0.3	2.6	45.4	181.5	32.6	168.7	49.6	2.6	51.6	8.0	51.7	9.9
MFT-maf-12 - 19	larger grain -Core	13.7	12.1	1970	28911	3794	233733	17.5	9.6	124642	178.6	1525.2	33.0	6267	180298	0.3	9.7	241.9	52.1	1.2	0.2	6.9	46.9	188.5	33.1	173.8	53.3	2.4	54.6	8.7	54.5	10.4
MFT-maf-12 - 21	larger grain -Core	12.0	11.5	1975	27410	3528	233733	70.4	b.d.l.	128631	185.6	1497.3	28.6	6120	184187	b.d.l.	7.9	254.0	46.3	0.3	0.0	0.2	47.5	186.5	33.6	178.4	54.8	2.1	57.1	9.1	58.1	11.0
MFT-maf-12 - 22	larger grain -Core	12.6	11.4	1938	27210	5270	233733	224.9	101.2	118149	159.6	1211.7	22.7	5730	170348	1.4	9.5	258.9	54.6	6.9	1.1	18.1	49.8	211.8	31.8	165.9	51.5	1.7	55.6	9.1	58.7	11.0
MFT-maf-12 - 23	larger grain -Core	11.6	11.8	1929	28896	3339	233733	21.2	19.9	128110	167.9	1280.7	26.0	6249	182649	0.3	6.7	270.3	41.4	1.5	0.2	2.7	41.2	172.2	30.9	163.0	50.9	1.7	56.1	9.6	60.8	11.6
MFT-maf-12 - 24	larger grain -Core	11.7	11.1	1894	28819	3629	233733	30.4	160.5	116177	147.3	1181.4	21.1	6483	187356	1.4	7.2	252.7	46.3	6.0	0.7	12.4	37.1	178.0	27.3	142.7	45.9	1.3	51.5	8.6	56.4	10.8
MFT-maf-12 - 25	larger grain -Core	12.1	11.0	1975	27836	3436	233733	19.5	116.4	124893	154.9	1232.2	23.5	6125	181821	1.3	7.1	266.0	45.5	4.9	0.6	9.1	40.1	188.1	29.9	154.9	50.8	1.5	54.8	9.3	58.9	11.6
MFT-maf-12 - 26	larger grain -Core	10.8	11.1	1999	28490	3848	233733	9.8	204.4	125981	156.5	1226.8	21.5	5989	176272	2.1	8.0	265.2	50.9	7.3	1.3	14.5	39.8	189.1	29.0	153.3	49.3	1.4	54.9	9.2	59.8	11.3
MFT-maf-12 - 27	larger grain -Core	13.4	11.6	1940	30369	3125	233733	16.0	19.2	133736	168.5	1238.4	25.1	6437	188655	0.1	5.3	279.0	36.9	0.7	0.0	0.7	42.0	169.6	31.3	162.4	53.9	1.6	58.9	9.9	62.9	12.3
MFT-maf-12 - 29	larger grain -Core	12.6	12.4	1935	28489	3922	233733	37.9	157.5	120417	146.1	1188.4	24.7	6441	186101	1.8	7.6	260.5	50.3	6.8	0.9	15.6	38.2	191.9	28.5	151.2	49.5	1.5	54.4	9.0	58.0	11.1
MFT-maf-12 - 30	larger grain -Core	11.2	11.8	1919	28569	3471	233733	11.3	37.5	126484	154.3	1239.1	24.7	6184	180698	0.7	6.2	266.8	42.7	3.1	0.5	5.7	40.1	175.8	29.7	159.2	50.6	1.6	56.5	9.3	60.6	11.7
MFT-maf-12 - 31	larger grain -Core	13.3	11.6	1828	30353	3674	233733	45.9	374.5	120541	146.0	1302.0	24.8	7017	195368	1.8	6.2	264.9	42.4	2.6	0.3	7.2	38.9	165.5	28.7	152.7	49.9	1.5	54.6	9.1	58.4	11.1
MFT-maf-12 - 32	larger grain -Core	12.2	12.1	1802	28648	3652	233733	32.8	739.4	105933	131.0	1282.5	24.2	7017	196451	3.4	7.3	248.7	42.1	3.2	0.5	23.8	37.1	153.0	27.0	143.3	46.8	1.5	51.3	8.6	56.6	10.7
MFT-maf-12 - 33	larger grain -Core	13.9	12.0	1988	28362	3740	233733	20.8	33.7	126926	159.2	1498.9	30.0	6499	188457	0.6	8.6	275.1	50.3	2.4	0.4	6.5	44.7	189.8	33.0	176.4	55.2	2.0	59.9	9.7	62.9	11.8
MFT-maf-12 - 34	larger grain -Core	12.0	11.7	1958	29037	3711	233733	10.8	173.3	126395	158.1	1305.5	27.1	6205	180598	1.6	7.8	265.3	49.2	3.6	0.7	18.1	43.0	186.2	31.5	170.3	53.7	1.8	58.9	9.7	60.4	11.4
MFT-maf-12 - 37	larger grain -Core	13.4	12.6	1958	29772	3676	233733	27.5	91.8	125745	177.9	1476.5	30.3	6447	182939	2.6	8.9	252.2	49.8	1.4	0.2	6.8	44.2	183.4	32.9	173.4	52.6	2.4	56.4	8.9	57.5	10.9
MFT-maf-12 - 38	larger grain -Core	14.1	13.6	2399	28559	5724	233733	44.4	663.4	122383	176.9	1554.3	31.9	6228	183882	3.5	10.4	246.6	57.2	3.5	0.4	20.4	46.8	196.2	33.0	177.2	52.3	2.3	55.0	8.8	57.2	10.5
MFT-maf-12 - 39	larger grain -Core	10.7	11.9	2001	27134	3873	233733	232.3	47.0	130631	187.3	1525.4	29.0	6210	187315	0.8	8.3	257.4	56.5	4.1	0.5	9.7	50.2	219.3	34.9	181.4	54.2	2.0	58.0	9.2	58.8	11.0
MFT-maf-12 - 40	larger grain - Rim	13.1	11.9	2037	24270	3453	233733	481.5	21.0	133170	180.0	1529.9	26.2	6118	190140	0.3	8.3	258.7	48.5	0.5	b.d.l.	1.2	68.1	242.9	41.2	210.5	60.6	2.3	61.8	9.7	59.2	11.1
MFT-maf-13 - 3	larger grain -Core	11.0	10.4	1868	33731	2573	233733	9.7	6.5	130879	157.4	792.6	5.1	5925	163368	0.1	1.6	279.9	21.6	1.8	0.1	4.1	30.1	133.2	23.1	121.7	45.0	0.5	53.6	9.3	62.2	12.2
MFT-maf-13 - 4	larger grain -Core	11.0	10.8	1867	34370	2515	233733	b.d.l.	b.d.l.	130368	161.2	755.0	5.1	6045	166328	0.1	1.4	279.5	21.5	0.3	0.0	0.4	29.0	122.9	23.0	123.6	46.0	0.5	53.3	9.3	63.3	12.0
MFT-maf-13 - 5	larger grain -Core	10.5	10.3	1878	34140	2501	233733	b.d.l.	b.d.l.	131221	153.4	749.1	4.9	6042	164330	0.1	1.4	282.4	20.8	0.4	b.d.l.	2.4	29.0	121.4	22.9	122.7	45.1	0.6	54.0	9.4	61.4	12.0
MFT-maf-13 - 6	larger grain -Core	9.4	10.6	1905	34586	2551	233733	20.0	b.d.l.	130555	154.5	764.5	5.0	6169	165781	0.1	1.3	294.6	21.3	0.4	0.0	0.6	29.9	125.2	23.8	126.2	46.8	0.6	56.3	9.9	65.8	12.7
MFT-maf-13 - 7	larger grain -Core	10.7	10.8	1819	34904	2633	233733	11.2	b.d.l.	135803	162.7	789.8	5.1	6150	167477	0.1	1.3	300.9	22.1	0.2	0.1	b.d.l.	29.7	127.6	24.1	129.7	48.0	0.6	57.1	10.1	64.5	12.8
MFT-maf-13 - 8	larger grain -Core	11.4	10.8	1844	35847	2649	233733	54.0	b.d.l.	139601	155.7	805.6	5.4	6326	172443	b.d.l.	1.2	303.0	22.4	0.1	b.d.l.	1.2	32.1	131.7	25.0	133.2	47.8	0.6	56.2	10.3	65.8	12.9
MFT-maf-13 - 10	larger grain -Core	10.9	10.7	1835	34181	2545	233733	43.1	b.d.l.	132097	154.6	768.5	5.5	6068	166479	0.1	1.5	286.5	21.9	0.5	0.0	0.8	30.5	127.6	23.8	124.5	46.5	0.6	53.5	9.5	62.3	12.4
MFT-maf-13 - 11	larger grain -Core	11.9	10.9	1862	34451	2577	233733	278.9	b.d.l.	131378	157.5	797.7	5.9	6156	167977	b.d.l.	1.5	284.0	21.9	0.2	b.d.l.	b.d.l.	32.7	132.1	24.7	131.0	46.6	0.6	55.0	9.7	62.8	12.2
MFT-maf-13 - 12	larger grain -Core	9.9	10.7	1893	33174	2564	233733	46.8	b.d.l.	128315	156.7	812.6	6.7	5973	164677	b.d.l.	1.8	273.3	22.3	0.1	b.d.l.	1.1	32.8	135.6	25.4	130.1	45.3	0.7	52.1	9.4	61.1	11.7
MFT-maf-13 - 13	larger grain -Core	10.1	11.1	1843	33690	2620	233733	20.2	b.d.l.	127685	164.5	835.9	7.6	6001	170703	b.d.l.	2.1	274.0	23.7	0.4	b.d.l.	0.5	33.1	135.8	25.7	135.5	48.0	0.8	55.2	9.3	61.4	11.8
MFT-maf-13 - 15	larger grain -Core	11.0	10.8	1866	34023	2826	233733	72.2	71.6	132412	169.2	914.3	7.7	6106	168029	0.6	2.6	287.3	26.5	1.7	0.1	6.2	36.9	156.2	27.4	144.5	50.0	0.8	59.2	9.8	64.5	12.2
MFT-maf-13 - 19	larger grain -Core	11.9	10.7	1842	33758	2694	233733	b.d.l.	9.1	129806	157.8	840.3	7.0	6086	167649	0.2	2.1	274.7	23.3	0.4	0.1	0.9	32.1	134.7	24.8	131.8	47.9	0.8	53.9	9.4	61.3	11.9
MFT-maf-13 - 20	larger grain -Core	9.2	10.9	1869	33714	2688	233733	14.0	b.d.l.	131061	168.6	854.5	7.5	6071	168235	b.d.l.	1.9	281.3	24.0	0.2	b.d.l.	b.d.l.	33.1	137.4	25.8	139.1	47.4	0.8	55.7	9.7	62.4	12.1
MFT-maf-13 - 21	larger grain -Core	11.5	10.9	1848	33556	2649	233733	15.6	b.d.l.	130018	167.4	858.2	7.4	6063	167845	b.d.l.	1.9	277.0	24.2	0.3	b.d.l.	b.d.l.	33.2	135.8	25.3	135.7	48.7	0.8	55.1	9.5	63.4	12.0
MFT-maf-13 - 22	larger grain -Core	11.7	10.5	1835	33288	2621	233733	11.8	b.d.l.	128926	164.1	837.0	7.7	6003	165144	b.d.l.	1.9	273.5	23.1	0.1	b.d.l.	b.d.l.	32.4	134.2	25.3	135.0	47.9	0.8	54.0	9.4	61.0	11.9
MFT-maf-13 - 23	larger grain -Core	11.3	11.2	1870	33623	2646	233733	b.d.l.	b.d.l.	131750	163.4	842.4	7.5	6039	168796	b.d.l.	2.0	276.8	23.5	0.2	b.d.l.	b.d.l.	33.4	136.5	25.6	135.7	49.4	0.8	55.2	9.7	62.3	11.8
MFT-maf-13 - 24	larger grain -Core	10.5	10.6	1866	33399	2646	233733	b.d.l.	b.d.l.	130263	161.0	824.5	7.5	6004	166583	b.d.l.	2.0	276.1	23.4	0.2	b.d.l.	b.d.l.	32.4	133.8	25.2	134.3	47.0	0.7	55.5	9.4	61.9	11.9
MFT-maf-13 - 25	larger grain -Core	12.4	10.9	1887	33503	2687	233733	b.d.l.	b.d.l.	131903	155.2	874.0	7.5	6225	172215	b.d.l.	1.8	281.9	24.9	0.2	b.d.l.	b.d.l.	33.0	137.7	25.4	137.3	48.4	0.8	56.0	9.5	62.9	12.0
MFT-maf-13 - 26	larger grain -Core	10.7	11.0	1877	32650	2703	233733	b.d.l.	b.d.l.	132262	152.6	861.7	7.3	6083	168623	b.d.l.	2.0	280.3	24.9	0.2	b.d.l.	b.d.l.	33.1	136.3	25.9	137.0	48.1	0.8	55.7	9.6	63.2	12.0

Table A1.11: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
31.3	4.2	28.4	4.7	1.8	0.0	1.0	0.1	0.0
30.5	4.0	26.7	4.5	1.8	0.0	1.1	0.1	0.0
29.9	4.1	28.3	5.0	2.2	0.0	1.3	0.1	0.0
28.9	4.0	28.0	4.6	2.3	0.2	5.7	0.9	0.1
28.0	3.9	27.1	4.5	2.2	0.0	1.6	0.2	0.0
29.0	3.9	26.5	4.5	2.2	0.3	6.2	1.1	0.1
29.1	4.0	27.3	4.6	2.2	0.0	1.3	0.1	0.0
27.2	3.7	25.4	4.5	2.3	0.0	1.1	0.1	0.0
25.9	3.6	24.5	4.3	2.3	0.1	1.9	0.3	0.0
25.3	3.3	24.0	4.1	2.4	0.1	2.2	0.4	0.1
32.6	4.4	29.2	4.8	1.6	b.d.l.	1.0	0.1	0.0
30.1	4.1	27.9	4.5	1.5	0.0	1.5	0.1	0.0
29.8	4.1	27.8	4.5	1.5	0.0	1.4	0.1	0.0
26.5	3.5	24.3	4.1	2.7	0.0	1.1	0.1	0.0
24.3	3.2	22.0	3.5	2.5	0.1	1.4	0.4	0.1
25.3	3.5	23.0	3.7	2.6	0.0	0.9	0.1	0.1
26.4	3.7	23.6	3.7	2.6	0.0	1.4	0.1	0.0
27.9	3.9	25.7	4.1	2.4	0.0	2.9	0.2	0.0
30.1	4.1	28.0	4.5	2.5	0.0	1.1	0.1	0.0
29.4	4.2	27.1	4.3	2.6	0.5	4.5	1.6	0.1
31.9	4.2	28.2	4.7	2.2	0.1	2.0	0.3	0.0
29.9	4.1	27.4	4.3	2.2	0.3	4.6	1.2	0.1
31.9	4.2	28.7	4.6	2.2	0.3	4.0	1.1	0.0
31.4	4.2	28.8	4.6	2.5	0.6	4.8	1.4	0.1
32.9	4.4	29.7	4.8	1.9	0.0	1.4	0.3	0.0
30.7	4.1	27.2	4.4	2.5	0.4	5.0	1.3	0.1
31.6	4.2	29.3	4.6	2.2	0.1	2.8	0.5	0.0
31.4	4.3	28.8	4.4	2.2	0.1	2.7	0.9	0.1
29.2	4.0	27.0	4.2	1.9	0.1	3.4	1.0	0.1
32.0	4.3	28.8	4.6	2.5	0.1	2.5	0.5	0.1
31.2	4.4	29.5	4.6	2.4	0.2	3.8	0.8	0.1
30.7	4.0	26.8	3.9	2.4	0.1	1.9	0.5	0.1
28.3	3.9	25.7	3.9	2.8	0.2	5.9	1.2	0.1
29.9	4.0	27.4	4.5	2.7	0.3	3.4	0.9	0.1
29.8	4.0	27.9	4.5	2.4	0.0	1.2	1.0	0.2
33.1	4.5	29.1	4.7	1.4	0.1	4.0	0.6	0.0
32.5	4.4	29.1	4.6	1.4	0.0	1.4	0.1	0.0
32.9	4.4	28.9	4.7	1.4	0.0	1.4	0.1	0.0
34.3	4.6	30.9	4.9	1.5	0.0	1.9	0.1	0.0
35.1	4.8	31.3	4.8	1.4	0.0	1.2	0.1	0.0
35.4	4.7	31.2	5.0	1.3	0.0	1.0	0.1	0.0
32.9	4.4	29.3	4.6	1.4	0.0	1.2	0.1	0.0
33.6	4.4	29.4	4.6	1.4	0.0	1.1	0.1	0.1
31.3	4.3	28.9	4.6	1.4	0.0	1.0	0.1	0.0
32.2	4.3	28.6	4.5	1.6	0.0	1.2	0.1	0.0
34.0	4.5	30.2	4.8	1.6	0.1	9.4	0.4	0.1
32.1	4.3	28.9	4.5	1.5	0.0	1.6	0.1	0.0
33.0	4.5	29.4	4.7	1.5	0.0	1.1	0.1	0.0
31.7	4.4	29.1	4.6	1.7	0.0	0.9	0.1	0.0
32.2	4.3	28.9	4.6	1.4	b.d.l.	1.1	0.1	0.0
32.7	4.3	28.9	4.6	1.4	0.0	1.1	0.1	0.0
32.2	4.3	29.8	4.7	1.5	b.d.l.	1.1	0.1	0.0
32.5	4.4	29.0	4.7	1.6	b.d.l.	1.0	0.1	0.0
33.0	4.4	30.1	4.7	1.7	0.0	1.0	0.1	0.0

Table A1.11: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-maf-13 - 28	larger grain -Core	9.5	10.8	1866	33797	2618	233733	b.d.l.	b.d.l.	128828	163.1	806.3	7.0	6000	164236	b.d.l.	1.8	273.0	22.7	0.3	b.d.l.	b.d.l.	31.4	130.9	24.8	132.7	47.0	0.8	54.0	9.2	60.6	12.0
MFT-maf-13 - 30	larger grain -Core	11.7	10.8	1860	32561	2809	233733	b.d.l.	4.2	129431	160.6	873.3	7.9	5931	165758	0.2	2.3	281.2	27.0	0.8	0.1	1.4	35.6	147.9	27.0	143.4	49.3	0.8	57.5	9.8	63.5	11.9
MFT-maf-13 - 31	larger grain -Core	10.8	10.7	1893	32705	2746	233733	b.d.l.	b.d.l.	127794	163.8	871.1	7.7	5879	164849	b.d.l.	2.0	284.9	26.3	0.2	b.d.l.	b.d.l.	35.4	144.8	27.3	145.0	50.7	0.8	58.0	10.0	62.5	12.2
MFT-maf-13 - 32	larger grain -Core	10.8	11.0	1844	32590	2704	233733	b.d.l.	b.d.l.	128446	160.9	874.6	7.9	5902	165211	0.1	2.1	282.9	26.4	0.2	b.d.l.	b.d.l.	35.5	145.2	27.8	142.6	50.1	0.8	58.7	9.9	64.1	12.1
MFT-maf-13 - 33	larger grain -Core	11.6	10.8	1887	32593	2769	233733	b.d.l.	b.d.l.	131176	163.7	871.5	8.1	5971	166838	b.d.l.	2.3	287.5	25.6	0.2	b.d.l.	b.d.l.	35.8	144.1	27.4	145.1	50.9	0.8	58.2	9.9	63.8	12.4
MFT-maf-13 - 34	larger grain -Core	10.9	10.9	1861	32672	2726	233733	14.4	b.d.l.	128888	159.9	861.0	7.7	5926	165383	0.1	2.1	279.4	25.4	0.2	b.d.l.	b.d.l.	34.4	142.2	26.7	141.7	49.4	0.8	57.1	9.6	61.7	12.1
MFT-maf-13 - 35	larger grain -Core	10.8	11.2	1878	32889	2712	233733	b.d.l.	b.d.l.	130842	158.4	860.8	7.5	6000	166399	0.1	2.0	279.9	24.5	0.2	b.d.l.	b.d.l.	33.5	140.4	26.1	138.7	48.9	0.7	56.8	9.7	62.6	12.1
MFT-maf-13 - 39	larger grain -Core	10.3	10.7	1871	33466	2819	233733	13.3	b.d.l.	133543	161.1	862.4	7.2	5993	165663	0.1	2.2	292.0	26.3	0.4	0.0	1.4	36.5	149.0	28.2	145.7	52.2	0.9	59.8	10.2	66.1	12.7
MFT-maf-13 - 40	larger grain -Core	11.3	10.7	1841	33243	2775	233733	b.d.l.	b.d.l.	131654	157.6	867.5	7.1	5996	165108	b.d.l.	2.0	286.6	25.3	0.3	b.d.l.	0.8	34.9	142.4	26.8	144.5	49.4	0.8	57.9	10.0	64.9	12.4
MFT-maf-13 - 41	larger grain -Core	11.7	10.7	1873	33961	2941	233733	b.d.l.	10.6	133790	165.3	887.1	7.8	6114	167163	0.2	2.5	294.4	29.8	1.9	0.1	4.1	36.0	160.2	28.0	146.8	52.6	0.8	60.2	10.1	66.5	12.5
MFT-maf-13 - 42	larger grain -Core	11.6	10.9	1862	33762	2953	233733	b.d.l.	13.0	130041	162.4	889.4	7.4	5982	165968	0.2	2.8	294.6	31.9	2.5	0.2	11.2	36.2	164.9	27.6	147.1	52.8	0.8	59.9	10.3	66.4	12.7
MFT-maf-13 - 45	larger grain -Core	10.2	11.0	1881	33952	2956	233733	11.1	4.8	134370	166.0	875.3	7.4	6069	168075	0.1	2.2	299.6	27.5	0.5	0.1	1.0	37.3	152.6	28.4	151.8	51.6	0.9	60.7	10.3	66.4	12.9
MFT-maf-13 - 46	larger grain -Core	12.6	11.0	1883	33717	2956	233733	b.d.l.	b.d.l.	135633	165.8	867.8	7.6	6036	166215	0.1	2.3	294.0	26.6	0.4	b.d.l.	0.8	36.6	147.8	28.0	146.2	52.0	0.9	60.2	10.4	65.4	12.6
MFT-maf-13 - 47	larger grain -Core	10.0	11.2	1850	34427	2753	233733	10.7	b.d.l.	134907	163.5	861.9	7.8	6103	166459	0.1	2.2	294.5	24.7	0.2	b.d.l.	b.d.l.	35.1	141.9	27.1	142.3	50.9	0.8	58.5	10.1	64.1	12.5
MFT-maf-13 - 48	larger grain -Core	11.6	11.0	1844	34218	2745	233733	b.d.l.	b.d.l.	133660	166.5	846.4	7.5	6000	166592	b.d.l.	2.1	290.4	24.3	0.3	b.d.l.	0.7	34.4	142.7	26.7	141.4	49.9	0.8	57.5	10.0	63.7	12.2
MFT-maf-13 - 49	larger grain - Rim	10.6	10.9	1864	33567	2890	233733	b.d.l.	7.5	131668	163.7	828.0	7.1	6075	164757	0.2	2.3	287.4	25.1	0.5	0.1	1.3	34.0	142.0	26.4	139.8	49.6	0.9	55.3	9.9	63.7	12.2
MFT-maf-11 - 1	larger grain - Rim	11.6	11.0	1914	24001	3112	233733	b.d.l.	b.d.l.	128726	173.2	1279.1	32.8	5915	182423	b.d.l.	7.5	221.4	40.8	0.7	0.0	0.7	48.2	190.5	32.7	171.3	51.3	2.0	54.0	8.4	51.9	9.7
MFT-maf-11 - 1	larger grain -Core	11.2	11.1	1923	24956	3084	233733	b.d.l.	b.d.l.	126838	167.5	1293.6	42.1	5736	175726	b.d.l.	7.1	220.9	39.8	0.2	b.d.l.	b.d.l.	45.4	177.6	32.3	164.3	48.9	1.9	51.9	8.2	50.5	9.4
MFT-maf-11 - 1	larger grain -Core	11.9	11.4	1994	26112	3213	233733	b.d.l.	b.d.l.	127145	163.9	1277.6	49.2	5606	171871	b.d.l.	7.2	223.1	40.9	0.2	b.d.l.	b.d.l.	45.6	179.0	32.2	165.0	49.7	2.0	52.0	8.2	51.4	9.5
MFT-maf-11 - 1	larger grain -Core	12.9	12.2	1929	43584	4095	233733	130.0	b.d.l.	124479	141.6	1311.5	77.7	4958	142086	0.1	8.4	239.3	53.0	0.3	b.d.l.	0.3	44.2	173.9	30.5	158.9	45.8	2.1	49.2	8.2	51.8	10.0
MFT-maf-11 - 1	larger grain -Core	11.8	11.4	1887	44949	4115	233733	316.6	15.4	122025	134.4	1317.7	68.4	4913	138915	0.1	8.0	237.8	38.9	0.2	b.d.l.	0.2	46.0	173.3	31.3	156.4	46.3	2.1	50.2	8.4	51.2	10.2
MFT-maf-11 - 1	larger grain -Core	12.4	11.9	2059	46314	4809	233733	13.3	445.0	119365	130.7	1307.1	63.3	4665	133675	1.8	8.2	228.4	40.3	0.7	0.0	4.4	39.1	158.2	28.1	147.4	42.9	2.1	47.2	7.7	49.2	9.5
MFT-maf-11 - 1	larger grain -Core	12.3	11.7	1978	47639	4600	233733	17.3	136.6	123062	140.1	1357.0	68.2	4738	136910	0.5	8.0	239.8	40.8	0.5	b.d.l.	1.2	41.1	165.5	30.2	156.1	45.9	2.0	50.6	8.0	51.4	10.2
MFT-maf-11 - 1	larger grain -Core	10.6	11.0	1867	48297	3956	233733	9.8	45.4	121380	155.7	1296.6	54.0	4620	135751	0.4	7.4	225.5	38.7	2.6	0.2	4.0	38.8	162.8	27.5	143.8	42.6	1.9	45.2	7.6	48.4	9.3
MFT-maf-11 - 1	larger grain -Core	11.4	10.0	1606	47821	3479	233733	15.3	24.3	106976	140.8	1115.3	47.9	4764	142497	0.5	6.2	200.1	33.6	2.2	0.3	4.1	34.0	142.8	24.2	125.5	37.5	1.4	40.5	6.8	42.2	8.3
MFT-maf-11 - 24	larger grain -Core	11.3	11.4	1958	26798	3614	233733	117.1	24.5	129506	169.7	1296.2	44.9	6149	183590	0.2	7.1	246.6	65.1	1.5	0.1	3.1	47.3	188.3	33.4	173.0	52.4	1.8	55.7	9.0	56.0	10.7
MFT-maf-11 - 26	larger grain -Core	11.6	11.5	1953	24362	3563	233733	27.3	22.5	129105	171.2	1253.7	26.1	6095	187263	0.3	7.5	228.3	42.9	1.6	0.2	3.4	48.2	191.9	32.6	171.8	51.3	1.8	54.1	8.6	52.8	10.0
MFT-maf-11 - 27	larger grain -Core	12.8	11.2	1918	25512	2946	233733	11.1	b.d.l.	130965	166.8	1128.7	20.3	6081	184075	0.1	5.6	233.2	36.5	0.6	0.1	0.7	44.2	177.6	31.7	164.8	50.3	1.8	53.4	8.7	55.6	10.2
MFT-maf-11 - 28	larger grain - Rim	11.1	11.0	1881	27806	2914	233733	37.6	12.5	128873	163.4	1030.8	17.5	6010	182380	0.1	4.7	248.4	33.2	0.9	0.1	1.7	44.2	167.3	30.5	159.9	49.6	1.3	55.9	9.2	56.8	10.9
MFT-maf-15 - 1	larger grain - Rim	10.7	11.3	1855	30291	2844	233733	b.d.l.	13.7	128284	150.5	988.7	14.1	6168	171876	0.2	4.7	258.3	31.9	4.0	0.1	10.3	36.8	180.4	27.2	143.7	48.4	1.2	53.9	9.2	58.3	11.1
MFT-maf-15 - 5	larger grain -Core	11.4	10.9	1854	33691	2513	233733	10.7	b.d.l.	125460	153.7	780.0	5.2	6283	166138	b.d.l.	1.2	299.0	22.2	0.2	b.d.l.	b.d.l.	29.5	125.6	23.6	126.7	48.3	0.6	56.5	10.1	65.9	13.0
MFT-maf-15 - 6	larger grain -Core	10.7	11.5	1894	33720	2579	233733	b.d.l.	b.d.l.	127450	148.7	814.4	4.7	6375	167522	b.d.l.	1.1	309.3	23.3	0.2	b.d.l.	b.d.l.	30.5	126.9	24.6	129.4	48.4	0.6	58.3	10.6	68.4	13.3
MFT-maf-15 - 12	larger grain -Core	12.4	11.1	1803	35365	2622	233733	20.4	b.d.l.	137203	161.0	840.9	6.0	6215	172548	0.1	1.8	289.1	23.0	0.5	b.d.l.	0.4	33.1	138.2	26.0	139.6	48.7	0.8	58.3	10.2	64.8	12.4
MFT-maf-15 - 13	larger grain -Core	10.9	11.0	1837	34579	2528	233733	10.3	b.d.l.	131274	153.4	823.4	6.6	6135	169355	b.d.l.	1.9	277.4	22.3	0.7	b.d.l.	1.5	32.1	138.6	25.2	134.1	47.1	0.7	54.6	9.6	60.3	12.0
MFT-maf-15 - 14	larger grain -Core	11.4	11.0	1876	32725	2634	233733	12.0	b.d.l.	128674	153.0	866.9	8.5	6204	173669	b.d.l.	2.5	264.6	24.4	0.5	b.d.l.	0.8	33.8	144.5	26.1	137.8	47.5	0.9	54.9	9.2	59.7	11.7
MFT-maf-15 - 16	larger grain -Core	11.6	10.7	1919	28397	2828	233733	183.7	9.3	128072	166.9	1079.4	13.3	5972	177522	0.5	4.7	264.3	32.7	0.3	b.d.l.	0.6	46.2	174.0	31.2	161.0	51.6	1.3	56.9	9.3	59.9	11.1
MFT-maf-15 - 20	larger grain -Core	10.8	11.1	1852	30504	2795	233733	13.5	8.2	131420	135.1	960.6	8.8	6133	179700	0.4	2.9	259.9	30.6	1.6	0.1	4.3	36.7	168.2	27.9	147.4	48.3	1.0	54.0	9.3	59.1	11.3
MFT-maf-15 - 22	larger grain -Core	11.5	11.0	1796	34933	2928	233733	24.8	211.3	116693	135.1	922.1	9.2	6123	175994	2.8	4.3	259.2	28.0	2.1	0.5	17.3	42.2	158.6	26.8	140.5	46.5	0.9	52.3	8.9	56.9	11.1
MFT-maf-15 - 57	larger grain -Core	11.4	11.5	1940	28260	2876	233733	682.4	28.5	126851	163.6	1082.5	13.9	6047	180764	0.3	4.8	259.8	34.3	0.3	b.d.l.	0.2	43.5	175.4	30.7	161.9	52.0	1.3	58.3	9.1	59.0	11.4
MFT-maf-15 - 58	larger grain -Core	12.6	11.3	1870	33409	2867	233733	137.1	21.5	136744	164.7	954.0	10.2	6367	178470	0.1	2.8	289.9	27.5	0.2	b.d.l.	b.d.l.	42.2	163.5	30.0	159.7	52.6	1.0	61.3	10.3	66.9	12.6
MFT-maf-15 - 59	larger grain -Core	11.6	11.1	1878	33248	2733	233733	73.4	22.2	127564	159.9	823.7	7.1	6016	167658	0.3	2.3	274.7	25.6	1.7	0.1	3.5	34.1	147.6	26.4	137.9	47.1	0.8	55.0	9.6	61.8	12.1
MFT-maf-15 - 61	larger grain -Core	13.2	11.2	1970	27854	2940	233733	51.7	9.7	129416	154.4	1090.6	12.0	6065	181852	0.1	4.3	260.5	34.6	0.3	b.d.l.	b.d.l.	40.7	165.8	30.0	158.8	51.0	1.4	56.0	9.3	59.2	11.3
MFT-maf-15 - 62	larger grain -Core	11.4	11.5	1950	24938	3079	233733	19.2	5.9	128078	159.1	1205.7	13.9	6106	183888	0.2	6.0	251.3	41.3	1.7	0.1	2.4	42.5	181.6	30.9	162.5	52.1	1.5	54.3	9.0	57.3	10.9

Table A1.11: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
31.6	4.3	27.8	4.5	1.4	0.0	1.2	0.1	0.0
32.5	4.5	30.1	4.8	1.7	0.0	1.7	0.2	0.0
33.3	4.3	29.5	4.7	1.7	0.0	1.1	0.1	0.0
32.8	4.5	29.4	4.7	1.7	0.0	1.1	0.1	0.0
33.0	4.4	30.4	4.7	1.8	0.0	1.1	0.1	0.0
32.6	4.4	29.1	4.6	1.7	b.d.l.	1.1	0.1	0.0
32.3	4.4	29.5	4.7	1.6	0.0	1.1	0.0	0.0
33.9	4.5	30.5	5.0	1.8	0.0	3.6	0.1	0.0
33.8	4.5	29.8	4.6	1.7	b.d.l.	1.6	0.1	0.0
34.5	4.6	30.4	4.8	1.8	0.1	3.9	0.4	0.0
34.4	4.6	29.7	4.8	1.9	0.2	3.2	0.5	0.0
34.8	4.5	31.2	4.9	1.8	0.0	1.7	0.3	0.0
34.2	4.6	30.0	4.9	1.6	0.0	1.7	0.3	0.0
34.5	4.5	30.6	4.8	1.6	0.0	1.4	0.1	0.0
33.9	4.5	30.5	4.8	1.5	0.0	1.5	0.1	0.0
33.6	4.5	30.4	4.9	1.6	0.0	2.0	0.3	0.0
26.0	3.6	25.8	4.4	2.0	0.0	1.3	0.2	0.0
25.7	3.5	24.7	4.3	2.0	0.0	1.2	0.1	0.0
26.0	3.5	24.9	4.1	2.0	0.0	1.0	0.1	0.0
27.4	3.7	23.7	3.5	2.2	0.0	1.2	0.2	0.0
27.6	3.6	23.5	3.5	2.0	0.0	0.9	0.2	0.0
26.6	3.5	22.9	3.2	2.0	0.0	1.1	0.4	0.1
27.3	3.7	23.3	3.5	1.9	0.0	1.0	0.2	0.0
26.2	3.4	22.6	3.3	1.8	0.1	2.2	0.3	0.0
23.2	3.1	19.6	3.1	1.7	0.1	1.9	0.4	0.0
29.9	4.1	27.6	4.6	2.3	0.1	1.9	0.4	0.1
27.0	3.7	25.7	4.4	2.2	0.1	2.0	0.4	0.3
27.4	3.7	26.5	4.4	2.0	0.0	1.3	0.1	0.0
29.5	4.0	27.2	4.6	1.7	0.1	1.7	0.5	0.0
30.7	4.2	27.9	4.5	1.8	0.2	8.2	0.6	0.0
35.3	4.8	31.9	4.9	1.5	b.d.l.	1.0	0.1	0.0
36.3	4.9	32.8	5.1	1.5	0.0	1.0	0.1	0.0
34.2	4.6	31.1	4.8	1.5	0.0	1.7	0.1	0.0
31.8	4.3	28.3	4.6	1.3	0.0	2.6	0.2	0.0
31.4	4.2	28.6	4.6	1.5	0.0	2.9	0.1	0.0
30.2	4.1	28.4	4.6	1.8	0.0	1.3	0.5	0.1
30.5	4.1	28.4	4.6	1.7	0.1	3.1	0.3	0.0
29.5	4.1	26.9	4.2	1.5	0.1	7.0	0.6	0.1
30.1	4.2	27.7	4.7	1.8	0.0	1.3	0.4	0.2
33.6	4.5	30.4	4.9	1.7	0.0	1.3	0.3	0.1
31.9	4.3	28.5	4.5	1.6	0.1	3.5	0.4	0.1
30.1	4.3	27.8	4.7	1.8	0.0	1.1	0.2	0.1
29.7	4.1	27.8	4.8	2.0	0.1	3.1	0.3	0.0

Table A1.11: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-maf-15 - 23	larger grain	8.1	8.0	148.6	42015	1419	233733	15.9	43.3	11437	37.3	683.6	2.5	10101	289211	0.7	1.0	58.9	4.0	1.3	0.4	3.9	4.2	15.3	1.4	7.3	2.8	0.1	5.0	1.1	9.3	2.3
MFT-maf-15 - 24	larger grain	8.4	8.0	119.6	42408	1140	233733	b.d.l.	b.d.l.	10521	36.7	676.4	2.2	10064	289096	b.d.l.	b.d.l.	54.5	2.2	0.1	b.d.l.	1.2	0.7	3.0	0.6	4.3	2.3	0.1	3.9	1.0	8.6	2.2
MFT-maf-15 - 25	larger grain	7.7	8.1	124.0	41968	1157	233733	b.d.l.	b.d.l.	10866	36.8	678.8	2.4	10131	287144	0.1	b.d.l.	56.2	2.0	0.2	b.d.l.	0.2	1.2	3.0	1.4	4.1	2.3	0.0	3.9	1.2	8.2	2.3
MFT-maf-15 - 26	larger grain	7.9	8.1	119.3	41989	1165	233733	b.d.l.	b.d.l.	10511	36.5	671.3	2.1	10232	289222	b.d.l.	b.d.l.	54.9	2.0	0.1	b.d.l.	0.2	0.4	1.9	0.5	3.4	2.1	0.1	4.0	0.9	8.2	2.1
MFT-maf-15 - 27	larger grain	8.1	8.1	113.4	40995	1143	233733	b.d.l.	b.d.l.	10571	36.0	677.7	2.3	10026	285589	b.d.l.	b.d.l.	56.2	1.8	0.1	b.d.l.	b.d.l.	0.3	2.3	0.5	3.3	2.0	0.1	4.0	1.0	8.6	2.2
MFT-maf-15 - 28	larger grain	8.5	8.0	120.4	41473	1243	233733	b.d.l.	5.6	10141	36.5	702.5	2.4	10223	293739	0.1	b.d.l.	56.4	2.1	0.2	0.1	0.8	0.4	3.1	0.5	3.4	2.0	0.0	3.7	0.9	8.8	2.2
MFT-maf-15 - 30	larger grain	9.6	8.0	116.0	41722	1231	233733	b.d.l.	b.d.l.	10056	36.3	726.5	2.5	10138	293466	b.d.l.	b.d.l.	57.9	1.8	0.1	b.d.l.	b.d.l.	0.4	1.9	0.5	3.3	2.1	0.0	4.1	1.0	8.5	2.3
MFT-maf-15 - 31	larger grain	8.9	8.2	118.6	41199	1283	233733	b.d.l.	b.d.l.	10172	37.0	712.2	2.6	10280	294721	b.d.l.	0.1	59.8	2.3	0.2	0.0	0.3	0.3	2.1	0.5	3.3	2.1	b.d.l.	4.3	1.0	9.5	2.4
MFT-maf-15 - 34	larger grain	9.6	8.4	119.5	38796	1371	233733	b.d.l.	6.7	9321	35.7	680.2	2.3	9427	275351	0.1	0.2	54.1	3.5	0.7	0.1	1.8	0.4	5.2	0.4	3.3	2.1	0.1	4.1	1.0	8.5	2.2
MFT-maf-15 - 35	larger grain	8.3	8.0	109.8	41313	1274	233733	b.d.l.	b.d.l.	9929	40.5	744.9	2.8	10078	294515	b.d.l.	b.d.l.	58.7	1.9	0.1	b.d.l.	b.d.l.	0.3	1.8	0.4	3.2	2.0	0.1	4.1	1.1	9.4	2.3
MFT-maf-15 - 38	larger grain	8.8	8.4	112.1	41771	1266	233733	b.d.l.	b.d.l.	9901	39.3	724.9	2.5	10087	290285	b.d.l.	b.d.l.	59.6	2.1	0.1	b.d.l.	b.d.l.	0.3	1.8	0.5	3.4	1.9	0.1	4.2	1.0	9.1	2.4
MFT-maf-15 - 39	larger grain	7.4	8.1	118.2	42926	1458	233733	b.d.l.	b.d.l.	10918	41.1	777.8	2.9	10298	297876	0.1	0.1	61.8	2.7	0.2	0.1	0.4	0.5	2.4	0.5	3.6	2.3	0.1	4.2	1.1	9.7	2.5
MFT-maf-15 - 41	larger grain	8.1	8.1	114.4	41958	1287	233733	23.1	b.d.l.	10084	37.1	637.9	2.5	10090	288786	0.2	0.1	57.7	2.4	0.4	0.1	0.7	1.5	5.2	0.6	4.4	2.3	0.1	4.0	0.9	8.9	2.2
MFT-maf-15 - 42	larger grain	7.9	8.2	113.7	41995	1265	233733	b.d.l.	b.d.l.	9982	39.5	705.6	2.8	10135	290190	b.d.l.	b.d.l.	59.6	2.3	0.1	b.d.l.	0.2	0.5	2.5	0.5	3.8	2.2	0.1	4.4	1.1	9.3	2.3
MFT-maf-15 - 43	larger grain	8.0	7.8	111.6	41032	1248	233733	b.d.l.	b.d.l.	10166	37.7	640.4	2.5	10011	285798	b.d.l.	b.d.l.	57.3	2.2	0.3	b.d.l.	b.d.l.	0.8	2.7	0.7	3.8	2.0	0.0	4.0	1.0	8.7	2.2
MFT-maf-15 - 44	larger grain	8.1	8.2	111.4	41235	1238	233733	b.d.l.	b.d.l.	10274	37.3	670.6	2.5	10137	288485	b.d.l.	b.d.l.	57.8	2.2	0.1	b.d.l.	b.d.l.	1.9	4.0	0.7	4.4	1.9	0.1	4.0	1.0	8.9	2.4
MFT-maf-15 - 47	larger grain	8.8	8.3	130.8	39937	1203	233733	b.d.l.	b.d.l.	9883	35.1	647.0	2.6	10183	288146	0.1	0.1	54.5	2.2	0.4	b.d.l.	2.1	0.6	14.4	0.6	4.3	1.9	0.0	3.6	0.9	8.6	2.2
MFT-maf-15 - 49	larger grain	7.7	8.4	134.0	40115	1275	233733	b.d.l.	8.4	10884	39.9	756.9	2.9	10178	288839	0.3	0.3	59.8	3.8	1.2	0.1	1.5	0.8	10.9	0.5	3.9	2.2	0.0	4.3	1.1	9.2	2.3
MFT-maf-15 - 50	larger grain	8.5	7.9	120.9	39805	1216	233733	b.d.l.	6.1	10611	40.5	751.9	2.9	10177	286360	b.d.l.	0.1	60.5	2.3	0.2	b.d.l.	0.7	0.6	5.7	0.5	3.4	2.2	0.0	4.4	1.1	9.6	2.4
MFT-maf-15 - 51	larger grain	9.2	8.0	118.7	40846	1205	233733	b.d.l.	b.d.l.	10513	40.3	740.7	2.7	10320	290462	b.d.l.	b.d.l.	60.8	2.3	0.1	b.d.l.	b.d.l.	0.4	2.4	0.5	3.6	2.2	0.0	4.3	1.0	9.5	2.4
MFT-maf-15 - 52	larger grain	8.6	8.0	116.1	39214	1164	233733	b.d.l.	4.7	10665	37.5	694.2	2.2	10293	287110	0.1	b.d.l.	57.9	2.0	0.1	b.d.l.	b.d.l.	0.3	2.4	0.5	3.2	2.1	0.1	4.2	1.0	9.1	2.3
MFT-maf-15 - 53	larger grain	8.7	8.2	121.1	38025	1153	233733	b.d.l.	b.d.l.	10561	35.7	695.7	2.3	10499	293998	b.d.l.	b.d.l.	58.1	2.2	0.1	b.d.l.	0.3	0.3	2.8	0.5	3.0	2.2	0.0	4.1	1.1	9.1	2.3
MFT-maf-15 - 54	larger grain	9.9	8.0	176.7	35082	2798	233733	b.d.l.	67.4	9720	31.4	681.2	2.1	9901	274815	0.7	1.4	61.5	7.7	2.0	0.4	6.2	6.1	7.9	1.6	8.3	3.1	0.1	5.1	1.2	9.9	2.5

Table A1.11: continued

Er	Tm	Yb	Lu	Hf
8.4	1.5	11.0	1.9	0.2
8.0	1.4	11.4	1.9	0.1
8.2	1.4	11.4	1.8	0.1
7.9	1.4	11.1	1.9	0.1
8.0	1.4	11.2	1.8	0.1
8.3	1.4	11.2	1.9	0.1
8.1	1.5	11.4	1.9	0.1
8.9	1.5	11.8	2.0	0.1
7.8	1.3	10.8	1.7	0.1
8.6	1.5	11.7	1.9	0.2
8.6	1.5	11.9	2.0	0.1
9.0	1.6	11.9	2.0	0.2
8.3	1.5	11.3	1.9	0.1
8.6	1.5	12.3	2.0	0.1
8.1	1.5	11.3	1.9	0.1
8.2	1.5	11.7	1.8	0.1
8.0	1.4	11.4	1.9	0.1
8.7	1.5	11.7	2.0	0.2
8.6	1.5	12.7	2.0	0.1
8.5	1.5	12.6	2.0	0.1
8.4	1.4	11.9	1.9	0.1
8.2	1.5	11.4	2.0	0.1
8.5	1.5	11.6	1.9	0.3

Table A1.12: Major elements - olivine

Info	Position	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	Cr_2O_3	MnO	Total	Fo	Fa	Ca-Ol
mft-ol-2 - 1	smaller grain - Rim	30.1	0.9	0.0	62.5	5.1	0.2	0.0	0.0	0.0	1.8	100.6	13	87	0.3
mft-ol-2 - 2	smaller grain - Core	30.6	0.6	0.0	62.6	5.1	0.2	0.0	0.0	0.0	1.9	100.9	13	87	0.3
mft-ol-4 - 1	smaller grain - Rim	31.0	0.6	0.0	62.3	5.1	0.2	0.0	0.0	0.0	1.8	101.1	13	87	0.3
mft-ol-4 - 2	smaller grain - Core	30.6	0.6	0.0	62.3	5.1	0.2	0.0	0.0	0.0	1.8	100.5	13	87	0.3
mft-ol-4 - 3	smaller grain - Rim	30.3	0.7	0.0	62.3	5.3	0.2	0.0	0.0	0.0	1.8	100.6	13	87	0.3
mft-ol-8 - 1	smaller grain - Rim	30.7	1.0	0.0	62.5	4.9	0.2	0.0	0.0	0.0	1.7	101.0	12	87	0.3
mft-ol-8 - 2	smaller grain - Core	31.0	0.6	0.0	62.8	5.1	0.2	0.0	0.0	0.0	1.8	101.5	13	87	0.3
mft-ol-8 - 3	smaller grain - Core	30.6	0.6	0.0	62.6	5.3	0.2	0.0	0.0	0.0	1.8	101.2	13	87	0.4
mft-ol-8 - 5	smaller grain - Rim	30.5	1.0	0.0	62.8	5.1	0.2	0.0	0.0	0.0	1.8	101.5	13	87	0.3
mft-ol-24 - 1	smaller grain - Rim	30.5	0.5	0.0	62.5	5.0	0.2	0.0	0.0	0.0	1.8	100.4	12	87	0.3
mft-ol-24 - 2	smaller grain - Core	30.5	0.7	0.1	62.5	5.1	0.2	0.0	0.0	0.0	1.8	100.9	13	87	0.4
mft-ol-24 - 3	smaller grain - Rim	30.0	0.8	0.0	62.6	5.0	0.2	0.0	0.0	0.0	1.8	100.3	12	87	0.3
mft-ol-40 - 1	smaller grain - Rim	30.6	1.2	0.0	62.6	4.8	0.2	0.0	0.0	0.0	1.9	101.2	12	88	0.4
mft-ol-40 - 2	smaller grain - Core	30.3	0.5	0.0	62.7	5.0	0.2	0.0	0.0	0.0	1.8	100.6	12	87	0.4
mft-ol-40 - 3	smaller grain - Core	30.6	0.9	0.0	62.0	5.2	0.2	0.0	0.0	0.0	1.9	100.7	13	87	0.4
mft-ol-40 - 4	smaller grain - Core	30.5	0.9	0.0	62.6	5.1	0.2	0.0	0.0	0.0	1.8	101.0	13	87	0.4
mft-ol-40 - 5	smaller grain - Rim	30.6	0.8	0.0	62.7	5.0	0.2	0.0	0.0	0.0	1.9	101.3	12	87	0.3
mft-ol-41 - 1	smaller grain - Rim	30.2	0.6	0.0	62.7	4.8	0.2	0.0	0.0	0.0	1.8	100.2	12	88	0.3
mft-ol-41 - 2	smaller grain - Core	30.3	0.9	0.0	63.1	4.5	0.1	0.0	0.0	0.0	1.8	100.7	11	89	0.2
mft-ol-41 - 3	smaller grain - Core	30.4	0.9	0.0	63.4	4.2	0.2	0.0	0.0	0.0	1.9	101.0	11	89	0.3
mft-ol-41 - 4	smaller grain - Core	30.6	1.0	0.0	63.3	4.3	0.2	0.0	0.0	0.0	1.9	101.3	11	89	0.3
mft-ol-41 - 5	smaller grain - Rim	30.6	0.4	0.0	62.7	4.8	0.2	0.0	0.0	0.0	1.9	100.6	12	88	0.3
MFT-1-2	bigger grain - Rim	31.2	0.1	0.0	63.3	4.8	0.2	0.0	0.0	0.0	1.8	101.5	12	88	0.3
MFT-7-1	bigger grain - Core	31.3	0.1	0.0	63.4	5.1	0.2	0.0	0.0	0.0	1.9	101.9	12	87	0.4
MFT-7-2	bigger grain - Rim	31.1	0.1	0.0	63.4	5.0	0.2	0.0	0.0	0.0	1.9	101.7	12	87	0.3
MFT-17 - 1	bigger grain - Core	30.7	0.1	0.0	63.7	5.0	0.2	0.0	0.0	0.0	1.9	101.6	12	87	0.4
MFT-22-1	bigger grain - Core	31.1	0.1	0.0	63.7	4.9	0.2	0.0	0.0	0.0	1.9	102.0	12	88	0.4
MFT-23-1	bigger grain - Core	30.9	0.1	0.0	63.2	5.3	0.2	0.0	0.0	0.0	1.9	101.5	13	87	0.3
MFT-23-2	bigger grain - Rim	30.9	0.1	0.0	63.3	5.1	0.2	0.0	0.0	0.0	1.9	101.4	12	87	0.3
MFT-31 - 2	bigger grain - Rim	30.7	0.1	0.0	64.1	4.9	0.2	0.0	0.0	0.0	1.8	101.8	12	88	0.3
MFT-32 - 2	bigger grain - Rim	30.7	0.1	0.0	63.6	4.9	0.2	0.0	0.0	0.0	1.9	101.4	12	88	0.3
MFT-33 - 1	bigger grain - Core	30.8	0.1	0.0	63.7	5.0	0.2	0.0	0.0	0.0	1.8	101.5	12	87	0.3
MFT-33 - 2	bigger grain - Rim	30.9	0.1	0.0	63.7	5.0	0.2	0.0	0.0	0.0	1.9	101.7	12	87	0.3
MFT-35 - 1	bigger grain - Core	30.6	0.1	0.0	63.1	5.2	0.2	0.0	0.0	0.0	1.9	101.0	13	87	0.3
MFT-35 - 2	bigger grain - Rim	30.8	0.1	0.0	63.6	5.1	0.2	0.0	0.0	0.0	1.9	101.6	13	87	0.3
MFT-37 - 3	bigger grain - Rim	30.7	0.1	0.0	63.5	5.1	0.2	0.0	0.0	0.0	1.9	101.3	12	87	0.4
MFT-38 - 1	bigger grain - Core	30.9	0.1	0.0	63.9	4.8	0.2	0.0	0.0	0.0	1.9	101.7	12	88	0.3
MFT-38 - 2	bigger grain - Rim	30.9	0.1	0.0	64.0	4.8	0.2	0.0	0.0	0.0	1.9	101.9	12	88	0.3
MFT-40 - 1	bigger grain - Core	30.9	0.1	0.0	63.7	4.8	0.2	0.0	0.0	0.0	1.9	101.5	12	88	0.3
MFT-40 - 2	bigger grain - Rim	30.8	0.1	0.0	64.0	4.8	0.2	0.0	0.0	0.0	1.9	101.8	12	88	0.3
MFT-42 - 1	bigger grain - Core	30.6	0.1	0.0	63.9	5.0	0.2	0.0	0.0	0.0	1.8	101.6	12	88	0.3
MFT-42 - 2	bigger grain - Rim	31.0	0.1	0.0	64.0	4.9	0.2	0.0	0.0	0.0	1.9	102.0	12	88	0.3
MFT-44 - 1	bigger grain - Core	30.7	0.1	0.0	63.4	5.1	0.2	0.0	0.0	0.0	1.8	101.2	13	87	0.3
MFT-44 - 2	bigger grain - Rim	31.0	0.1	0.0	63.6	5.0	0.2	0.0	0.0	0.0	1.9	101.8	12	87	0.4
MFT-45- 3	bigger grain - Rim	30.5	0.1	0.0	63.8	5.1	0.2	0.0	0.0	0.0	1.9	101.4	12	87	0.3
MFT-51 - 1	bigger grain - Core	30.4	0.0	0.0	63.9	4.9	0.2	0.0	0.0	0.0	1.9	101.3	12	88	0.4
MFT-51 - 2	bigger grain - Rim	30.4	0.1	0.0	64.0	4.9	0.2	0.0	0.0	0.0	1.9	101.3	12	88	0.4
MFT-56 - 1	bigger grain - Core	30.4	0.1	0.0	63.7	5.2	0.2	0.0	0.0	0.0	1.8	101.4	13	87	0.3
MFT-56 - 2	bigger grain - Rim	30.8	0.1	0.0	63.9	5.2	0.2	0.0	0.0	0.0	1.9	102.0	13	87	0.3
MFT-60 - 1	bigger grain - Core	30.6	0.1	0.0	63.5	5.2	0.2	0.0	0.0	0.0	1.8	101.4	13	87	0.3
MFT-60 - 2	bigger grain - Rim	30.9	0.1	0.0	63.7	4.9	0.2	0.0	0.0	0.0	1.9	101.7	12	88	0.4
MFT-62 - 1	bigger grain - Core	30.3	0.1	0.0	63.8	5.1	0.2	0.0	0.0	0.0	1.9	101.4	12	87	0.3
MFT-62 - 2	bigger grain - Rim	30.1	0.1	0.0	63.2	5.0	0.2	0.0	0.0	0.0	1.9	100.5	12	87	0.3
MFT-67 - 1	bigger grain - Core	30.8	0.1	0.0	63.4	5.3	0.2	0.0	0.0	0.0	1.9	101.7	13	87	0.4

Table A1.13: Trace elements - olivine

Info	Position	Li^e	Li^i	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
mft-o-2 - 1	smaller grain - Rim	16.0	16.1	12.9	26198	16.9	140240	41.9	4.8	1259	11.3	152.1	0.3	12142	573895	b.d.l.	0.0	6.4	0.2	0.0	b.d.l.	b.d.l.	0.1	0.3	0.0	0.2	0.2	b.d.l.	0.4	0.2	1.7	0.6
mft-o-2 - 2	smaller grain - Core	19.4	19.4	25.8	26121	18.4	140240	72.0	13.1	1393	10.8	155.5	0.2	12167	558848	b.d.l.	0.0	5.9	0.3	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.7	0.6
mft-o-3 - 2	smaller grain - Core	17.3	17.8	12.6	26441	20.2	140240	71.9	4.0	1373	11.2	179.3	0.3	12022	558872	b.d.l.	b.d.l.	6.2	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.6	0.6
mft-o-4 - 1	smaller grain - Rim	16.1	16.3	8.9	27369	14.1	140240	54.3	5.8	1453	10.9	126.7	0.2	11961	551294	b.d.l.	b.d.l.	6.0	0.2	0.0	b.d.l.	b.d.l.	0.0	0.1	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.6	0.6
mft-o-4 - 2	smaller grain - Core	16.5	16.9	7.6	27516	14.8	140240	55.1	3.7	1370	10.9	129.1	0.2	11938	547635	b.d.l.	b.d.l.	5.9	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.6	0.6
mft-o-8 - 2	smaller grain - Core	17.2	18.2	11.9	27991	16.9	140240	85.8	1.9	1295	11.1	141.8	0.2	11918	521659	b.d.l.	b.d.l.	5.8	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.5	0.6
mft-o-10 - 1	smaller grain - Rim	16.6	16.2	6.1	27113	34.1	140240	69.6	8.8	1148	10.4	92.7	0.3	11911	509657	0.2	0.1	5.6	0.1	0.0	0.2	0.3	0.1	1.0	0.0	0.1	0.1	0.0	0.3	0.1	1.7	0.6
mft-o-10 - 2	smaller grain - Core	17.2	16.7	5.9	27619	21.8	140240	78.7	7.8	1497	11.1	174.3	0.3	12153	508373	b.d.l.	0.0	8.3	0.2	0.0	0.0	b.d.l.	1.6	4.1	0.5	2.5	0.6	0.0	0.9	0.2	2.2	0.7
mft-o-11 - 1	smaller grain - Rim	16.5	16.2	13.1	27561	15.0	140240	37.7	4.3	1266	10.9	122.2	0.2	12105	510253	b.d.l.	b.d.l.	5.9	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.7	0.6
mft-o-11 - 3	smaller grain - Rim	16.7	16.3	7.5	27415	15.4	140240	39.2	3.2	1351	11.1	142.1	0.3	12003	505581	b.d.l.	b.d.l.	5.8	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	0.0	0.3	0.1	1.7	0.6
mft-o-12 - 1	smaller grain - Rim	17.6	17.1	7.3	28051	7.6	140240	39.8	1.7	1300	10.6	69.1	0.2	12325	519567	b.d.l.	b.d.l.	5.5	0.1	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	0.0	0.3	0.1	1.6	0.6
mft-o-12 - 2	smaller grain - Core	16.4	16.2	8.2	27441	9.6	140240	31.3	7.2	1200	10.6	71.9	0.3	12149	508868	0.2	0.0	5.7	0.2	0.1	0.3	0.2	0.0	0.2	0.0	0.1	0.1	0.0	0.3	0.1	1.5	0.6
mft-o-13 - 1	smaller grain - Rim	17.0	16.9	18.9	27691	13.3	140240	46.8	2.6	1306	11.1	108.0	0.3	12410	522079	b.d.l.	b.d.l.	5.9	0.2	0.0	0.0	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.7	0.6
mft-o-16 - 1	smaller grain - Rim	15.7	15.5	6.1	27079	43.7	140240	45.4	4.1	1333	10.6	100.9	0.4	12175	514440	0.1	0.1	6.7	0.3	0.3	0.1	0.7	0.4	2.4	0.1	0.5	0.2	b.d.l.	0.5	0.2	1.6	0.6
mft-o-18 - 1	smaller grain - Rim	16.4	15.5	8.3	26361	13.1	140240	31.5	2.6	1393	11.1	115.9	0.3	12056	511567	b.d.l.	b.d.l.	5.6	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.6	0.6
mft-o-18 - 2	smaller grain - Core	18.7	18.9	12.7	26364	25.2	140240	85.1	8.8	1381	11.6	204.6	0.3	12191	521008	b.d.l.	0.1	6.7	0.2	0.0	b.d.l.	0.6	0.2	0.5	0.1	0.3	0.1	0.0	0.4	0.2	1.7	0.6
mft-o-19 - 1	smaller grain - Rim	14.2	13.9	4.7	26814	14.8	140240	35.8	4.3	1384	10.8	128.8	0.3	12161	523941	b.d.l.	b.d.l.	6.1	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.6	0.6
mft-o-20 - 2	smaller grain - Core	17.5	18.1	11.7	27196	21.4	140240	70.5	3.2	1291	10.7	169.6	0.3	12168	529433	b.d.l.	b.d.l.	6.1	0.2	0.0	b.d.l.	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.3	0.1	1.7	0.6
mft-o-20 - 4	smaller grain - Rim	19.3	18.4	21.0	27267	20.0	140240	66.9	3.5	1305	10.7	144.2	0.4	12191	527908	b.d.l.	0.2	6.3	0.2	0.0	b.d.l.	0.6	0.2	0.6	0.1	0.3	0.2	0.0	0.5	0.2	1.7	0.6
mft-o-23 - 3	smaller grain - Rim	17.7	16.8	23.0	26981	14.8	140240	52.5	2.5	1273	10.9	121.5	0.3	12059	535998	b.d.l.	b.d.l.	5.8	0.2	0.0	b.d.l.	b.d.l.	0.1	0.1	0.0	0.2	0.1	b.d.l.	0.4	0.1	1.7	0.6
mft-o-24 - 3	smaller grain - Rim	15.9	15.6	9.2	26788	11.4	140240	29.5	3.6	1246	11.0	109.7	0.2	12114	545262	b.d.l.	b.d.l.	5.9	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	b.d.l.	0.4	0.1	1.6	0.6
mft-o-27 - 1	smaller grain - Rim	16.2	16.0	13.6	26753	8.5	140240	41.7	7.7	1309	10.6	91.5	0.3	12011	519893	b.d.l.	b.d.l.	5.3	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.6	0.6
mft-o-29 - 1	smaller grain - Rim	16.6	15.8	15.2	26912	44.6	140240	39.4	10.7	1120	10.6	93.7	0.3	12248	522818	0.1	0.2	6.7	0.3	0.1	0.0	1.5	0.6	4.6	0.2	0.6	0.2	b.d.l.	0.5	0.2	1.9	0.6
mft-o-30 - 1	smaller grain - Rim	18.1	16.7	11.6	26174	27.1	140240	48.1	3.8	1242	10.7	93.5	0.5	12318	521133	0.0	0.2	6.6	0.5	0.7	0.0	2.6	0.5	2.5	0.2	0.6	0.2	b.d.l.	0.5	0.2	1.8	0.6
mft-o-31 - 1	smaller grain - Rim	17.6	17.0	9.0	27192	48.7	140240	48.2	5.6	1360	10.5	94.6	0.3	12448	518327	0.2	0.1	5.7	0.2	0.1	0.2	0.4	0.1	1.2	0.0	0.2	0.1	0.0	0.4	0.1	1.7	0.6
mft-o-31 - 3	smaller grain - Rim	18.4	16.3	12.2	27062	13.0	140240	47.8	3.0	1226	11.4	110.5	0.3	12093	503423	b.d.l.	b.d.l.	5.7	0.1	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.6	0.6
mft-o-33 - 1	smaller grain - Rim	16.7	15.4	10.9	27106	22.2	140240	36.8	2.6	1353	11.6	151.4	0.4	12190	497783	b.d.l.	0.1	6.6	0.2	0.0	b.d.l.	0.2	0.2	0.6	0.1	0.3	0.1	b.d.l.	0.5	0.1	1.8	0.6
mft-o-36 - 2	smaller grain - Core	17.0	16.8	11.0	27696	25.9	140240	52.0	3.4	1185	10.4	128.1	0.4	12178	462547	b.d.l.	0.1	6.8	0.2	0.1	b.d.l.	0.8	0.4	2.7	0.1	0.5	0.2	b.d.l.	0.4	0.2	1.8	0.6
mft-o-36 - 3	smaller grain - Rim	19.9	19.0	11.9	27686	15.9	140240	43.9	2.4	1200	10.9	127.3	0.2	12257	462403	b.d.l.	0.0	6.0	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.6	0.6
mft-o-38 - 1	smaller grain - Rim	16.7	16.7	9.9	28526	14.2	140240	49.8	b.d.l.	1374	11.1	122.6	0.3	12190	458114	b.d.l.	b.d.l.	6.0	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.6	0.6
mft-o-38 - 2	smaller grain - Core	16.3	16.4	11.1	28331	13.7	140240	97.2	b.d.l.	1521	11.1	106.3	0.2	12161	457695	b.d.l.	0.1	23.0	0.2	0.1	b.d.l.	b.d.l.	6.6	15.9	2.2	9.6	2.3	0.0	2.7	0.4	3.4	0.9
mft-o-40 - 1	smaller grain - Rim	17.9	16.7	15.9	28370	16.9	140240	35.7	b.d.l.	1282	9.9	130.2	0.3	12235	453223	b.d.l.	b.d.l.	6.0	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.6	0.6
mft-o-40 - 2	smaller grain - Core	16.0	15.9	13.5	28421	39.8	140240	73.4	7.4	1247	10.8	127.2	0.4	12103	448820	0.1	0.2	5.9	0.2	0.0	0.1	0.9	0.1	1.4	0.0	0.2	0.1	b.d.l.	0.4	0.1	1.6	0.6
MFT-17 - 1	bigger grain - Core	15.9	15.8	12.3	28950	9.8	140240	26.2	b.d.l.	1296	11.1	97.0	0.1	12183	480648	b.d.l.	b.d.l.	17.3	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.8	0.7

Table A1.13: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
3.1	0.7	6.9	1.4	0.0	b.d.l.	1.7	0.0	0.0
3.0	0.7	6.7	1.4	0.0	b.d.l.	b.d.l.	0.0	b.d.l.
3.0	0.7	6.9	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
2.9	0.7	6.9	1.4	0.0	b.d.l.	0.4	b.d.l.	0.0
2.9	0.7	6.9	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0
3.0	0.7	6.4	1.4	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
2.9	0.7	6.8	1.3	0.0	b.d.l.	2.7	0.0	0.0
3.3	0.7	7.4	1.4	0.0	b.d.l.	0.5	0.1	0.0
2.9	0.7	6.7	1.4	0.0	b.d.l.	b.d.l.	b.d.l.	0.0
3.0	0.7	6.8	1.4	0.0	b.d.l.	b.d.l.	b.d.l.	0.0
3.0	0.7	6.5	1.4	0.0	b.d.l.	0.1	b.d.l.	b.d.l.
2.9	0.7	6.6	1.3	0.0	b.d.l.	4.7	0.0	b.d.l.
2.8	0.7	6.8	1.4	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.
3.1	0.7	6.8	1.4	0.0	0.0	12.0	0.0	0.0
3.0	0.7	6.7	1.4	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
3.0	0.7	7.2	1.4	0.0	b.d.l.	0.0	0.0	0.0
2.9	0.7	6.7	1.4	0.0	b.d.l.	0.9	b.d.l.	0.0
3.0	0.7	6.9	1.4	b.d.l.	b.d.l.	b.d.l.	0.0	0.0
3.1	0.7	6.9	1.4	0.0	b.d.l.	2.5	0.0	0.0
2.9	0.7	6.6	1.3	0.0	b.d.l.	0.8	0.0	b.d.l.
2.9	0.7	6.7	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
2.9	0.7	6.5	1.3	0.0	b.d.l.	0.1	b.d.l.	b.d.l.
3.1	0.7	6.7	1.3	0.0	b.d.l.	8.8	0.0	0.0
3.0	0.7	6.8	1.3	0.0	0.0	10.1	0.1	0.0
2.9	0.7	6.6	1.3	0.0	b.d.l.	1.1	0.0	0.0
2.9	0.7	6.7	1.3	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
3.1	0.7	7.1	1.4	b.d.l.	b.d.l.	3.8	0.0	0.0
3.0	0.7	6.8	1.4	0.0	b.d.l.	3.8	0.0	0.0
2.9	0.7	6.7	1.4	0.0	0.0	0.6	b.d.l.	b.d.l.
2.9	0.7	6.8	1.4	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0
3.7	0.7	7.0	1.4	0.0	b.d.l.	0.0	0.6	0.1
3.0	0.7	6.8	1.4	0.0	b.d.l.	0.1	b.d.l.	b.d.l.
3.0	0.7	6.8	1.4	0.0	b.d.l.	1.7	0.0	0.0
3.3	0.8	7.6	1.5	0.0	b.d.l.	b.d.l.	b.d.l.	0.0

Table A1.13: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MET-31 - 1	bigger grain - Core	18.6	17.6	11.3	27524	9.9	140240	41.7	b.d.l.	1330	11.7	108.2	0.3	12499	469037	b.d.l.	b.d.l.	17.3	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.2	1.9	0.6
MET-31 - 2	bigger grain - Rim	17.2	16.9	13.4	27985	6.3	140240	25.0	b.d.l.	1334	11.5	70.7	0.2	12419	468799	b.d.l.	b.d.l.	17.2	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.8	0.7
MET-32 - 2	bigger grain - Rim	15.9	16.4	11.7	28907	13.9	140240	37.9	b.d.l.	1374	12.2	140.9	0.2	12481	467852	b.d.l.	b.d.l.	17.8	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.2	1.9	0.6
MET-33 - 1	bigger grain - Core	16.8	16.5	10.9	27772	13.1	140240	33.9	b.d.l.	1316	11.7	125.3	0.2	12322	454581	b.d.l.	b.d.l.	17.8	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	b.d.l.	0.4	0.2	1.8	0.7
MET-33 - 2	bigger grain - Rim	18.1	16.8	10.1	28449	10.7	140240	32.2	b.d.l.	1307	11.7	94.3	0.3	12519	464065	b.d.l.	b.d.l.	17.4	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.8	0.7
MET-35 - 1	bigger grain - Core	17.0	16.3	11.1	29335	11.7	140240	31.9	b.d.l.	1288	11.7	87.8	0.2	12396	453132	b.d.l.	b.d.l.	17.1	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.2	1.7	0.7
MET-35 - 2	bigger grain - Rim	17.2	16.6	12.0	30274	9.6	140240	25.9	b.d.l.	1425	12.2	91.0	0.1	12904	476038	b.d.l.	b.d.l.	17.3	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.2	1.8	0.6
MET-37 - 3	bigger grain - Rim	16.4	16.0	10.9	28754	14.4	140240	26.6	b.d.l.	1404	11.8	92.1	0.3	12318	442871	b.d.l.	0.0	17.2	0.2	0.1	0.0	0.8	0.0	0.7	0.0	0.1	0.1	0.0	0.4	0.1	1.8	0.7
MET-38 - 2	bigger grain - Rim	16.8	16.9	11.3	27550	9.6	140240	29.6	b.d.l.	1343	11.5	83.8	0.2	12703	448128	b.d.l.	b.d.l.	17.5	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	0.0	0.4	0.1	1.8	0.7
MET-40 - 1	bigger grain - Core	16.7	16.5	13.7	26985	26.1	140240	26.6	b.d.l.	1318	11.6	90.7	0.6	12463	437154	b.d.l.	0.5	19.0	0.1	0.0	0.0	1.0	0.6	3.1	0.2	0.7	0.3	0.0	0.6	0.2	2.2	0.7
MET-40 - 2	bigger grain - Rim	17.3	16.4	7.8	27062	8.4	140240	31.5	b.d.l.	1421	11.1	83.1	0.2	12218	434654	b.d.l.	b.d.l.	17.3	0.1	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.1	1.8	0.6
MET-42 - 1	bigger grain - Core	15.7	16.1	7.4	27848	13.3	140240	32.5	b.d.l.	1184	11.4	134.9	0.3	12379	444221	b.d.l.	b.d.l.	17.3	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	0.0	0.4	0.2	1.7	0.6
MET-42 - 2	bigger grain - Rim	17.9	17.4	11.4	27544	17.8	140240	42.8	b.d.l.	1337	11.8	145.0	0.3	12502	452325	b.d.l.	b.d.l.	17.8	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.2	1.7	0.7
MET-44 - 1	bigger grain - Core	16.0	15.9	8.9	28774	11.8	140240	31.3	b.d.l.	1329	11.6	106.3	0.2	12458	460139	b.d.l.	b.d.l.	17.3	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.0	0.4	0.1	1.8	0.7
MET-44 - 2	bigger grain - Rim	16.3	16.4	10.3	28146	12.3	140240	36.9	b.d.l.	1359	11.7	105.9	0.3	12341	456212	b.d.l.	b.d.l.	17.1	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.8	0.6
MET-48 - 1	bigger grain - Core	16.9	16.6	11.1	28283	31.2	140240	44.1	b.d.l.	1285	11.5	118.7	0.4	12391	473725	0.1	0.3	17.7	0.2	0.0	0.1	1.4	0.3	2.2	0.1	0.4	0.2	0.0	0.5	0.2	1.9	0.6
MET-48 - 2	bigger grain - Rim	18.3	17.8	12.8	28901	17.3	140240	61.0	b.d.l.	1288	11.2	85.9	0.4	12432	474552	b.d.l.	0.2	17.6	0.2	0.0	b.d.l.	0.8	0.2	1.3	0.1	0.3	0.1	b.d.l.	0.5	0.2	1.8	0.7
MET-51 - 2	bigger grain - Rim	17.9	17.5	9.2	26882	19.8	140240	49.2	b.d.l.	1349	12.6	178.3	0.3	12625	487808	b.d.l.	b.d.l.	18.5	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.9	0.7
MET-56 - 2	bigger grain - Rim	16.2	16.4	6.7	27029	13.2	140240	39.5	4.0	1289	11.5	95.9	0.2	12129	461033	b.d.l.	b.d.l.	17.0	0.2	0.0	b.d.l.	b.d.l.	0.0	0.1	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.7	0.6
MET-60 - 2	bigger grain - Rim	18.7	17.8	8.8	27501	11.6	140240	51.2	b.d.l.	1398	11.3	93.7	0.3	12518	475157	b.d.l.	b.d.l.	17.3	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	0.0	0.4	0.1	1.8	0.6
MET-62 - 1	bigger grain - Core	17.2	16.1	9.2	28191	16.1	140240	29.2	b.d.l.	1402	12.0	145.1	0.2	12436	466356	b.d.l.	b.d.l.	17.4	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.2	1.7	0.7
MET-67 - 1	bigger grain - Core	16.4	15.8	9.6	28575	16.5	140240	26.3	b.d.l.	1371	11.8	138.1	0.3	12240	473757	b.d.l.	b.d.l.	17.4	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.7	0.7
MET-maf-33 - 2	bigger grain - Rim	16.5	15.4	14.8	21443	15.0	140240	46.3	b.d.l.	1076	9.6	75.0	0.1	11579	402036	b.d.l.	b.d.l.	13.9	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	0.1	0.1	b.d.l.	0.3	0.1	1.4	0.5
MET-maf-33 - 3	bigger grain - Rim	15.2	15.5	13.8	21309	8.3	140240	40.6	b.d.l.	1195	9.6	63.7	0.2	11569	401226	b.d.l.	b.d.l.	13.9	0.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.4	0.6
MET-maf-33 - 4	bigger grain - Rim	19.1	17.2	14.4	21521	12.1	140240	54.7	b.d.l.	995	9.2	65.5	b.d.l.	11752	407342	b.d.l.	b.d.l.	14.4	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.4	0.1	1.5	0.5
MET-maf-33 - 5	bigger grain - Core	18.0	17.2	15.5	21918	10.5	140240	59.7	6.0	1011	9.5	68.4	0.2	11853	410512	b.d.l.	b.d.l.	14.1	0.1	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.4	0.5
MET-maf-33 - 6	bigger grain - Core	18.8	17.3	18.1	21510	9.8	140240	73.4	b.d.l.	1248	9.0	69.8	0.1	11841	411606	b.d.l.	b.d.l.	14.1	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.4	0.5
MET-maf-33 - 7	bigger grain - Core	17.2	18.1	13.8	22038	13.2	140240	48.8	b.d.l.	1324	9.6	68.3	0.2	12012	414446	b.d.l.	b.d.l.	14.3	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	0.1	b.d.l.	0.4	0.1	1.5	0.5
MET-maf-33 - 8	bigger grain - Core	16.6	16.8	12.8	21623	7.2	140240	70.8	b.d.l.	1150	9.1	61.5	0.2	11782	406382	b.d.l.	b.d.l.	13.8	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.1	b.d.l.	0.2	0.1	1.3	0.5
MET-maf-33 - 9	bigger grain - Core	17.7	17.2	14.4	21771	12.4	140240	62.7	b.d.l.	1367	9.4	65.5	0.2	11939	412428	b.d.l.	b.d.l.	14.0	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	0.1	b.d.l.	0.3	0.1	1.5	0.6
MET-maf-33 - 10	bigger grain - Core	16.0	15.9	13.7	20836	11.8	140240	40.0	b.d.l.	1157	9.2	65.7	0.2	11806	404073	b.d.l.	b.d.l.	13.8	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	0.1	b.d.l.	0.0	0.2	0.1	1.5	0.5
MET-maf-33 - 11	bigger grain - Core	15.8	16.3	15.6	21391	12.9	140240	37.8	5.6	1345	9.4	87.8	0.2	11728	405354	b.d.l.	b.d.l.	14.7	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	0.1	b.d.l.	0.2	0.1	1.5	0.5
MET-maf-33 - 12	bigger grain - Core	18.1	15.8	13.1	21563	15.6	140240	29.2	b.d.l.	1019	9.6	99.2	0.2	12080	417666	b.d.l.	0.1	15.2	0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.4	0.5
MET-maf-33 - 13	bigger grain - Core	17.0	15.7	13.2	21536	15.3	140240	30.4	b.d.l.	1185	10.1	98.9	0.1	11941	412024	b.d.l.	b.d.l.	14.8	0.1	0.0	b.d.l.	b.d.l.	0.0	0.2	0.0	0.2	0.1	b.d.l.	0.3	0.1	1.5	0.5
MET-maf-33 - 14	bigger grain - Core	15.8	15.8	13.5	21823	16.1	140240	49.0	b.d.l.	1133	9.9	103.0	0.1	11877	407670	b.d.l.	b.d.l.	14.8	0.2	b.d.l.	b.d.l.	b.d.l.	0.1	0.2	b.d.l.	0.1	0.1	b.d.l.	0.3	0.2	1.3	0.6
MET-maf-33 - 16	bigger grain - Core	15.3	15.4	14.8	21154	14.1	140240	48.6	b.d.l.	1097	9.4	91.6	0.1	11624	401370	b.d.l.	b.d.l.	14.5	0.2	0.0	b.d.l.	b.d.l.	0.2	0.5	0.1	0.4	0.1	0.0	0.3	0.1	1.5	0.5
MET-maf-33 - 17	bigger grain - Core	15.8	15.4	13.2	21305	15.9	140240	43.1	b.d.l.	1080	9.6	79.8	0.1	11655	404946	b.d.l.	b.d.l.	14.2	0.1	0.0	b.d.l.	b.d.l.	0.1	0.4	0.0	0.2	0.1	b.d.l.	0.3	0.1	1.3	0.5
MET-maf-33 - 18	bigger grain - Core	16.9	15.9	14.7	21240	10.4	140240	41.1	b.d.l.	1214	9.3	70.3	0.2	11944	409611	b.d.l.	b.d.l.	14.4	0.1	0.0	b.d.l.	b.d.l.	0.1	0.3	0.0	0.2	0.1	b.d.l.	0.4	0.1	1.5	0.5
MET-maf-33 - 19	bigger grain - Core	17.7	16.7	16.9	21534	25.6	140240	48.2	b.d.l.	1257	9.4	61.4	0.3	12200	413881	0.1	0.1	14.8	0.2	0.1	0.1	0.8	0.1	1.0	0.0	0.2	0.1	b.d.l.	0.2	0.1	1.6	0.6
MET-maf-33 - 20	bigger grain - Core	15.5	16.8	15.8	21457	11.5	140240	42.9	b.d.l.	1406	9.5	61.6	0.2	11990	408133	b.d.l.	b.d.l.	14.4	0.1	0.0	b.d.l.	0.3	0.0	0.2	b.d.l.	0.2	0.1	b.d.l.	0.3	0.1	1.6	0.5
MET-maf-33 - 21	bigger grain - Core	19.1	16.8	13.4	21665	9.1	140240	67.5	b.d.l.	1334	9.0	60.4	0.1	11856	414566	b.d.l.	b.d.l.	13.8	0.1	b.d.l.	b.d.l.	b.d.l.	0.0	0.1	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.3	0.5
MET-maf-33 - 22	bigger grain - Core	17.0	17.6	19.6	21520	9.9	140240	67.2	b.d.l.	886	9.5	64.4	0.1	11991	415735	b.d.l.	b.d.l.	14.6	0.1	b.d.l.	b.d.l.	b.d.l.	0.0	0.1	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.5	0.5
MET-maf-33 - 26	bigger grain - Core	16.1	17.1	20.2	21427	30.8	140240	65.0	11.6	1123	9.3	63.9	0.2	11652	406988	0.2	0.1	14.1	0.1	0.1	0.1	8.5	0.0	0.5	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.5	0.5
MET-maf-33 - 27	bigger grain - Core	18.4	17.6	18.1	21801	34.2	140240	62.4	7.6	1168	9.1	59.9	0.2	11790	411939	b.d.l.	0.1	13.9	0.1	0.0	0.1	5.3	0.0	0.3	0.0	0.2	0.1	b.d.l.	0.2	0.1	1.4	0.5
MET-maf-33 - 28	bigger grain - Core	18.3	17.1	15.5	21150	20.7	140240	50.7	b.d.l.	1298	9.6	59.4	0.1	11791	409933	b.d.l.	b.d.l.	13.5	0.1	0.1	0.0	2.9	0.0	0.2	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.4	0.6
MET-maf-33 - 29	bigger grain - Core	17.7	16.6	13.4	21666	27.1	140240	37.6	6.8	1316	9.3	62.4	0.2	11689	406231	b.d.l.	0.2	14.1	0.1	0.0	b.d.l.	3.6	0.2	2.5	0.0	0.3	0.1	b.d.l.	0.4	0.1	1.6	0.6
MET-maf-33 - 30	bigger grain - Rim	18.3	15.4	13.8	21568	14.5	140240	34.8	b.d.l.	1042	9.1	64.2	0.2	11814	410461	b.d.l.	b.d.l.	14.1	0.1	b.d.l.	b.d.l.	1.5	b.d.l.	0.1	b.d.l.	0.1	0.1	b.d.l.	0.3	0.1	1.4	0.5

Table A1.13: continued

Er	Tm	Yb	Lu	Hf
3.3	0.8	7.5	1.3	b.d.l.
3.2	0.7	7.5	1.2	b.d.l.
3.4	0.8	7.6	1.2	0.0
3.3	0.8	7.6	1.6	b.d.l.
3.3	0.8	7.7	1.6	0.0
3.2	0.7	7.3	1.3	b.d.l.
3.3	0.7	7.5	1.3	0.0
3.3	0.8	7.1	1.3	0.0
3.3	0.9	7.4	1.3	b.d.l.
3.6	0.8	7.8	1.6	0.0
3.4	0.7	7.3	1.3	b.d.l.
3.4	0.8	7.4	1.3	0.0
3.2	0.7	7.2	1.3	b.d.l.
3.3	0.7	7.7	1.3	0.0
3.1	0.7	7.1	1.3	b.d.l.
3.6	0.8	7.6	1.6	0.0
3.1	0.8	7.0	1.3	b.d.l.
3.2	0.7	7.4	1.3	0.0
3.3	0.7	7.3	1.3	b.d.l.
2.9	0.6	6.1	1.3	0.0
2.7	0.6	6.0	1.2	b.d.l.
2.7	0.6	5.6	1.3	0.0
2.8	0.6	6.2	1.3	b.d.l.
2.9	0.6	5.9	1.2	0.0
2.7	0.6	6.0	1.2	b.d.l.
2.5	0.6	5.8	1.2	0.0
2.5	0.6	5.6	1.1	b.d.l.
2.7	0.6	5.9	1.2	b.d.l.
2.6	0.6	5.2	1.3	b.d.l.
2.8	0.7	6.3	1.3	b.d.l.
2.8	0.7	6.2	1.2	b.d.l.
2.7	0.6	6.4	1.3	0.0
2.7	0.6	5.7	1.3	0.0
2.5	0.6	6.0	1.5	b.d.l.
2.5	0.7	5.9	1.3	0.0
2.2	0.7	5.2	1.3	0.0
2.8	0.6	6.0	1.4	0.0
2.4	0.6	6.0	1.3	0.0
2.6	0.6	5.8	1.1	b.d.l.
2.5	0.7	5.9	1.2	0.0
2.6	0.6	5.8	1.4	b.d.l.
2.6	0.6	5.8	1.2	0.0
2.6	0.6	5.8	1.2	0.0
2.6	0.6	5.8	1.2	0.0
2.6	0.6	6.0	1.1	b.d.l.

Table A1.13: continued

Info	Position	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
MFT-maf-33 - 31	bigger grain - Rim	17.0	15.9	15.0	21649	9.0	140240	32.8	b.d.l.	1162	9.5	64.3	0.2	11806	398566	b.d.l.	b.d.l.	14.3	0.2	0.0	b.d.l.	0.8	0.0	0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.4	0.1	1.6	0.5
MFT-maf-33 - 32	bigger grain - Rim	15.9	15.9	15.2	21770	14.0	140240	30.1	b.d.l.	1234	9.6	77.7	0.1	11944	409038	b.d.l.	b.d.l.	14.5	0.1	0.0	b.d.l.	0.4	b.d.l.	0.1	b.d.l.	b.d.l.	0.1	0.0	0.3	0.1	1.3	0.5
MFT-maf-32 - 2	bigger grain - Rim	17.1	15.7	15.2	21624	52.9	140240	43.0	9.1	1198	9.8	105.1	0.2	11764	404545	b.d.l.	0.2	14.6	0.2	0.0	0.1	1.3	0.0	0.5	b.d.l.	0.1	0.1	b.d.l.	0.3	0.1	1.6	0.5
MFT-maf-32 - 3	bigger grain - Rim	14.7	14.5	12.8	21482	18.0	140240	43.5	b.d.l.	1378	9.6	109.6	0.2	11482	394211	b.d.l.	b.d.l.	14.1	0.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	b.d.l.	0.1	b.d.l.	0.4	0.1	1.5	0.5
MFT-maf-32 - 4	bigger grain - Rim	15.5	15.5	25.6	22183	17.3	140240	46.8	14.8	1414	9.8	106.7	0.2	11773	412819	0.2	1.9	14.7	0.2	0.0	0.1	11.4	0.4	0.8	0.1	0.7	0.2	b.d.l.	0.4	0.1	1.5	0.6
MFT-maf-32 - 5	bigger grain - Core	15.8	15.7	16.0	22705	13.6	140240	38.4	b.d.l.	968	10.3	104.0	0.2	11816	411845	b.d.l.	b.d.l.	14.7	0.2	b.d.l.	b.d.l.	0.3	0.1	0.0	0.0	0.2	0.2	0.0	0.4	0.1	1.4	0.5
MFT-maf-32 - 6	bigger grain - Core	15.8	15.4	12.1	21812	17.0	140240	45.0	b.d.l.	1344	9.8	91.4	0.3	11694	403748	b.d.l.	b.d.l.	14.5	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	0.1	0.1	b.d.l.	0.4	0.1	1.3	0.5
MFT-maf-32 - 8	bigger grain - Core	15.9	15.0	13.0	22281	17.0	140240	43.1	b.d.l.	1237	9.6	103.9	0.2	11633	398968	b.d.l.	b.d.l.	13.9	0.2	0.0	b.d.l.	b.d.l.	0.0	0.0	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.3	0.5
MFT-maf-32 - 9	bigger grain - Core	15.2	15.1	14.6	22315	15.8	140240	48.4	b.d.l.	839	9.3	106.9	0.2	11661	396886	b.d.l.	b.d.l.	14.0	0.2	0.0	b.d.l.	b.d.l.	0.4	1.2	0.1	0.4	0.2	b.d.l.	0.3	0.1	1.5	0.5
MFT-maf-32 - 10	bigger grain - Core	15.2	15.1	12.7	22548	14.4	140240	41.8	b.d.l.	1201	9.6	101.1	0.2	11821	404487	b.d.l.	b.d.l.	14.4	0.2	b.d.l.	b.d.l.	b.d.l.	0.0	0.4	0.0	0.2	0.1	b.d.l.	0.2	0.1	1.4	0.5
MFT-maf-32 - 11	bigger grain - Core	15.9	14.7	14.2	22071	15.6	140240	41.6	b.d.l.	1361	9.9	90.2	0.2	11466	394627	b.d.l.	b.d.l.	13.9	0.1	0.1	b.d.l.	b.d.l.	0.8	2.7	0.3	1.0	0.3	b.d.l.	0.6	0.2	1.6	0.6
MFT-maf-32 - 12	bigger grain - Core	17.8	16.0	14.5	22748	15.0	140240	55.6	b.d.l.	1274	9.8	103.5	0.2	11786	411842	b.d.l.	b.d.l.	14.1	0.2	0.0	b.d.l.	b.d.l.	0.4	1.9	0.2	0.6	0.2	b.d.l.	0.5	0.1	1.5	0.5
MFT-maf-32 - 13	bigger grain - Core	17.9	16.3	13.3	22956	16.6	140240	70.6	7.7	1233	9.8	117.9	0.3	12271	418096	b.d.l.	b.d.l.	14.6	0.2	b.d.l.	b.d.l.	b.d.l.	0.2	0.9	0.1	0.4	0.2	b.d.l.	0.3	0.1	1.5	0.5
MFT-maf-32 - 14	bigger grain - Core	16.7	17.2	16.0	22374	19.8	140240	84.6	b.d.l.	1066	9.7	114.8	0.2	11696	403080	b.d.l.	b.d.l.	14.6	0.2	0.0	b.d.l.	b.d.l.	0.1	0.3	0.0	0.2	0.1	b.d.l.	0.4	0.1	1.6	0.5
MFT-maf-32 - 15	bigger grain - Core	16.7	16.0	13.1	22377	15.2	140240	78.2	b.d.l.	1295	9.4	110.8	0.3	11460	395720	b.d.l.	b.d.l.	14.1	0.1	0.0	b.d.l.	b.d.l.	0.1	0.2	b.d.l.	0.2	0.1	b.d.l.	0.3	0.1	1.7	0.5
MFT-maf-32 - 19	bigger grain - Core	16.3	17.1	30.7	23353	30.8	140240	61.0	16.7	1205	9.5	95.9	0.6	11828	408477	0.1	0.5	16.3	0.1	0.0	0.1	1.7	0.9	3.5	0.3	1.2	0.5	b.d.l.	0.7	0.2	1.9	0.7
MFT-maf-32 - 20	bigger grain - Core	15.8	16.3	16.6	22718	20.9	140240	65.4	13.2	1266	9.6	103.5	0.3	11531	401818	b.d.l.	b.d.l.	13.5	0.2	0.0	b.d.l.	0.4	0.0	0.4	0.0	b.d.l.	0.1	b.d.l.	0.2	0.1	1.4	0.5
MFT-maf-32 - 21	bigger grain - Core	17.8	17.7	18.3	22393	20.6	140240	85.1	6.5	1001	9.6	123.0	0.3	11893	405730	b.d.l.	b.d.l.	14.2	0.2	b.d.l.	b.d.l.	b.d.l.	0.0	0.3	b.d.l.	0.1	0.1	0.0	0.3	0.1	1.5	0.6
MFT-maf-32 - 22	bigger grain - Core	18.2	17.4	18.6	22553	21.8	140240	77.1	b.d.l.	1384	9.8	126.8	0.2	11562	405700	0.1	0.1	14.2	0.2	0.0	b.d.l.	0.5	0.1	0.3	0.0	0.2	0.1	b.d.l.	0.2	0.1	1.6	0.5
MFT-maf-32 - 23	bigger grain - Core	16.8	16.4	15.1	22433	22.6	140240	54.9	b.d.l.	1045	9.6	122.7	0.3	11622	405825	b.d.l.	0.1	14.0	0.2	0.0	b.d.l.	0.3	0.0	0.1	0.0	b.d.l.	0.2	0.0	0.4	0.1	1.4	0.5
MFT-maf-32 - 32	bigger grain - Core	15.3	15.5	41.8	22974	59.5	140240	93.7	104.2	1298	10.0	149.0	0.3	11795	410518	0.3	b.d.l.	14.9	0.4	0.3	b.d.l.	1.0	0.6	2.0	0.2	0.9	0.3	0.0	0.5	0.1	1.7	0.6
MFT-maf-32 - 42	bigger grain - Core	16.9	15.4	14.4	22625	22.3	140240	91.6	b.d.l.	1134	9.6	122.6	0.4	11924	412289	b.d.l.	0.1	15.0	0.1	0.1	b.d.l.	0.4	1.0	4.7	0.2	1.2	0.3	b.d.l.	0.6	0.2	1.8	0.6
MFT-maf-32 - 43	bigger grain - Rim	15.8	14.9	13.6	22263	19.4	140240	71.9	b.d.l.	1256	9.6	117.9	0.3	11821	409239	b.d.l.	b.d.l.	14.9	0.2	0.1	b.d.l.	0.4	0.2	1.7	0.1	0.4	0.2	b.d.l.	0.3	0.1	1.4	0.5
MFT-maf-32 - 45	bigger grain - Rim	16.0	15.7	14.3	22537	42.5	140240	42.5	5.4	1313	10.0	116.8	0.4	12098	415118	0.2	0.2	14.7	0.2	0.0	0.1	0.7	0.2	1.7	0.1	0.2	0.1	b.d.l.	0.5	0.1	1.5	0.6
MFT-maf-32 - 46	bigger grain - Rim	14.9	15.8	19.3	21799	24.9	140240	50.7	b.d.l.	1238	10.1	112.9	0.4	11870	409991	b.d.l.	0.2	16.4	0.2	0.0	b.d.l.	1.7	0.6	1.0	0.2	0.8	0.4	b.d.l.	0.7	0.2	1.7	0.6
MFT-maf-1 - 3	bigger grain - Rim	14.9	14.7	34.3	20916	28.1	140240	20.4	11.7	1217	9.6	52.2	0.2	11243	387918	b.d.l.	b.d.l.	14.0	0.2	0.1	b.d.l.	0.3	0.1	0.7	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.4	0.5
MFT-maf-1 - 5	bigger grain - Rim	15.1	14.8	15.3	20901	13.8	140240	19.7	5.6	1139	9.6	53.1	0.2	11329	391509	b.d.l.	b.d.l.	14.1	0.2	0.1	b.d.l.	b.d.l.	0.0	1.0	0.0	0.1	0.1	b.d.l.	0.2	0.1	1.5	0.5
MFT-maf-1 - 7	bigger grain - Rim	15.9	14.5	36.9	20585	20.3	140240	20.0	15.2	1263	10.0	53.5	0.2	11048	385724	0.1	0.2	14.3	0.1	0.1	b.d.l.	0.8	0.1	1.5	0.1	0.3	0.2	b.d.l.	0.4	0.1	1.4	0.5
MFT-maf-1 - 8	bigger grain - Core	15.4	14.7	12.7	21378	13.9	140240	15.7	b.d.l.	1147	9.6	51.7	0.2	11512	395494	b.d.l.	b.d.l.	14.2	0.2	0.1	b.d.l.	0.4	0.0	0.5	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.5	0.5
MFT-maf-1 - 9	bigger grain - Core	14.5	14.0	13.8	20192	6.5	140240	26.5	b.d.l.	1047	9.0	43.2	0.1	10933	377993	b.d.l.	b.d.l.	13.7	0.1	0.0	b.d.l.	b.d.l.	0.0	0.2	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.3	0.5
MFT-maf-1 - 10	bigger grain - Core	15.0	14.4	10.4	20862	8.9	140240	23.6	4.9	1115	9.5	44.9	0.1	11353	394885	b.d.l.	0.1	14.1	0.1	0.0	b.d.l.	b.d.l.	0.0	0.1	0.0	0.1	0.1	0.0	0.3	0.1	1.4	0.5
MFT-maf-1 - 11	bigger grain - Core	15.3	14.5	16.2	20877	8.7	140240	21.8	b.d.l.	1223	9.7	49.6	0.2	11242	388841	b.d.l.	b.d.l.	14.3	0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.4	0.5
MFT-maf-1 - 12	bigger grain - Core	15.9	14.8	10.2	20967	7.7	140240	18.6	b.d.l.	1068	9.7	53.4	0.2	11427	393398	b.d.l.	b.d.l.	14.5	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	0.1	0.0	b.d.l.	0.0	b.d.l.	0.3	0.1	1.5	0.5
MFT-maf-1 - 13	bigger grain - Core	15.6	14.5	10.9	21165	8.0	140240	17.2	b.d.l.	1283	9.7	58.1	0.2	11435	395599	b.d.l.	b.d.l.	14.5	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.5	0.5
MFT-maf-1 - 14	bigger grain - Core	15.3	15.6	12.4	21075	4.1	140240	28.2	b.d.l.	1149	9.4	55.9	0.2	11574	393494	b.d.l.	b.d.l.	14.5	0.1	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.0	b.d.l.	0.3	0.1	1.5	0.5
MFT-maf-1 - 15	bigger grain - Core	15.2	14.6	13.4	20435	5.6	140240	26.8	b.d.l.	1042	9.2	55.5	0.3	11164	382946	b.d.l.	b.d.l.	13.7	0.2	0.0	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.	0.1	b.d.l.	0.2	0.1	1.4	0.5
MFT-maf-1 - 16	bigger grain - Core	14.6	15.2	11.5	20647	8.4	140240	40.2	b.d.l.	1394	9.5	53.7	0.2	11258	386821	b.d.l.	b.d.l.	13.9	0.1	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0	0.0	0.1	0.1	b.d.l.	0.2	0.1	1.4	0.5
MFT-maf-1 - 19	bigger grain - Core	14.7	15.1	13.6	21071	11.6	140240	34.4	b.d.l.	1186	9.9	55.5	0.2	11337	389112	0.1	0.1	13.9	0.2	0.1	0.0	0.3	0.0	0.5	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.5	0.5
MFT-maf-1 - 20	bigger grain - Core	16.0	14.6	11.1	20725	13.0	140240	28.0	b.d.l.	1093	9.8	55.7	0.2	11243	389151	b.d.l.	b.d.l.	13.8	0.2	0.0	0.0	0.4	0.0	0.1	0.0	b.d.l.	0.1	b.d.l.	0.3	0.1	1.3	0.6
MFT-maf-1 - 21	bigger grain - Core	16.1	14.6	9.3	21684	13.4	140240	27.3	b.d.l.	1272	10.1	56.0	0.2	11439	397675	0.1	b.d.l.	14.1	0.2	0.1	b.d.l.	0.5	0.0	0.6	0.0	0.1	0.1	b.d.l.	0.4	0.1	1.4	0.6
MFT-maf-1 - 22	bigger grain - Core	16.5	14.8	15.5	20931	15.8	140240	21.0	b.d.l.	1102	9.5	53.0	0.2	11552	394063	b.d.l.	b.d.l.	13.9	0.1	0.0	0.0	0.4	0.0	0.3	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.5	0.5
MFT-maf-1 - 23	bigger grain - Core	16.3	15.4	12.9	21318	26.9	140240	27.4	4.6	1071	9.8	57.0	0.2	11590	398008	0.1	0.4	15.3	0.1	0.0	0.1	1.5	0.4	1.1	0.2	0.6	0.3	b.d.l.	0.5	0.1	1.7	0.6
MFT-maf-1 - 26	bigger grain - Core	14.7	14.5	11.9	21079	21.9	140240	28.8	b.d.l.	1153	9.3	47.4	0.2	11369	392772	0.1	b.d.l.	14.0	0.1	0.1	0.0	b.d.l.	0.0	0.6	0.0	0.2	0.1	b.d.l.	0.2	0.1	1.4	0.5
MFT-maf-1 - 30	bigger grain - Rim	15.9	15.0	16.3	20873	28.2	140240	25.0	5.8	1375	9.6	53.6	0.3	11488	398943	0.1	0.2	14.3	0.2	0.1	0.1	1.5	0.1	2.1	0.1	0.2	0.1	b.d.l.	0.3	0.1	1.4	0.5
MFT-maf-1 - 31	bigger grain - Rim	15.9	15.0	12.8	21162	42.8	140240		b.d.l.	982	9.6	53.8	0.2	11491	392190	b.d.l.	0.1	14.3	0.2	0.1	0.0	0.7	0.1	1.5	0.0	0.1	0.1	0.0	0.3	0.1	1.4	0.5
MFT-maf-1 - 32	bigger grain - Rim	16.3	15.2	13.5	21105	22.5	140240	26.4	b.d.l.	993	9.4	53.0	0.2	11461	399400	b.d.l.	0.1	14.3	0.1	0.1	b.d.l.	0.5	0.0	1.2	0.0	0.1	0.1	b.d.l.	0.3	0.1	1.4	0.5

Table A1.13: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
2.8	0.6	5.8	1.2	b.d.l.	0.0	0.1	b.d.l.	0.0
2.7	0.6	5.8	1.2	0.0	b.d.l.	0.0	b.d.l.	b.d.l.
2.7	0.7	6.0	1.2	0.0	b.d.l.	0.2	0.0	b.d.l.
2.5	0.6	6.0	1.2	0.0	b.d.l.	b.d.l.	b.d.l.	b.d.l.
2.7	0.7	5.9	1.2	b.d.l.	0.0	b.d.l.	0.0	0.0
2.7	0.7	6.2	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
2.6	0.6	5.9	1.2	0.0	b.d.l.	b.d.l.	0.0	b.d.l.
2.6	0.5	6.0	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0
2.8	0.6	5.7	1.2	b.d.l.	b.d.l.	b.d.l.	0.0	b.d.l.
2.7	0.6	6.0	1.2	0.0	b.d.l.	b.d.l.	0.0	b.d.l.
2.7	0.6	5.5	1.2	b.d.l.	b.d.l.	b.d.l.	0.0	0.0
2.7	0.6	6.2	1.2	b.d.l.	b.d.l.	0.0	0.0	0.0
2.9	0.6	6.3	1.2	b.d.l.	b.d.l.	b.d.l.	0.0	0.0
2.6	0.6	6.2	1.2	b.d.l.	b.d.l.	0.0	0.0	b.d.l.
2.7	0.6	6.0	1.2	0.0	0.0	b.d.l.	0.0	b.d.l.
2.9	0.7	6.2	1.3	0.0	b.d.l.	9.6	0.0	0.0
2.7	0.5	5.7	1.2	0.0	b.d.l.	0.4	b.d.l.	b.d.l.
2.6	0.6	5.9	1.1	b.d.l.	b.d.l.	0.2	b.d.l.	b.d.l.
2.7	0.6	5.7	1.2	b.d.l.	b.d.l.	0.2	b.d.l.	b.d.l.
2.7	0.6	5.8	1.2	b.d.l.	b.d.l.	0.1	0.0	0.0
2.9	0.6	5.8	1.2	0.0	0.0	0.1	0.1	0.0
2.8	0.6	6.2	1.2	0.0	b.d.l.	1.1	0.0	0.0
2.8	0.6	6.0	1.2	b.d.l.	b.d.l.	0.4	0.0	0.0
2.9	0.6	6.5	1.3	0.0	b.d.l.	2.5	0.0	b.d.l.
2.9	0.6	6.1	1.2	0.0	b.d.l.	1.4	0.0	0.0
2.4	0.6	6.1	1.2	0.0	b.d.l.	0.7	0.0	b.d.l.
2.5	0.6	6.0	1.2	0.0	b.d.l.	0.4	0.0	0.0
2.8	0.6	5.8	1.2	b.d.l.	b.d.l.	1.9	0.0	b.d.l.
2.6	0.6	5.9	1.2	b.d.l.	b.d.l.	0.5	0.0	0.0
2.5	0.6	5.4	1.1	b.d.l.	b.d.l.	0.1	0.0	b.d.l.
2.8	0.6	5.6	1.2	0.0	b.d.l.	0.1	b.d.l.	b.d.l.
2.7	0.6	5.8	1.2	b.d.l.	b.d.l.	0.0	b.d.l.	b.d.l.
2.6	0.6	6.1	1.2	b.d.l.	b.d.l.	0.0	b.d.l.	0.0
2.7	0.6	5.7	1.2	0.0	b.d.l.	0.0	b.d.l.	b.d.l.
2.6	0.6	5.8	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.	0.0
2.3	0.6	5.9	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
2.7	0.6	5.9	1.2	b.d.l.	b.d.l.	b.d.l.	b.d.l.	b.d.l.
2.6	0.6	5.7	1.2	0.0	b.d.l.	1.2	0.0	b.d.l.
2.5	0.6	5.7	1.1	0.0	b.d.l.	0.5	b.d.l.	b.d.l.
2.6	0.6	5.8	1.2	b.d.l.	b.d.l.	1.3	0.0	b.d.l.
2.7	0.6	6.0	1.2	0.0	b.d.l.	0.6	0.0	b.d.l.
2.7	0.6	6.1	1.3	b.d.l.	b.d.l.	3.5	b.d.l.	0.0
2.8	0.6	6.0	1.2	b.d.l.	b.d.l.	0.5	0.0	0.0
2.6	0.6	5.6	1.2	b.d.l.	b.d.l.	2.3	0.0	0.0
2.6	0.7	5.7	1.2	0.0	b.d.l.	2.5	0.0	0.0
2.6	0.6	6.0	1.2	0.0	b.d.l.	1.1	0.0	b.d.l.

Table A1.14: Trace elements - melt inclusions

Info	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
180207-a05.xl	325	363	30262	255	82100	327194	78.4	57889	4680	4.3	1291	1.4	273	11465	282	11.2	53.2	196	43.1	3.4	154	88	185	17.2	60.4	11.0	0.3	8.4	1.3	9.3	2.0	5.4	0.7	4.7
180207-a06.xl	400	349	23879	307	84121	327196	81.7	59244	6619	3.9	928	b.d.l.	286	12191	302	4.7	64.7	178	53.1	5.3	52	80	159	16.6	53.9	11.1	0.4	10.5	1.7	12.3	2.3	7.6	0.9	6.9
180207-a07.xl	191	182	35225	248	79642	327227	52.2	57707	4405	3.2	1118	0.7	257	10587	296	6.4	55.2	187	47.6	5.2	83	85	180	16.9	56.2	11.0	0.3	10.2	1.6	9.8	2.0	6.1	0.9	5.6
180207-a08.xl	230	217	35245	294	79241	327225	54.9	58480	3996	2.6	979	0.5	254	11000	307	5.7	53.7	178	47.4	5.7	63	79	172	16.1	52.9	10.3	0.3	9.8	1.5	9.9	2.0	6.3	0.9	5.7
180207-a09.xl	130	129	33045	240	83270	327240	53.1	54329	4226	b.d.l.	743	0.4	257	11374	286	2.1	53.9	150	53.7	5.4	13	62	128	12.4	41.9	8.5	0.2	8.6	1.4	9.7	1.9	6.8	0.9	6.1
180207-a010.xl	124	109	32987	230	81091	327252	34.6	57082	4196	2.8	877	0.1	281	11918	306	2.4	66.8	166	53.1	6.6	17	75	154	15.0	50.1	10.8	0.2	10.4	1.8	11.7	2.4	7.6	1.1	7.2
180207-a014.xl	366	340	30348	274	81975	327206	74.3	60238	4902	4.2	762	0.3	335	13593	319	4.7	70.3	188	57.7	5.7	39	89	190	18.0	61.9	12.4	0.3	11.3	1.9	12.4	2.5	7.8	1.2	8.3
180207-a016.xl	264	251	34147	246	84817	327222	57.7	53263	4902	3.8	807	b.d.l.	294	11991	283	7.5	79.7	225	61.7	5.4	108	103	205	20.1	69.7	13.7	0.4	13.5	2.1	14.3	2.9	8.7	1.3	8.7
180207-a017.xl	277	276	31542	291	84687	327220	44.2	55557	4903	3.1	947	0.2	306	12538	272	12.0	80.7	272	63.7	4.2	206	121	232	22.4	84.0	15.9	0.5	14.4	2.3	15.2	2.9	8.9	1.2	8.7
180207-a018.xl	353	320	30492	265	86290	327213	b.d.l.	55611	4800	4.3	1064	0.2	292	11336	275	14.1	80.9	282	61.5	4.6	263	131	248	24.6	86.8	16.2	0.6	14.9	2.3	15.4	3.1	9.3	1.2	7.8
180207-a019.xl	64	70	34663	250	84137	327232	b.d.l.	55325	5501	3.3	188	0.0	287	10923	340	2.3	83.4	157	59.9	6.5	19	84	159	16.4	56.7	11.0	0.1	12.2	2.0	14.0	3.1	9.5	1.2	8.8
180207-a020.xl	304	297	33040	295	84802	327200	45.4	50947	5246	3.4	984	0.4	347	14680	226	22.4	79.5	266	64.7	3.6	435	157	268	26.5	95.2	17.3	1.1	14.5	2.3	15.2	3.0	8.8	1.3	8.3
180207-a021.xl	139	137	32845	278	83826	327227	45.7	55304	4432	0.5	939	0.1	305	13201	322	4.0	70.8	163	54.9	6.4	38	79	163	15.9	53.2	11.2	0.2	10.5	1.7	12.4	2.5	8.2	1.2	7.8
180207-a022.xl	83	70	34260	276	78437	327206	150.3	58540	5107	1.5	744	b.d.l.	378	15899	349	2.1	76.9	164	61.2	7.2	11	74	168	16.7	55.7	11.8	0.2	11.5	2.0	13.3	2.7	7.3	1.1	7.4
180207-a023.xl	325	295	34664	214	83666	327222	43.8	52985	5082	2.9	1273	0.6	294	12666	308	6.2	56.0	179	47.4	6.3	57	93	177	17.5	57.4	11.0	0.3	9.2	1.5	10.0	1.9	6.1	0.8	5.5
180207-a024.xl	269	255	33033	236	82036	327195	35.6	58824	4910	3.5	853	0.2	292	12067	332	5.0	62.4	189	59.0	5.9	36	87	193	17.8	58.8	11.1	0.3	10.4	1.6	10.8	2.2	6.7	1.0	6.0
180207-a025.xl	437	397	34330	236	80802	327242	15.9	57507	5788	5.3	1275	0.6	283	12215	322	6.3	54.7	180	52.5	6.1	47	76	179	16.5	55.9	10.1	0.3	9.6	1.4	9.5	2.0	5.8	0.7	4.8
180207-a027.xl	252	246	30972	231	80217	327220	49.2	62048	4435	3.3	1224	1.0	302	13845	336	9.6	56.3	193	49.0	5.1	169	97	204	19.4	65.1	11.9	0.4	10.0	1.5	10.2	2.0	6.0	0.8	5.5
180207-a028.xl	235	231	35615	176	78142	327223	50.9	59664	4510	4.5	1436	1.5	304	13964	308	13.3	52.4	204	48.3	5.1	236	94	201	19.2	63.5	11.6	0.5	9.0	1.4	9.1	1.8	5.1	0.8	4.6
180207-a029.xl	298	287	32672	295	84518	327221	32.2	57163	4587	2.7	1011	b.d.l.	253	10428	330	2.9	67.8	169	57.6	6.3	18	162	161	16.1	53.5	10.5	0.3	10.4	1.7	11.1	2.5	7.6	1.0	7.1
180207-a031.xl	105	101	36581	246	80192	327240	47.9	57485	4381	2.7	778	b.d.l.	306	12860	363	1.7	70.1	152	61.6	7.0	10	64	140	13.5	45.5	10.0	0.2	9.8	1.7	10.7	2.4	7.2	1.1	7.3
180207-a035.xl	140	131	35809	288	80320	327211	34.0	54346	5004	2.4	734	0.2	362	15761	333	1.2	80.2	145	64.7	8.0	4	65	137	13.4	42.8	10.1	0.1	10.5	1.9	12.6	2.8	8.4	1.4	8.5
180207-a036.xl	385	341	27630	216	88490	327237	b.d.l.	56059	3854	b.d.l.	715	0.7	315	12176	325	4.1	77.7	182	56.9	5.1	23	77	161	16.6	56.2	12.8	0.2	10.5	1.8	12.7	2.5	7.0	1.0	7.3
180207-a037.xl	73	73	31866	238	80954	327244	36.9	59438	5141	3.0	897	0.2	337	13862	335	9.8	69.5	234	70.1	5.4	167	95	195	19.0	64.9	12.8	0.5	11.4	1.8	11.8	2.4	7.3	1.0	7.0
180207-a038.xl	353	372	33281	239	83988	327252	43.2	55001	4911	4.2	1339	0.3	279	11789	309	6.3	61.5	201	50.2	5.9	60	86	181	17.6	58.0	12.0	0.4	10.0	1.6	10.6	2.2	5.8	0.9	6.6
180207-a039.xl	307	323	25001	214	90053	327214	41.2	55472	4625	b.d.l.	1019	0.6	284	11935	286	6.8	65.4	209	46.4	5.0	65	91	170	17.9	62.7	12.4	0.2	10.1	1.8	11.6	2.4	7.2	0.9	5.6
180207-a041.xl	301	277	35939	202	83338	327216	37.5	50730	5530	2.7	1069	0.1	350	13682	232	20.4	86.0	311	68.8	4.1	339	132	261	26.8	94.2	19.1	1.1	16.1	2.6	15.6	3.2	9.5	1.4	9.3
180207-a042.xl	318	317	32740	218	83486	327223	42.6	53528	5800	3.1	1150	0.3	344	13761	239	21.0	82.0	297	63.9	3.7	422	130	253	25.9	89.1	17.3	1.1	16.4	2.3	15.0	3.1	8.5	1.2	8.2
180207-a043.xl	305	311	34100	237	82390	327229	26.1	55470	5566	3.4	1234	0.4	309	12303	254	18.1	83.3	302	64.0	3.9	370	136	271	26.6	92.4	20.9	1.1	15.6	2.4	15.1	3.0	9.7	1.3	8.6

Table A1.14: continued

Lu	Hf	Ta	Pb	Th	U
0.8	7.0	3.8	43.6	39.9	8.3
0.8	8.1	4.3	52.8	40.6	10.1
0.8	7.4	3.7	44.5	37.8	9.0
0.8	7.3	3.4	46.7	39.0	9.2
0.9	7.5	4.6	50.5	41.7	10.0
1.0	7.3	4.3	48.8	42.8	11.0
1.0	8.9	4.6	47.0	40.7	10.6
1.2	10.1	5.1	44.4	42.2	9.8
1.3	10.2	4.4	41.1	39.8	8.3
1.2	11.1	4.4	40.9	39.9	8.3
1.4	7.4	4.6	45.9	46.2	10.6
1.2	10.5	4.7	36.5	42.4	8.6
1.0	6.9	4.5	47.3	46.0	10.1
1.1	7.7	4.8	53.2	44.7	11.6
0.8	6.6	3.7	41.6	39.3	10.1
0.9	7.4	4.2	46.5	36.6	10.2
0.8	6.3	3.7	41.1	37.4	10.7
0.8	6.6	3.4	43.4	37.7	9.1
0.7	6.4	3.2	43.2	36.3	8.8
1.1	7.1	4.5	44.4	44.0	10.6
1.0	6.8	4.3	49.2	40.8	11.5
1.1	6.5	5.4	50.4	47.5	13.0
0.9	8.8	3.9	45.8	45.3	9.0
1.0	8.6	4.6	49.0	33.8	9.0
0.9	5.7	4.2	44.8	41.0	9.2
0.9	7.3	3.8	40.1	43.5	8.7
1.2	11.8	4.6	39.3	38.9	8.5
1.1	10.5	4.3	42.1	37.4	7.5
1.2	10.6	4.4	42.8	37.6	7.8

Table A1.15: Lithium isotopes

Sample			Li (ppm)	Li (ppm)	d⁷Li	2SD
			ICPMS	MC-ICP-MS		
MFT Bulk 1			36.6	39.0	4.28	0.15
MFT Bulk 2			39.3	37.3	3.94	0.29
MFT Olivine 1			32.2	30.6	3.05	0.41
MFT Olivine 2			25.4	24.1	3.10	0.19
MFT Groundmass Glass1			29.3	32.8	6.92	0.57
MFT Groundmass Glass2			26.2	27.2	6.48	0.42
MFT Groundmass Glass3			26.8	26.5	7.31	0.27
MFT Groundmass Glass4			27.9	27.3	7.46	0.47
MFT Quartz 1			24.2	17.1	7.24	0.19
MFT Quartz 2			25.9	18.8	6.69	0.34
MFT Plagioclase 1			13.4	12.9	-1.39	0.36
MFT Plagioclase 2			15.5	13.4	-2.31	0.54
MFT Orthopyroxene 1			12.2	11.9	-2.10	0.41
MFT Orthopyroxene 2			13.1	13.7	-1.95	0.33
MFT Clinopyroxene 1			12.6	13.7	-0.11	0.16
MFT Clinopyroxene 2			11.0	11.1	1.02	0.22
MFT Sanidine 1			5.42	4.16	-0.11	0.18
MFT Sanidine 2			5.47	4.74	-0.58	0.37
Reference rocks						
BHVO-2	basalt	USGS		4.4	4.59	0.28
BCR-2	basalt	USGS		9.4	2.94	0.07
JG-2	granite	GSJ		40.7	0.46	0.26
JR-2	rhyolite	GSJ		69.5	3.88	0.45
JB-2	basalt	GSJ		8.11	4.83	0.07
UB-N	serpentinite	CNRS-CRPG		24.5	-2.72	0.27

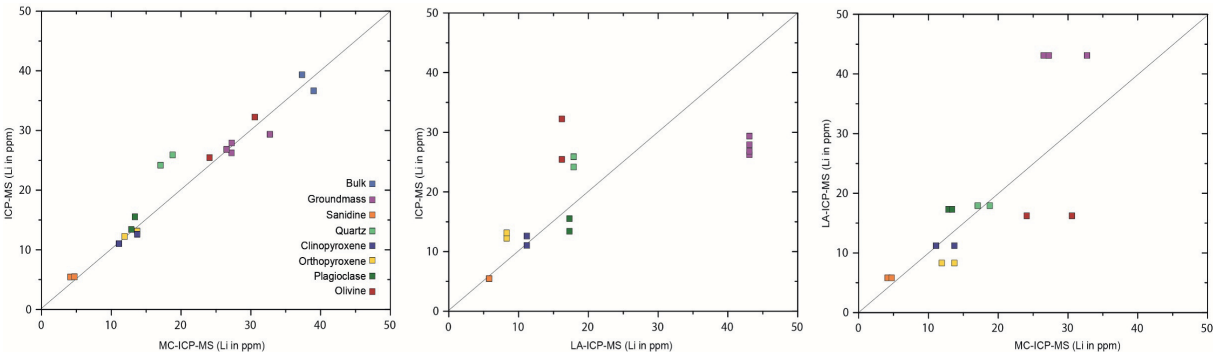


Fig. A1. Trace elements and lithium isotopes

Table A1.16: Trace elements

	MFT Olivine 1	MFT Olivine 2	MFT Groundmass Glass1	MFT Groundmass Glass2	MFT Groundmass Glass3	MFT Groundmass Glass4	MFT Quartz 1	MFT Quartz 2	MFT Plagi-oclase 1	MFT Plagi-oclase 2	MFT Orthopyrox-ene 1	MFT Orthopyrox-ene 2	MFT Clino-pyroxene 1	MFT Clino-pyroxene 2	MFT Sani-dine 1	MFT Sani-dine 1
Li	32.2	25.4	29.3	26.2	26.8	27.9	24.2	25.9	13.4	15.5	12.2	13.1	12.6	11.0	5.4	5.5
Sc	26.2	37.7	3.1	2.1	2.2	2.8	bdl	0.1	0.0	0.1	110	134	147	131	0.1	bdl
V	39.7	37.4	23.1	24.4	34.0	33.5	35.3	43.2	25.9	33.2	86.5	46.9	31.4	23.7	25.3	24.8
Cr	11.0	9.8	5.1	4.7	6.5	7.0	4.0	7.8	3.0	3.7	28.8	12.5	7.6	5.0	3.0	2.6
Co	41.3	37.7	4.0	3.2	2.5	2.2	0.4	0.0	0.1	0.1	21.0	18.9	15.7	14.1	0.0	0.0
Ni	44.0	45.9	6.2	3.4	2.9	3.1	0.5	0.1	0.8	1.0	88.2	51.1	18.2	13.9	0.6	0.6
Cu	11.3	10.1	8.0	6.5	5.7	5.5	0.2	0.0	0.9	1.0	17.3	11.5	3.5	2.6	0.4	0.4
Zn	1173.2	1137.9	98.5	69.4	103	105	2.9	2.7	21.3	18.8	912	669	480	417	3.7	39.9
Ga	58.2	69.2	29.2	28.7	29.9	25.4	5.7	1.0	32.0	33.2	36.3	39.5	12.6	12.1	21.3	21.8
Rb	5.9	6.4	164	143	145	151	28.9	7.8	8.8	8.4	7.6	13.8	9.3	7.0	106	110
Sr	6.0	4.9	43.8	64.5	62.6	34.5	18.2	0.3	166	163	6.0	11.9	5.3	4.4	124	116
Y	272.6	296.2	88.2	68.6	78.6	93.1	1.3	3.3	2.5	2.1	243	373	251	238	0.7	0.6
Nb	161.0	197.6	61.3	43.6	41.9	46.4	0.9	2.4	1.6	1.7	354	216	45.4	36.5	0.3	0.5
Zr	107.9	99.2	165	134	145	150	3.1	7.7	3.9	4.3	77.1	80.8	50.2	44.0	0.8	1.0
Cd	0.8	0.9	0.7	0.6	0.7	0.7	0.0	0.0	0.0	0.0	1.5	1.6	1.9	1.7	0.0	0.0
Cs	0.6	0.7	6.0	5.0	6.0	7.0	0.1	0.2	0.1	0.1	0.4	0.6	0.4	0.3	0.1	0.1
Ba	55.9	57.2	298	404	311	284	174	4.4	412	458	24.6	143	16.1	13.1	2303	2658
La	1527	1907	152	87.7	73.3	99.4	3.4	3.6	24.7	28.0	558	604	158	205	8.6	7.9
Ce	3074	3856	305	174	140	186	4.8	7.7	31.0	35.3	1227	1389	413	498	8.3	7.2
Pr	260	350	29.4	16.5	12.4	17.3	0.4	0.6	2.4	2.7	127	144	48.2	55.6	0.5	0.4
Nd	850	1186	101	56.9	54.9	61.1	1.3	2.3	6.9	7.9	484	559	211	231	1.4	1.1
Sm	121	170	19.5	12.0	10.9	14.5	0.2	0.5	0.8	0.9	83.0	109	52.0	53.4	0.2	0.2
Eu	1.7	2.1	1.1	1.6	1.5	0.9	0.5	0.0	4.6	4.3	1.8	1.9	1.5	1.3	3.7	3.5
Gd	110	152	19.6	12.5	11.7	14.9	0.3	0.5	0.9	0.9	81.4	110	54.6	55.5	0.2	0.2
Tb	10.8	15.4	2.7	1.9	1.9	2.4	0.0	0.1	0.1	0.1	10.8	15.8	8.9	8.9	0.0	0.0
Dy	46.4	66.6	15.4	11.1	11.7	14.4	0.2	0.5	0.5	0.4	56.9	84.7	51.3	50.4	0.1	0.1
Ho	7.4	10.5	3.2	2.4	2.5	3.0	0.0	0.1	0.1	0.1	10.6	15.8	10.1	9.8	0.0	0.0
Er	20.0	27.0	9.0	6.9	7.3	8.7	0.1	0.3	0.2	0.2	26.0	38.0	27.9	27.3	0.1	0.1
Tm	2.6	3.4	1.2	0.9	1.0	1.2	0.0	0.0	0.0	0.0	3.7	5.2	3.8	3.6	0.0	0.0
Yb	18.7	22.8	7.7	5.9	6.8	8.2	0.1	0.3	0.1	0.1	22.2	30.4	23.2	22.3	0.0	0.0
Lu	3.9	5.0	1.3	1.0	1.0	1.2	bdl	0.0	bdl	bdl	4.6	6.0	5.0	4.8	bdl	bdl
Hf	4.2	5.0	6.8	5.4	5.9	6.0	0.1	0.2	0.1	0.2	3.2	4.2	2.7	2.4	0.0	0.0
Ta	6.6	7.1	4.2	3.1	2.9	3.1	0.1	0.1	0.1	0.1	10.9	7.6	1.9	1.6	0.0	0.1
W	2.2	2.6	2.4	1.9	NA	NA	0.2	NA	0.3	0.3	7.4	9.5	7.5	5.6	0.0	0.1
Tl	0.6	0.4	2.8	2.4	2.9	3.1	0.2	NA	0.1	0.1	0.4	0.4	0.2	0.1	0.6	0.6
Pb	19.2	19.5	36.3	33.8	33.3	35.7	8.1	1.1	16.8	17.8	11.1	17.5	6.1	4.6	27.0	28.3
Th	135	177	43.7	27.7	21.4	29.3	0.5	1.3	0.8	0.8	1.2	3.8	21.5	33.2	0.3	0.1
U	3.9	7.1	6.5	5.2	5.4	5.9	0.1	0.3	0.2	0.2	3.2	4.0	1.0	1.2	0.0	0.0

Table A1.16: continued

	MFT Groundmass Glass1	MFT Groundmass Glass2	MFT Groundmass Glass3	MFT Groundmass Glass4	Mean value Groundmass Glass
Li	29.3	26.2	26.8	27.9	43.1
Sc	3.1	2.1	2.2	2.8	2.8
V	23.1	24.4	34.0	33.5	0.5
Cr	5.1	4.7	6.5	7.0	
Co	4.0	3.2	2.5	2.2	
Ni	6.2	3.4	2.9	3.1	
Cu	8.0	6.5	5.7	5.5	
Zn	98.5	69.4	103	105	
Ga	29.2	28.7	29.9	25.4	
Rb	164	143	145	151	253.3
Sr	43.8	64.5	62.6	34.5	14.6
Y	88.2	68.6	78.6	93.1	75.7
Nb	61.3	43.6	41.9	46.4	58.3
Zr	165	134	145	150	176.5
Cd	0.7	0.6	0.7	0.7	
Cs	6.0	5.0	6.0	7.0	6.9
Ba	298	404	311	284	133.5
La	152	87.7	73.3	99.4	81.4
Ce	305	174	140	186	151.1
Pr	29.4	16.5	12.4	17.3	16.7
Nd	101	56.9	54.9	61.1	58.8
Sm	19.5	12.0	10.9	14.5	12.3
Eu	1.1	1.6	1.5	0.9	0.4
Gd	19.6	12.5	11.7	14.9	11.3
Tb	2.7	1.9	1.9	2.4	2.0
Dy	15.4	11.1	11.7	14.4	12.6
Ho	3.2	2.4	2.5	3.0	2.6
Er	9.0	6.9	7.3	8.7	7.6
Tm	1.2	0.9	1.0	1.2	1.1
Yb	7.7	5.9	6.8	8.2	7.4
Lu	1.3	1.0	1.0	1.2	1.0
Hf	6.8	5.4	5.9	6.0	6.9
Ta	4.2	3.1	2.9	3.1	4.0
W	2.4	1.9			
Tl	2.8	2.4	2.9	3.1	
Pb	36.3	33.8	33.3	35.7	40.7
Th	43.7	27.7	21.4	29.3	31.9
U	6.5	5.2	5.4	5.9	7.4

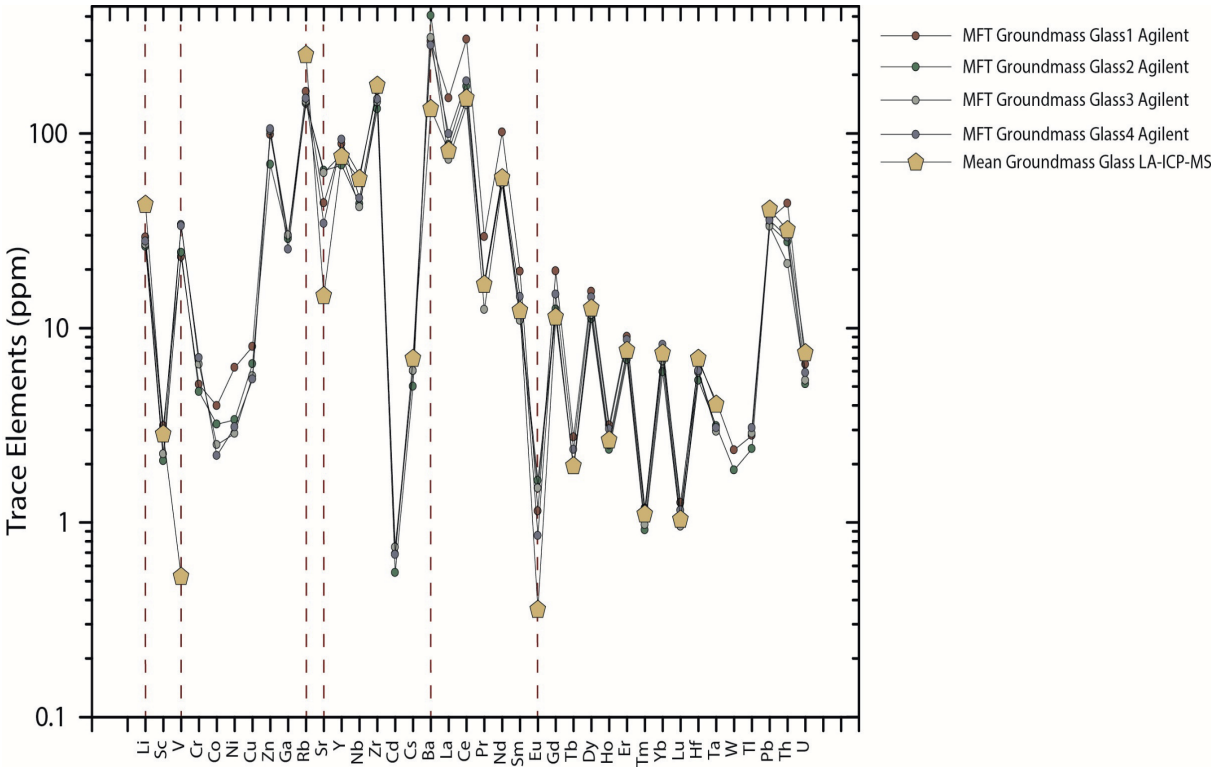


Fig. A2. Trace elements

Table A1.17: LA-ICP-MS standards

Standards for Glass																														
	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
GSD-1G	43.9	42.7	27376	20826	67212	245419	764	29125	47517	46.9	7576.1	40.5	207.3	98991	38.8	64.6	36.5	37.1	40.4	32.5	63.2	34.8	37.5	41.7	39.4	42.9	36.4	43.4	42.2	44.8
GSD-1G	41.8	42.7	27255	21286	68207	245419	783	29265	48614	47.5	7719.3	40.7	203.6	91263	38.7	63.9	36.1	37.1	39.6	31.9	64.2	35.1	37.4	40.8	39.4	42.2	36.1	42.6	42.6	45.4
GSD-1G	43.3	41.2	26549	20320	66986	245419	720	34671	46882	46.6	7442.5	40.5	201.1	101493	37.7	63.4	37.0	37.0	39.2	31.5	63.0	34.5	36.6	40.3	39.0	41.9	36.2	42.6	42.7	45.8
GSD-1G	43.1	42.0	26696	21408	67437	245419	695	31082	48643	46.4	7537.5	40.7	202.9	94172	37.2	63.5	36.8	36.8	39.0	31.6	62.6	34.5	36.5	40.4	38.9	42.8	36.4	42.7	42.5	46.4
GSD-1G	38.8	42.0	26630	20139	66670	245419	844	28639	47464	47.4	7701.1	39.7	201.3	100986	38.1	62.6	36.5	37.1	38.9	31.7	63.1	34.7	36.4	39.8	38.3	41.8	36.0	42.8	42.0	45.5
GSD-1G	45.1	42.1	27144	20972	68970	245419	791	28798	48601	48.9	7757.3	41.4	206.3	112208	38.6	65.6	37.8	38.1	39.9	32.0	63.7	36.3	37.6	41.4	39.3	42.9	37.9	45.3	44.2	47.3
GSD-1G	41.9	41.8	26587	20961	68276	245419	788	28685	47705	48.1	7814.7	40.2	202.1	96791	38.1	64.4	37.5	37.8	39.3	31.7	64.2	35.3	37.4	41.2	38.9	43.4	37.1	44.5	43.8	47.0
GSD-1G	43.8	41.3	26356	20096	66984	245419	785	29454	46769	47.1	7376.7	40.1	200.8	94933	38.3	62.4	36.8	37.3	39.2	31.6	62.1	34.9	36.9	40.3	39.3	42.2	36.2	43.0	42.6	46.1
GSD-1G	43.4	42.6	26699	21301	68631	245419	773	31234	48577	48.5	7681.3	40.4	204.0	97668	37.7	65.3	38.3	38.7	40.3	31.8	65.5	35.9	38.0	41.6	40.5	43.7	37.7	44.9	44.2	46.6
GSD-1G	41.5	42.5	26813	20849	68623	245419	749	28692	47518	48.0	7604.7	40.9	200.0	91437	38.3	64.5	37.7	37.5	39.4	31.9	63.9	35.6	37.6	41.2	40.4	44.2	37.4	43.8	43.7	46.7
GSD-1G	45.4	42.1	26717	20273	67673	245419	826	29719	47557	47.9	7381.2	40.0	202.1	104377	37.9	65.2	37.8	37.1	39.5	32.5	65.1	35.5	37.0	40.7	39.4	43.2	36.8	43.2	43.3	47.3
Standards for Cpx, Opx, Ol																														
	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
GSD-1G	42.0	42.3	25915	22666	66947	245419	742	27785	47729	46.9	7817.0	40.2	203.1	106909	36.4	64.5	35.9	36.1	41.0	30.9	63.3	35.3	37.6	41.5	38.9	42.6	36.9	42.3	42.1	45.0
GSD-1G	41.6	41.4	26112	20803	67575	245419	713	28296	47228	47.0	7506.2	40.1	200.4	105500	37.3	63.4	36.3	36.5	39.1	31.0	63.3	34.4	36.7	40.2	38.5	42.8	36.2	42.3	41.5	44.9
GSD-1G	41.8	41.1	26116	20830	67665	245419	770	29078	47337	46.7	7779.4	39.8	199.7	112374	37.2	62.7	36.2	35.7	38.9	30.8	63.2	34.3	36.6	40.0	38.7	41.7	36.1	42.2	42.0	45.0
GSD-1G	42.8	41.1	26077	20706	66284	245419	751	28278	46591	45.8	7570.9	39.9	198.4	100205	36.8	62.8	36.1	36.5	39.0	30.7	61.1	34.3	36.7	39.9	38.4	41.8	35.5	42.1	41.4	44.4
GSD-1G	43.0	41.6	26561	22391	67813	245419	757	29140	47881	47.0	7815.7	41.1	202.5	92509	37.8	64.1	37.2	37.3	39.5	31.7	62.7	35.2	37.6	41.0	39.2	42.9	36.6	43.1	42.7	45.8
GSD-1G	39.5	41.7	26466	21919	68131	245419	777	29832	48620	48.0	7728.2	40.2	200.0	131374	37.5	65.1	38.0	37.4	40.4	31.1	62.9	35.7	37.8	41.3	40.4	43.0	36.8	44.1	44.0	46.2
GSD-1G	39.6	41.4	26732	20919	68018	245419	841	30729	48767	48.5	7354.9	41.1	199.1	139174	37.4	64.6	37.6	38.3	39.6	31.3	63.8	35.8	38.1	41.4	39.7	43.4	36.7	43.2	43.3	47.3
GSD-1G	46.8	40.7	26475	22345	66808	245419	857	29531	46324	46.4	7449.5	40.4	195.2	296808	37.0	62.4	37.5	38.1	40.0	31.0	61.6	34.8	37.1	40.3	40.4	43.2	36.9	43.5	42.7	45.2
GSD-1G	41.7	42.0	26816	20303	68656	245419	774	28808	48461	47.2	7831.0	41.0	201.2	126321	37.5	64.2	37.6	39.0	39.5	31.1	65.0	35.8	37.5	40.7	40.1	43.4	37.3	43.0	44.2	46.6
GSD-1G	44.2	42.1	26463	21066	69041	245419	944	29772	48511	48.0	7324.2	40.6	199.7	105191	37.4	64.9	37.8	38.3	40.0	31.7	63.9	35.8	37.3	41.3	39.2	43.3	37.5	44.3	44.3	47.0
GSD-1G	38.84	40.63	25323	16855	65608	245419	867	25339	45710	43.69	6605	37.87	192.79	85850	37.45	61.21	35.94	35.04	37.89	30.12	60.26	33.80	36.05	39.53	37.35	42.07	34.72	43.11	40.23	43.74
GSD-1G	41.08	41.77	25822	17384	66314	245419	902	25618	45612	46.20	6700	39.55	195.83	86348	37.76	63.67	35.84	36.98	38.52	30.27	63.27	35.07	37.21	40.32	39.93	42.75	35.34	43.19	41.67	45.31
GSD-1G	41.67	41.78	26104	17110	65347	245419	942	25308	46356	45.57	6630	38.52	194.71	87798	37.01	62.83	36.54	36.57	38.29	30.45	60.26	34.22	36.53	40.74	38.53	41.57	35.39	42.42	40.82	44.47
GSD-1G	39.25	40.82	26146	17200	65406	245419	875	25078	44965	45.27	6633	38.42	193.69	90778	36.44	62.06	36.13	35.47	37.99	30.06	61.69	34.46	36.37	40.24	37.85	41.90	35.93	42.25	40.84	44.04
GSD-1G	42.32	42.19	26132	17472	66243	245419	918	25566	44887	45.56	6865	39.00	199.67	89505	36.96	62.75	36.38	36.01	38.50	30.24	61.73	34.57	36.48	40.51	39.10	41.85	35.82	43.21	41.48	45.03
GSD-1G	42.99	41.48	26216	17335	65547	245419	937	25659	44905	44.57	6569	39.40	194.16	85833	38.11	62.28	35.90	36.28	38.64	30.01	62.88	34.43	36.25	40.42	39.74	41.43	35.68	42.73	41.95	45.05
GSD-1G	41.34	40.64	25947	17259	65340	245419	915	25224	47332	45.39	6773	39.70	194.23	90021	37.64	62.37	36.21	36.84	38.77	29.94	62.11	34.35	36.76	40.58	38.98	42.24	36.21	42.24	41.05	45.05
GSD-1G	42.68	42.51	26251	17733	67033	245419	954	25720	47178	46.20	6862	40.41	198.10	89009	38.22	63.95	37.05	36.98	39.38	31.20	63.52	35.15	36.78	40.36	39.22	43.23	36.28	42.97	42.01	45.56
GSD-1G	41.73	41.75	26253	17764	67159	245419	923	25668	46300	46.03	6763	39.66	197.46	86597	37.93	62.63	36.57	35.97	38.11	30.40	64.41	34.62	36.41	40.70	38.55	41.46	36.17	42.45	41.89	45.44
GSD-1G	41.82	41.01	25876	17908	66681	245419	950	25267	47318	44.76	6810	40.14	198.73	92145	37.81	62.98	37.30	37.56	39.75	30.43	63.03	35.15	37.05	41.44	38.55	42.40	36.41	42.59	41.76	45.25
GSD-1G	40.06	41.31	26128	17688	66213	245419	919	26342	46841	46.04	6666	39.72	196.14	87204	38.36	62.03	36.15	36.49	38.34	30.01	64.39	34.75	36.75	40.52	39.19	41.93	36.11	43.97	41.91	45.28
GSD-1G	41.99	41.40	26037	17634	66040	245419	920	25654	45877	44.88	6761	39.00	197.54	88155	36.65	61.76	35.30	36.18	38.23	30.76	61.96	35.05	36.73	40.23	39.10	41.17	36.25	43.75	41.45	44.46
GSD-1G	43.15	42.40	26019	17761	67709	245419	962	26179	47725	46.63	6885	39.63	198.96	89207	37.32	63.80	37.00	38.11	39.34	30.77	63.45	35.90	38.01	41.49	39.58	43.88	37.34	45.21	42.58	45.46
Standards for Feldspare																														
	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy
GSD-1G	40.8	41.5	26319	19732	67041	245419	639	28867	47639	46.7	7490	40.3	200.5	89615	37.3	63.3	36.4	36.9	39.1	31.5	62.6	35.3	37.3	40.9	39.4	42.8	36.5	42.4	42.3	45.4
GSD-1G	44.4	41.6	26050	19838	67563	245419	681	27990	47732	47.6	7571	39.9	196.0	90130	37.1	64.3	37.4	36.9	39.3	31.4	63.2	35.2	37.3	40.8	38.6	43.4	37.0	43.5	43.4	45.9
GSD-1G	43.6	41.2	26091	20001	68230	245419	710	28711	48527	48.0	7759	40.6	201.9	89062	37.4	65.2	37.4	37.7	39.7	30.9	65.1	35.5	37.7	40.9	40.8	43.0	37.6	43.7	43.6	46.8
GSD-1G	43.6	41.9	26629	20174	68239	245419	692	28470	48416	48.8	7870	40.9	204.5	92778	37.8	65.5	37.8	38.5	40.0	31.5	65.1	36.0	38.0	41.6	41.1	43.7	37.9	45.2	43.9	47.4
GSD-1G	41.7	41.4	26172	20437	68338	245419	725	28526	48748	48.3	7621	40.9	203.4	95061	37.5	64.8	37.5	37.7	40.6	31.5	65.0	35.8	37.9	41.7	40.7	44.0	37.6	44.7	43.9	47.1
GSD-1G	43.1	42.5	26368	21173	70423	245419	765	28863	50073	49.7	7778	41.8	207.1	90421	38.1	67.5	38.6	38.7	40.9	31.5	66.8	37.3	38.8	42.9	41.0	44.6	38.7	45.4	45.6	48.1
GSD-1G	42.7	42.7	26379	20340	69182	245419	727	29008	49570	48.6	8042	41.3	205.9	89808	38.2	65.0	37.5	37.8	40.2	31.7	64.8	36.4	38.6	42.0	40.4	43.8	38.1	44.3	44.2	47.4
GSD-1G	41.8	41.1	26140	16862	64972	245419	904	25139	45734	44.6	6497	38.5	192.1	87066	37.7	61.6	36.2	36.8	37.7	30.1	62.5	34.6	36.4	40.9	39.2	42.0	36.2	43.6	41.4	45.8
GSD-1G	43.2	41.3	25952	17293	66072	245419	933	25300	46589	45.1	6690	39.1	194.8	85877	37.2	62.8	36.7	37.0	38.5	30.6	61.5	34.5	36.8	40.3	39.0	41.2	35.8	43.2	42.2	46.2
GSD-1G	41.6	41.7	26502	17275	66443	245419	945	25618	47672	44.0	6604	39.3	195.5	93136	37.8	62.1	36.4	37.5	38.1	30.5	63.0	34.4	36.7	40.3	38.7	42.0	35.8	43.6	42.3	45.9
GSD-1G	40.1	41.1	26164	16933	63453	245419	935	25487	43734	43.9	6430	38.1	192.4	86016	37.6	60.3	35.6	34.4	37.0	30.7	60.4	33.5	35.8	39.1	38.6	39.8	35.0	39.3	40.2	42.3
GSD-1G	40.5	42.0	26479	17176	65594	245419	894	25406	45336	44.7	6653	39.6	195.3	89291	37.7	61.8	36.4	36.8	38.2	31.0	62.3	34.9	37.3	40.8	39.6	41.5	36.3	43.8	41.8	43.8
GSD-1G	41.6	41.8	26582	17758	65795	245419	886	26420	46049	45.4	6788	38.4	197.3	88043	39.0	63.5	36.3	36.8	37.8	30.8	62.2	34.2	36.5	40.5	37.9	42.7	35.4	43.6	41.2	44.3

Table A1.17: continued

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
43.5	33.5	42.8	44.9	45.3	34.5	37.1	47.4	35.1	37.7
44.0	34.5	43.5	45.6	45.9	35.0	37.6	47.1	36.2	38.2
44.2	34.1	44.3	45.6	46.5	35.6	37.0	45.5	36.5	37.4
44.4	34.2	44.2	46.1	47.0	35.6	36.9	45.9	36.1	37.4
44.7	33.9	44.1	45.3	46.2	35.1	36.8	46.0	36.3	37.3
45.4	35.8	45.9	46.8	47.8	36.4	38.1	47.5	37.5	37.9
45.6	35.2	45.8	47.6	47.5	36.3	37.8	46.4	37.6	38.0
45.0	35.4	44.3	45.5	46.6	35.9	37.3	46.4	38.2	37.5
46.3	36.5	46.3	48.4	48.1	37.1	38.0	47.4	42.8	38.1
45.9	36.0	45.5	47.1	47.2	36.7	37.5	46.7	38.7	38.0
45.2	35.2	45.3	46.6	47.3	36.8	37.1	47.1	37.6	38.2

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
43.8	33.5	43.1	44.9	45.4	34.7	37.0	46.6	35.1	37.7
43.7	33.5	43.3	45.0	45.1	35.5	36.4	44.3	34.3	37.0
43.5	33.7	43.5	45.3	45.7	34.9	36.3	44.8	34.5	37.1
43.1	33.6	43.0	45.2	44.8	34.5	36.3	44.6	34.9	36.9
44.5	34.6	44.3	46.2	46.6	35.7	37.0	46.0	35.6	37.1
45.8	36.0	46.0	47.9	48.5	37.2	37.6	45.9	36.3	38.0
46.0	36.3	45.3	47.2	47.8	36.0	37.5	45.6	36.4	37.9
45.4	35.4	44.4	45.9	47.5	36.2	37.0	45.1	35.4	37.8
45.6	35.3	45.6	47.7	47.5	37.4	37.8	46.0	35.9	37.6
46.1	35.9	45.7	48.6	48.4	37.0	38.6	46.1	37.2	38.2
41.66	33.43	42.29	42.73	43.87	34.31	35.47	44.92	41.37	37.10
43.59	34.29	44.10	44.27	45.56	36.12	36.67	45.45	35.84	38.12
43.39	34.09	43.60	43.60	44.54	35.52	36.57	45.00	35.07	37.20
43.03	34.39	43.19	44.32	45.07	35.58	36.10	44.49	34.66	36.92
43.53	34.18	43.63	44.69	45.53	35.31	36.41	46.11	36.14	37.99
43.16	34.04	43.66	44.43	45.03	35.75	36.37	45.26	35.02	37.47
43.32	33.55	43.30	43.32	44.75	34.79	36.38	45.08	36.09	36.75
44.38	34.00	43.85	44.45	45.67	35.76	37.14	45.07	41.10	38.30
43.79	34.31	43.86	44.81	45.53	36.32	36.51	45.27	35.77	37.41
43.88	34.30	43.73	45.19	45.56	36.06	36.40	45.27	35.99	37.90
42.88	33.62	44.39	43.51	45.09	35.64	36.32	45.82	35.22	37.46
43.07	34.64	43.29	43.95	44.90	35.66	36.13	45.60	36.05	37.73
44.39	35.43	44.51	44.63	45.80	35.75	36.89	46.87	40.39	38.22

Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
44.2	34.1	43.7	46.4	45.9	35.5	36.7	45.5	46.7	37.0
44.9	34.9	44.5	46.8	46.8	35.8	37.7	46.0	47.8	37.7
45.5	35.4	45.0	47.5	47.3	36.0	37.8	46.3	45.6	37.9
45.5	35.5	45.5	47.2	47.8	36.5	37.9	48.0	40.5	38.3
45.7	36.0	45.7	48.1	47.4	36.6	37.8	46.7	39.9	38.3
47.2	36.2	46.8	49.3	49.1	38.0	38.9	46.6	43.5	38.9
46.1	36.3	45.6	48.3	47.8	36.5	38.0	46.1	45.6	38.8
43.3	34.5	43.5	43.1	45.5	35.0	35.8	45.1	35.8	36.9
43.3	34.7	43.6	45.1	45.4	35.4	36.1	45.1	34.9	37.3
43.3	34.0	43.6	43.9	45.5	35.3	36.6	46.2	35.4	37.8
41.3	32.5	41.5	42.0	43.2	33.3	35.6	44.1	34.2	36.7
43.7	34.6	44.3	44.2	45.6	36.3	36.6	44.9	37.4	37.6
42.9	33.8	42.6	44.3	44.4	35.2	36.2	45.0	36.7	37.4

Table A1.17: continued

Stanard for Feldspare																															
	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Mn	Fe	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho
GSD-1G	40.9	41.8	26075	17611	65503	245419	926	25511	47215	44.8	6608	38.7	193.7	88180	37.7	62.9	37.3	36.4	38.4	30.4	63.3	34.9	37.2	40.8	38.9	40.6	35.5	44.4	41.9	44.8	43.4
GSD-1G	41.8	42.2	26562	17416	65441	245419	899	26160	45897	44.7	6780	40.3	198.2	93209	37.7	62.2	36.4	36.3	38.2	31.0	62.2	34.7	36.5	40.5	37.5	42.6	36.9	41.8	42.0	44.6	43.7
GSD-1G	41.5	42.1	26124	17757	66483	245419	888	25684	46584	46.0	6815	40.0	200.3	90535	37.7	63.1	36.9	36.5	38.4	30.5	61.0	34.7	37.5	40.5	39.8	43.2	35.7	44.1	41.9	46.0	44.0
GSD-1G	42.2	42.1	26588	17678	67555	245419	915	26389	46311	45.6	6815	39.7	203.0	91657	38.2	62.9	36.5	37.7	38.9	31.6	65.0	35.3	37.7	40.4	39.3	42.0	36.3	43.5	41.5	45.0	43.6
GSD-1G	41.2	42.1	26657	17419	66412	245419	938	26196	46627	44.2	6727	39.6	196.9	90348	38.0	62.4	36.3	36.6	38.2	31.2	64.3	35.1	37.4	40.7	39.6	41.6	36.2	43.6	42.0	45.8	43.8
GSD-1G	41.9	42.4	26438	17872	66238	245419	928	25649	46908	45.1	6689	40.3	202.2	89856	38.2	61.9	36.4	36.0	38.7	30.9	62.4	35.4	37.1	40.9	39.4	41.6	35.8	42.5	41.8	44.0	43.3
GSD-1G	45.3	42.7	26759	17896	66768	245419	939	26123	47747	46.1	6804	40.4	200.4	90677	39.1	63.2	36.6	37.8	38.9	30.5	63.4	35.1	37.2	40.3	40.0	41.8	36.4	43.8	42.4	45.3	44.0
GSD-1G	40.5	42.2	26100	18023	67266	245419	940	25942	47697	45.9	6688	39.7	197.9	91105	36.8	63.6	37.3	36.0	38.9	30.7	64.3	35.9	37.7	41.4	39.4	43.1	37.0	44.4	42.7	46.2	44.0
GSD-1G	45.0	44.1	26106	19154	74393	245419	806	25642	52031	50.5	7339	41.7	207.2	94845	37.6	69.1	41.0	39.9	40.4	29.4	67.6	37.8	39.6	43.8	42.6	48.1	39.8	48.8	46.9	51.6	49.5
GSD-1G	40.7	38.3	24959	17393	69480	245419	892	24552	42804	43.3	6547	37.8	191.2	85585	34.9	59.4	34.7	36.4	36.7	27.1	63.9	33.0	34.7	37.9	38.0	41.6	34.1	42.5	40.7	44.2	42.5
GSD-1G	37.6	40.5	25793	17625	72913	245419	951	25368	44122	42.8	6890	38.8	195.0	95668	38.0	62.5	36.5	36.4	36.7	30.2	60.2	34.9	36.1	39.5	39.0	42.2	35.0	44.6	41.0	44.7	44.0
GSD-1G	40.5	41.5	26320	17996	75463	245419	870	25706	45590	47.6	6946	39.8	201.2	92388	36.1	63.4	37.1	37.9	39.0	30.0	66.8	35.7	37.2	41.1	39.1	44.4	37.3	45.8	42.9	46.9	45.5
GSD-1G	39.0	40.6	25450	18154	72882	245419	933	24801	44204	43.8	6607	39.3	194.9	91165	36.0	60.1	36.1	37.0	37.3	29.2	60.5	34.4	36.1	39.6	38.1	41.9	35.4	43.0	41.2	46.6	43.4
GSD-1G	41.8	39.4	25006	17342	71217	245419	957	24729	43916	42.2	6436	38.2	201.0	87915	34.1	60.8	35.1	35.1	36.4	28.9	62.0	33.9	35.7	39.4	38.1	41.5	35.3	43.7	41.0	44.2	43.6
GSD-1G	41.3	38.9	25058	17807	72411	245419	1005	24222	44647	43.4	6548	36.9	188.0	89923	35.7	60.7	36.4	36.4	37.1	29.1	60.7	34.3	35.4	39.2	38.3	40.9	35.4	43.4	41.1	46.1	43.1
GSD-1G	40.1	39.0	24927	17028	69755	245419	899	24991	42364	41.7	6262	37.5	184.8	87422	34.8	61.6	34.4	34.8	37.0	28.6	61.1	33.2	34.3	38.2	36.5	40.5	34.1	40.7	40.0	42.6	42.1
GSD-1G	38.9	38.9	24904	17728	71622	245419	900	23940	43493	42.7	6582	37.3	190.2	89052	34.8	60.4	36.4	35.3	36.9	29.0	57.5	34.2	36.1	39.8	38.4	40.9	35.1	43.8	41.3	45.6	43.2
GSD-1G	43.4	41.4	25811	18178	74924	245419	959	25241	45672	46.9	6630	39.0	196.6	93101	39.0	65.1	38.2	37.9	38.5	30.5	64.8	36.3	37.6	41.6	39.5	42.9	36.3	45.4	43.5	47.0	46.1
GSD-1G	39.6	40.0	25280	17507	72627	245419	923	24301	43667	45.3	6562	38.3	187.0	86208	36.0	62.3	37.0	36.8	38.4	29.7	60.7	34.5	35.1	39.1	37.5	41.8	35.8	43.0	41.1	45.2	43.7
GSD-1G	39.4	40.1	25729	17013	73228	245419	919	25409	44662	44.4	6632	38.1	201.5	89908	35.5	61.2	37.1	37.3	38.3	28.6	63.2	34.3	35.7	39.6	38.2	40.3	35.6	42.6	41.8	46.0	44.2
GSD-1G	39.6	40.1	25748	17407	72864	245419	871	24985	43787	44.6	6608	39.0	197.7	87332	36.0	63.0	35.8	37.0	36.8	27.9	60.4	33.9	35.8	39.1	38.6	42.9	35.5	44.4	41.3	44.8	42.7
GSD-1G	40.9	39.6	25517	17112	71824	245419	878	25225	43559	44.0	6420	38.1	195.5	85065	36.5	59.9	35.8	35.0	35.8	29.5	59.0	33.8	35.7	39.0	37.8	40.6	35.9	42.0	40.4	45.5	43.2
GSD-1G	40.2	38.2	25013	17082	71035	245419	896	24576	42964	43.3	6487	36.7	189.5	83023	35.5	61.5	34.7	37.9	35.6	29.0	63.1	32.8	34.9	38.4	37.5	39.7	35.2	41.8	40.3	43.2	42.3
GSD-1G	41.8	39.4	25363	17176	70434	245419	915	24974	42633	42.8	6372	38.8	190.0	87076	35.9	58.8	34.5	34.8	36.8	29.7	57.5	32.9	34.2	38.7	37.7	42.1	34.7	42.8	40.9	43.7	41.8
GSD-1G	41.8	41.0	26026	16868	63114	245419	936	24595	44222	44.6	6525	38.5	194.4	84201	37.0	60.1	35.0	35.7	36.7	30.7	62.1	33.8	35.3	38.4	37.8	40.6	34.3	42.2	40.4	44.0	42.2
GSD-1G	41.0	42.3	25766	18183	63769	245419	920	23788	46761	45.3	6813	38.9	193.5	89147	36.7	61.6	34.6	35.1	37.5	31.9	63.0	33.5	36.2	38.6	37.9	42.3	34.1	42.0	40.4	43.4	42.2
GSD-1G	42.6	41.2	25554	17024	64072	245419	904	24877	46954	45.5	6770	39.9	197.3	85006	37.2	63.3	36.4	36.0	37.6	29.6	62.1	34.3	36.9	40.0	37.8	41.8	35.3	43.3	42.1	44.6	43.6
GSD-1G	40.7	41.2	26459	17550	65842	245419	872	25244	46439	45.7	6658	38.8	194.6	87606	37.7	62.5	36.7	37.4	38.0	30.0	61.9	34.3	36.0	39.8	38.0	42.2	35.6	43.3	40.6	44.8	43.1
GSD-1G	39.9	40.3	25511	16997	64613	245419	894	25328	44728	43.9	6845	39.1	190.1	86231	36.1	62.0	35.7	35.8	36.8	29.9	60.9	33.5	35.8	39.1	37.5	39.9	35.1	44.1	40.5	44.8	42.0
GSD-1G	40.3	39.8	25270	16539	63442	245419	918	23892	44332	43.7	6643	37.6	185.2	90637	36.8	59.1	34.6	34.7	37.3	29.7	57.7	33.6	35.2	37.9	35.1	40.7	35.6	40.8	39.0	43.3	41.6
GSD-1G	42.5	41.6	26196	17339	65502	245419	907	25594	47236	45.0	6891	39.7	198.2	87458	37.7	62.3	36.4	37.7	37.4	29.7	62.5	34.8	38.2	41.2	37.8	41.7	35.5	43.1	41.9	45.3	43.3
GSD-1G	45.8	43.3	26355	19511	67272	245419	974	25379	45203	45.3	6779	39.9	202.8	96807	37.0	64.0	36.8	36.3	41.1	30.3	66.4	38.9	36.4	39.8	38.7	44.6	37.4	43.7	40.9	47.0	42.2
GSD-1G	44.5	41.5	25686	17078	65003	245419	974	26020	45798	44.8	6597	40.6	194.3	87587	36.9	61.6	36.6	36.5	37.6	30.5	60.2	34.5	35.7	39.7	38.4	43.6	36.8	43.1	41.1	47.0	43.7
GSD-1G	39.0	40.2	25846	17136	65824	245419	936	25571	47392	45.3	6669	39.2	192.9	87055	37.0	61.5	36.6	37.3	37.9	29.8	59.6	33.8	36.2	39.7	38.7	41.8	34.9	44.0	40.9	45.1	43.2
GSD-1G	42.6	43.4	25454	18307	65298	245419	1017	25113	46882	44.6	6783	39.4	201.5	89236	36.4	63.5	36.4	36.5	41.4	29.3	61.8	35.1	35.8	39.8	38.4	43.5	37.3	43.7	41.0	47.7	44.3
GSD-1G	41.2	41.9	26722	17756	66317	245419	943	25411	48021	45.1	6618	40.4	194.4	90122	37.4	63.7	36.7	37.2	38.0	30.4	63.3	34.3	36.5	43.4	39.7	42.1	36.1	43.4	41.1	45.4	44.7
GSD-1G	41.9	41.6	25482	17523	65876	245419	900	25258	45565	45.7	6769	44.4	195.7	88434	36.8	62.6	36.6	36.5	38.7	29.5	64.1	35.5	36.0	39.2	40.4	42.5	35.8	43.3	41.4	44.5	43.2

Table A1.17: continued

Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
34.8	44.1	44.0	45.2	35.9	36.9	44.6	36.8	37.6
33.7	43.6	45.6	44.7	34.9	36.2	46.7	34.6	37.9
34.7	44.3	44.4	45.9	36.0	36.9	45.3	35.7	37.9
34.4	44.1	43.6	44.9	35.6	36.3	44.8	35.6	37.9
34.2	43.3	44.4	44.8	34.7	36.5	44.7	35.1	37.4
34.1	43.4	44.5	45.2	36.1	37.2	46.0	35.7	37.1
34.5	44.2	44.1	46.0	36.3	36.8	46.4	36.1	38.0
34.9	44.4	45.7	46.2	36.2	37.1	45.5	36.1	38.5
38.6	49.7	50.1	50.2	39.8	39.7	42.9	39.6	40.6
34.2	42.9	42.8	44.5	35.0	34.8	40.9	34.5	36.8
34.0	44.3	45.3	44.9	35.3	36.6	43.6	34.2	37.6
36.0	45.5	44.9	46.8	35.8	36.2	46.4	37.7	38.9
33.6	44.3	44.6	45.0	35.9	36.1	43.9	36.2	38.3
33.8	43.8	46.3	44.6	35.4	35.9	46.6	34.3	36.5
35.4	44.0	43.0	45.2	34.6	36.1	42.6	36.6	36.0
32.9	42.8	43.2	42.8	32.3	35.2	43.7	34.5	36.3
34.2	44.2	43.9	45.1	35.1	36.3	42.7	34.2	36.2
37.3	46.4	48.0	47.3	37.7	37.1	42.8	35.6	38.5
33.1	44.2	45.0	45.4	33.7	35.2	44.0	33.6	37.1
34.0	44.1	45.2	45.6	35.5	36.1	46.3	37.8	37.6
33.9	44.3	44.6	44.9	35.5	36.5	43.7	38.9	36.5
33.4	44.0	42.4	44.9	36.1	34.6	42.3	34.9	35.2
33.4	42.7	43.4	43.5	34.7	35.4	42.6	34.5	35.2
32.1	42.6	42.5	43.8	35.6	35.5	44.0	33.5	35.6
33.2	42.0	41.9	44.2	34.7	34.9	45.6	35.2	36.2
33.8	41.5	42.6	43.1	33.6	35.2	42.8	32.9	37.5
33.9	43.3	43.8	45.1	36.0	36.0	44.7	34.9	36.9
33.6	43.2	42.8	45.1	35.8	35.9	44.5	35.6	36.5
33.2	43.4	43.4	44.7	34.9	35.5	44.3	33.7	36.4
32.5	42.2	42.0	43.0	34.0	34.7	43.4	35.8	35.8
34.8	43.2	44.5	45.1	35.2	36.3	44.5	34.5	36.7
34.0	43.3	44.4	44.6	34.7	35.8	52.8	35.9	37.2
34.4	44.8	45.1	45.6	36.1	36.1	44.6	35.3	38.3
34.2	42.8	43.8	44.9	34.5	35.6	44.9	35.0	36.5
33.8	43.5	45.2	45.1	35.5	36.0	44.7	35.1	36.3
34.7	44.4	44.8	45.1	35.8	36.2	46.6	35.3	36.5

Table A1.17: continued

Standards - trace elements - Quartz																		
	Li^6	Li^7	Na	Mg	Al	Si	P	K	Ca	Ti	Mn	Fe	Ge	Rb	Sr	Sn	Cs	Pb	Ba
NQS AA	29.1	29.3	<0.24318	<0.27551	160.1	466998	62.5	<5.0072	<323.9743	51.9	0.4	<5.4395	1.5	<0.02598	<0.016114	1.2	<0.016578	0.1	<0.015321
NQS AA	28.7	29.4	<0.11158	0.3	166.5	466998	63.2	<3.602	<251.5587	54.0	0.4	<4.014	1.3	<0.017773	0.0	1.5	<0.0069166	0.1	<0.0017757
NQS AA	33.6	32.5	<0.37224	0.2	163.9	466998	64.6	<3.2197	<205.9389	54.9	0.4	<3.3461	1.5	<0.024372	<0.01918	1.4	<0.014072	0.0	<0.019509
NQS AA	32.7	29.3	0.4	0.3	158.3	466998	71.6	<4.54	<285.8515	51.7	0.3	<5.0865	1.5	<0.017357	<0.0065001	0.7	<0.010296	0.1	<0.0079444
NQS AA	28.5	28.0	0.2	<0.15679	168.2	466998	73.9	<2.9681	<195.5482	54.0	0.3	<2.8455	1.4	<0.015185	0.0	0.6	<0.0057634	0.0	<0.006109
NQS AA	29.6	30.2	0.5	<0.23496	157.4	466998	74.9	<3.9843	<249.9998	54.5	0.3	<3.6559	1.7	0.0	0.0	0.9	<0.0046562	<0.024759	0.0
NQS AA	32.7	31.8	0.6	0.2	156.3	466998	71.1	<3.4565	<216.6434	54.3	0.3	<3.0909	1.6	<0.013592	<0.0078139	1.0	<0.0073267	0.0	0.0
NQS AA	34.3	30.9	0.5	0.2	159.0	466998	61.9	<10.3418	<471.922	53.3	<0.36193	<6.8043	1.4	<0.035103	<0.016645	0.6	<0.017198	<0.062458	<0.0044752
NQS AA	28.6	30.4	3.1	0.4	158.0	466998	70.7	<5.4446	<287.3904	53.0	0.3	<3.8657	1.6	<0.023274	0.0	1.0	<0.012708	0.0	<0.0074539
NQS AA	30.1	30.0	2.2	0.3	156.3	466998	72.8	<6.0797	<319.0457	54.0	0.5	<4.2273	1.8	<0.024291	<0.0095896	0.8	<0.0072687	<0.026532	0.0
NQS AA	31.9	31.7	0.6	<0.37954	168.4	466998	75.1	<8.9171	<474.2802	55.7	0.5	<5.8802	1.4	<0.041508	<0.016588	0.7	<0.018248	<0.036445	<0.014012
NQS AA	30.2	29.5	0.2	0.5	154.3	466998	75.5	<5.5444	<310.626	52.8	0.4	<3.8909	1.2	<0.024078	<0.015292	0.6	<0.0098954	<0.026261	<0.010743
NQS AA	30.0	31.5	11.5	0.4	165.4	466998	76.0	12.7	<351.2727	55.9	0.4	5.0	1.2	<0.030401	0.0	0.9	<0.016755	0.0	0.0
NQS AA	29.9	28.2	<0.19038	0.3	149.8	466998	81.1	7.5	<318.485	52.4	0.4	<4.1295	1.9	<0.029693	<0.01057	1.0	<0.010337	<0.032643	<0.0089244
NQS AA	34.7	32.2	9.3	0.3	166.3	466998	56.4	11.4	<545.7952	55.6	0.4	<7.2634	1.9	0.0	0.0	<0.38933	<0.012322	<0.038074	<0.0046703
NQS AA	30.6	29.7	2.3	0.3	157.5	466998	63.9	<11.1478	<515.8422	23.5	0.4	<7.8145	<1.0895	<0.0472	0.0	<0.50513	<0.022725	<0.061457	<0.018357
NQS AA	34.5	31.3	3.8	0.3	166.5	466998	60.2	25.2	<684.9082	54.0	0.7	<8.4276	1.6	<0.055095	<0.039217	<0.52329	<0.016228	<0.054164	<0.022774
NQS AA	30.6	29.6	3.1	<0.48277	155.0	466998	61.3	<11.6093	<627.1415	53.7	<0.4492	<8.1605	2.5	<0.043455	0.0	0.6	<0.033904	<0.055759	<0.016744
Standards for Quartz																			
	Li^6	Li^7	Na	Mg	Al	Si	P	Sc	Ti	Ge									
NQS AA	31.0	31.1	17.9	2.2	222.9	466998	33.1	1.2	64.5	1.3									
NQS AA	31.7	31.6	1.9	0.9	164.2	466998	20.3	1.0	61.5	1.5									
NQS AA	31.5	30.6	2.5	1.5	158.2	466998	16.5	0.9	62.0	<1.4077									
NQS AA	31.9	31.5	35.3	11.1	240.0	466998	43.9	0.9	63.4	1.9									
NQS AA	33.3	32.8	55.0	15.7	344.6	466998	30.7	0.9	68.1	1.3									
NQS AA	32.0	31.3	64.5	0.8	161.9	466998	16.0	1.0	61.6	1.1									
NQS AA	30.1	29.8	<0.34734	0.4	153.0	466998	14.0	0.9	60.2	1.4									
NQS AA	29.8	30.2	0.4	0.5	156.6	466998	16.9	0.7	62.7	1.8									
NQS AA	30.7	30.6	0.8	0.5	155.8	466998	<11.8684	0.8	63.2	1.5									
NQS AA	29.7	29.5	1.8	0.8	156.8	466998	21.1	0.7	61.6	<1.2362									
NQS AA	31.2	30.7	5.3	0.8	152.8	466998	11.0	0.8	63.3	1.7									
NQS AA	28.3	28.5	8.1	1.4	144.8	466998	14.0	0.9	59.0	1.6									
NQS AA	31.6	31.1	10.8	0.9	257.2	466998	19.7	0.7	62.3	1.3									
NQS_AA	31.6	30.7	<0.3965	0.5	181.7	466998	<12.084	0.9	61.5	1.9									
NQS AA	33.1	32.2	6.9	1.5	192.7	466998	16.2	0.8	59.7	1.8									

Table A1.18: Standards - major elements - feldspars

Info	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total
ANO	43.86	0.02	36.11	0.50	0.03	19.29	0.49	0.00	0.07	0.02	100.39
ANO	43.92	0.05	36.11	0.47	0.01	19.15	0.47	0.00	0.00	0.06	100.24
ANO	43.94	0.04	36.26	0.50	0.06	19.32	0.49	0.01	0.00	0.00	100.63
ANO	44.02	0.06	36.00	0.48	0.05	19.30	0.48	0.00	0.03	0.00	100.43
ANO	43.43	0.05	36.25	0.48	0.04	19.15	0.49	0.00	0.08	0.04	100.01
ANO	43.64	0.04	36.08	0.45	0.04	19.25	0.53	0.00	0.00	0.03	100.05
ANO	43.78	0.06	36.30	0.44	0.02	19.41	0.49	0.01	0.10	0.06	100.68
ANO	43.56	0.04	35.97	0.43	0.04	19.26	0.51	0.00	0.00	0.00	99.80
ANO	43.70	0.05	36.12	0.44	0.08	19.27	0.51	0.01	0.00	0.03	100.21
ANO	43.48	0.02	36.03	0.48	0.01	19.24	0.52	0.01	0.00	0.02	99.80
ANO	43.59	0.04	36.19	0.48	0.03	19.29	0.47	0.01	0.00	0.07	100.18
ANO	43.46	0.06	36.07	0.52	0.05	19.28	0.51	0.00	0.00	0.05	100.00
ANO	43.15	0.02	35.78	0.44	0.05	19.06	0.48	0.00	0.00	0.00	98.98
ANO	43.16	0.01	35.82	0.45	0.02	19.12	0.47	0.00	0.00	0.04	99.09
ANO	43.49	0.04	36.15	0.51	0.05	19.22	0.47	0.01	0.06	0.03	100.03
ANO	43.23	0.06	35.81	0.45	0.02	19.01	0.48	0.01	0.00	0.04	99.11
ANO	43.54	0.01	35.64	0.44	0.03	19.23	0.47	0.01	0.00	0.08	99.45
ANO	43.55	0.02	35.59	0.46	0.01	19.17	0.49	0.00	0.00	0.02	99.31
ANO	44.19	0.03	36.40	0.44	0.02	19.41	0.55	0.01	0.01	0.03	101.09
ANO	43.64	0.06	36.24	0.44	0.03	19.32	0.54	0.01	0.00	0.03	100.31
ANO	44.24	0.05	36.27	0.43	0.04	19.32	0.48	0.01	0.01	0.07	100.92
ANO	43.89	0.04	36.22	0.48	0.03	19.20	0.48	0.02	0.00	0.00	100.37
ANO	44.06	0.05	36.37	0.45	0.06	19.13	0.48	0.01	0.08	0.07	100.77
ANO	44.03	0.07	36.18	0.44	0.05	19.27	0.50	0.00	0.00	0.01	100.55
ANO	44.29	0.07	36.58	0.47	0.05	19.22	0.49	0.02	0.02	0.00	101.22
ANO	44.24	0.07	36.79	0.44	0.03	19.25	0.50	0.01	0.00	0.02	101.36
ANO	44.15	0.01	36.09	0.49	0.06	18.84	0.48	0.00	0.00	0.04	100.17
ANO	43.99	0.07	35.97	0.51	0.03	19.04	0.45	0.00	0.01	0.07	100.14
ANO	44.00	0.03	36.44	0.44	0.01	19.23	0.49	0.01	0.00	0.05	100.72
ANO	43.93	0.04	36.31	0.48	0.04	19.17	0.47	0.01	0.00	0.06	100.51
ANO	43.80	0.06	36.40	0.47	0.03	19.34	0.52	0.01	0.00	0.04	100.67
ANO	43.85	0.04	36.14	0.47	0.01	19.28	0.54	0.01	0.00	0.03	100.37
ANO	42.74	0.06	35.87	0.49	0.03	19.10	0.51	0.00	0.00	0.00	98.80
ANO	42.95	0.04	35.87	0.48	0.04	19.12	0.52	0.01	0.00	0.04	99.08
ANO	43.00	0.07	35.98	0.46	0.03	19.17	0.49	0.02	0.00	0.06	99.28
ANO	42.75	0.05	35.66	0.43	0.06	19.10	0.52	0.00	0.00	0.01	98.58
ANO	43.29	0.05	35.92	0.50	0.03	19.08	0.50	0.01	0.08	0.01	99.47
ANO	43.15	0.05	36.08	0.48	0.06	19.24	0.47	0.01	0.00	0.03	99.57

Info	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total
LAB	51.30	0.08	30.77	0.43	0.11	13.31	3.64	0.14	0.03	0.02	99.83
LAB	51.09	0.08	30.86	0.43	0.12	13.27	3.64	0.12	0.02	0.05	99.67
LAB	51.13	0.07	30.66	0.45	0.13	13.13	3.68	0.13	0.00	0.00	99.38
LAB	51.31	0.08	30.93	0.42	0.11	13.29	3.73	0.13	0.01	0.04	100.06
LAB	50.42	0.05	30.73	0.42	0.13	13.22	3.69	0.13	0.00	0.00	98.79
LAB	50.82	0.09	30.85	0.45	0.10	13.11	3.74	0.13	0.00	0.03	99.32
LAB	51.27	0.06	30.75	0.43	0.14	13.27	3.73	0.12	0.00	0.00	99.77
LAB	51.21	0.05	30.58	0.45	0.11	13.24	3.77	0.12	0.00	0.04	99.57
LAB	50.69	0.07	30.48	0.44	0.14	13.26	3.65	0.14	0.05	0.03	98.95
LAB	50.91	0.04	30.57	0.47	0.13	13.06	3.66	0.13	0.00	0.06	99.03
LAB	51.22	0.07	30.99	0.44	0.11	13.12	3.81	0.13	0.06	0.00	99.96
LAB	51.12	0.09	30.65	0.46	0.11	13.22	3.70	0.12	0.05	0.00	99.52
LAB	50.70	0.08	30.42	0.44	0.13	13.17	3.71	0.15	0.00	0.02	98.82
LAB	51.06	0.06	30.48	0.41	0.12	13.20	3.72	0.13	0.02	0.00	99.20
LAB	50.94	0.06	30.63	0.46	0.13	13.18	3.69	0.13	0.07	0.01	99.29
LAB	51.07	0.05	30.36	0.44	0.10	13.12	3.65	0.13	0.04	0.00	98.97
LAB	50.95	0.07	30.28	0.47	0.13	13.11	3.70	0.13	0.00	0.06	98.90
LAB	51.01	0.07	30.63	0.44	0.11	13.13	3.62	0.13	0.05	0.01	99.21
LAB	51.50	0.07	31.08	0.41	0.13	13.24	3.85	0.14	0.00	0.00	100.43
LAB	51.54	0.08	30.93	0.51	0.16	13.31	3.83	0.14	0.03	0.06	100.57
LAB	51.36	0.06	30.93	0.43	0.12	13.12	3.77	0.12	0.06	0.01	99.98
LAB	51.78	0.07	30.61	0.43	0.15	13.03	3.68	0.14	0.08	0.05	100.02
LAB	51.79	0.08	30.84	0.42	0.12	13.13	3.70	0.13	0.00	0.00	100.23
LAB	51.72	0.10	30.91	0.43	0.12	13.18	3.68	0.15	0.04	0.00	100.33
LAB	51.56	0.08	31.03	0.49	0.12	13.11	3.70	0.12	0.01	0.00	100.23
LAB	51.72	0.06	30.47	0.47	0.13	13.04	3.46	0.14	0.00	0.04	99.52
LAB	51.62	0.07	31.06	0.42	0.15	13.09	3.55	0.13	0.02	0.03	100.14
LAB	51.51	0.09	30.99	0.44	0.11	13.15	3.91	0.12	0.00	0.01	100.34
LAB	51.62	0.09	30.75	0.45	0.12	13.16	3.88	0.14	0.07	0.04	100.33
LAB	51.33	0.10	30.62	0.47	0.09	12.99	3.84	0.14	0.00	0.04	99.61
LAB	51.32	0.08	30.89	0.43	0.15	13.09	3.83	0.14	0.03	0.00	99.96
LAB	51.67	0.09	30.81	0.47	0.10	13.29	3.86	0.13	0.00	0.04	100.46
LAB	51.49	0.10	30.87	0.47	0.12	13.13	3.84	0.13	0.03	0.04	100.22

Info	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total
MCL	64.70	0.03	18.72	0.02	0.00	0.03	1.25	15.36	0.23	0.00	100.34
MCL	64.67	0.04	18.87	0.00	0.00	0.01	1.17	15.32	0.18	0.00	100.25
MCL	64.52	0.04	18.96	0.00	0.00	0.00	1.25	15.37	0.20	0.00	100.34
MCL	64.51	0.05	19.09	0.00	0.00	0.00	1.31	15.30	0.28	0.02	100.56
MCL	64.44	0.04	19.02	0.04	0.01	0.00	1.24	15.47	0.21	0.04	100.50
MCL	64.64	0.05	19.23	0.01	0.00	0.03	1.22	15.48	0.33	0.00	100.99
MCL	64.57	0.05	18.91	0.01	0.00	0.00	1.28	15.44	0.21	0.02	100.48
MCL	64.82	0.04	18.86	0.02	0.00	0.00	1.27	15.42	0.23	0.00	100.65
MCL	64.31	0.04	19.04	0.02	0.00	0.00	1.24	15.43	0.22	0.03	100.34
MCL	64.47	0.03	18.95	0.01	0.01	0.00	1.27	15.31	0.29	0.03	100.37
MCL	64.30	0.03	19.14	0.00	0.00	0.00	1.26	15.28	0.32	0.01	100.34
MCL	63.81	0.03	18.73	0.00	0.00	0.00	1.10	15.50	0.30	0.01	99.49

Table A1.18: continued

MCL	64.28	0.02	18.96	0.00	0.01	0.02	1.21	15.28	0.27	0.00	100.04
MCL	64.12	0.05	18.74	0.02	0.00	0.00	1.25	15.04	0.26	0.02	99.50
MCL	64.73	0.03	18.94	0.01	0.00	0.00	1.28	15.60	0.25	0.00	100.85
MCL	64.52	0.06	18.86	0.01	0.00	0.00	1.25	15.48	0.17	0.02	100.37
MCL	64.68	0.08	18.97	0.01	0.00	0.01	1.29	15.53	0.20	0.00	100.78
MCL	64.83	0.05	18.95	0.00	0.03	0.00	1.30	15.63	0.25	0.03	101.07
MCL	63.86	0.00	18.74	0.00	0.00	0.00	1.24	15.51	0.25	0.00	99.60
MCL	63.91	0.06	18.83	0.00	0.00	0.00	1.26	15.55	0.26	0.04	99.92
MCL	64.50	0.06	19.13	0.00	0.01	0.01	1.07	15.76	0.25	0.00	100.78
MCL	64.59	0.04	19.03	0.03	0.00	0.00	1.20	15.45	0.26	0.02	100.62
MCL	64.14	0.05	18.59	0.01	0.00	0.00	1.17	15.43	0.25	0.00	99.64
MCL	64.37	0.03	18.88	0.00	0.00	0.02	1.14	15.64	0.28	0.00	100.36
MCL	64.09	0.03	18.76	0.03	0.00	0.00	1.20	15.54	0.27	0.01	99.94
MCL	64.82	0.04	18.95	0.03	0.00	0.02	1.19	15.56	0.27	0.00	100.86
MCL	64.35	0.04	18.80	0.00	0.00	0.00	1.25	15.53	0.25	0.01	100.24
MCL	64.57	0.05	18.96	0.02	0.00	0.00	1.26	15.66	0.26	0.00	100.80
MCL	64.26	0.03	18.96	0.02	0.00	0.03	1.29	15.50	0.28	0.05	100.43
MCL	64.24	0.02	18.89	0.00	0.00	0.00	1.27	15.56	0.25	0.00	100.23
MCL	64.20	0.03	19.01	0.00	0.00	0.00	1.37	15.48	0.24	0.00	100.33
MCL	63.92	0.04	19.11	0.01	0.01	0.00	1.28	15.57	0.27	0.00	100.21
MCL	63.91	0.04	18.95	0.00	0.00	0.00	1.06	15.73	0.29	0.00	99.98
MCL	64.06	0.06	18.95	0.00	0.00	0.01	1.30	15.50	0.22	0.00	100.09

Table A1.19: Standards - major elements - glass

Info	SiO_2	TiO_2	Al_2O_3	FeO	Cr_2O_3	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	Cl	Total
ATHO-G	75.34	0.29	12.50	3.23	0.19	0.09	0.11	1.65	3.74	2.71	0.00	0.03	99.88
ATHO-G	75.75	0.35	12.55	3.06	0.06	0.08	0.08	1.75	3.68	2.84	0.00	0.04	100.25
ATHO-G	75.59	0.37	12.54	3.06	0.03	0.13	0.10	1.62	3.70	2.76	0.00	0.04	99.94
ATHO-G	75.47	0.28	12.59	3.00	0.15	0.11	0.05	1.69	3.88	2.83	0.00	0.05	100.09
ATHO-G	75.75	0.23	12.69	3.09	0.00	0.16	0.11	1.66	3.51	2.82	0.01	0.03	100.07
ATHO-G	75.93	0.25	12.60	2.99	0.06	0.12	0.12	1.69	3.76	2.71	0.06	0.04	100.33
ATHO-G	75.66	0.27	12.48	3.11	0.00	0.05	0.07	1.73	3.66	2.80	0.06	0.04	99.93
ATHO-G	75.79	0.26	12.35	3.02	0.00	0.10	0.08	1.61	3.66	2.82	0.04	0.04	99.77
ATHO-G	75.72	0.28	12.49	3.03	0.35	0.08	0.09	1.70	3.59	2.79	0.07	0.02	100.21
ATHO-G	75.21	0.24	12.76	3.08	0.00	0.11	0.09	1.64	3.63	2.80	0.00	0.05	99.60
ATHO-G	75.55	0.30	12.47	2.97	0.00	0.13	0.10	1.68	3.55	2.85	0.00	0.03	99.63
ATHO-G	75.39	0.31	12.51	3.20	0.10	0.08	0.07	1.65	3.61	2.85	0.00	0.02	99.80
ATHO-G	75.84	0.28	12.41	3.29	0.00	0.12	0.11	1.63	3.68	2.84	0.00	0.02	100.22
ATHO-G	75.45	0.34	12.43	3.19	0.00	0.12	0.04	1.74	3.75	2.76	0.02	0.02	99.86
ATHO-G	75.65	0.34	12.41	3.19	0.00	0.12	0.12	1.67	3.75	2.82	0.07	0.03	100.16
ATHO-G	75.58	0.33	12.55	3.08	0.00	0.13	0.06	1.69	3.64	2.81	0.04	0.05	99.95

Info	SiO_2	TiO_2	Al_2O_3	FeO	Cr_2O_3	MnO	MgO	CaO	Na_2O	K_2O	P_2O_5	Cl	Total
NIST-610	70.00	0.16	2.13	0.06	0.15	0.07	0.04	11.30	13.21	0.06	0.12	0.04	97.34
NIST-610	70.18	0.14	2.15	0.05	0.05	0.12	0.07	11.55	13.25	0.08	0.10	0.03	97.77
NIST-610	70.15	0.12	2.04	0.06	0.18	0.07	0.04	11.36	13.34	0.04	0.14	0.04	97.57
NIST-610	70.08	0.13	2.09	0.03	0.03	0.02	0.06	11.31	13.18	0.08	0.05	0.02	97.09
NIST-610	69.41	0.13	2.06	0.06	0.00	0.09	0.07	11.21	13.24	0.04	0.06	0.05	96.42
NIST-610	69.48	0.16	2.14	0.07	0.22	0.05	0.09	11.23	13.62	0.06	0.09	0.05	97.26
NIST-610	69.48	0.13	2.13	0.06	0.00	0.03	0.05	11.42	13.32	0.08	0.08	0.04	96.82
NIST-610	69.75	0.12	2.02	0.03	0.04	0.03	0.00	11.36	13.29	0.07	0.08	0.02	96.81
NIST-610	68.85	0.18	2.01	0.03	0.18	0.05	0.03	11.06	13.27	0.09	0.10	0.02	95.87
NIST-610	69.09	0.13	2.11	0.02	0.04	0.06	0.05	11.36	13.18	0.08	0.16	0.01	96.29
NIST-610	70.12	0.11	2.13	0.09	0.08	0.05	0.06	11.33	13.25	0.09	0.13	0.02	97.44
NIST-610	69.81	0.20	2.13	0.05	0.00	0.05	0.03	11.37	13.04	0.05	0.04	0.04	96.81
NIST-610	70.01	0.15	2.14	0.06	0.11	0.07	0.09	11.38	13.34	0.06	0.05	0.03	97.48
NIST-610	70.28	0.14	2.12	0.04	0.18	0.04	0.08	11.44	13.26	0.05	0.03	0.02	97.68
NIST-610	69.35	0.21	2.13	0.07	0.00	0.08	0.04	11.19	12.92	0.09	0.11	0.02	96.20
NIST-610	69.81	0.12	1.98	0.06	0.08	0.06	0.10	11.24	12.94	0.04	0.12	0.03	96.58
NIST-610	69.44	0.14	2.01	0.05	0.00	0.07	0.00	11.42	12.82	0.09	0.10	0.06	96.20
NIST-610	69.69	0.18	2.08	0.05	0.24	0.03	0.10	11.38	13.11	0.06	0.07	0.03	97.02

A2: KDs and literature data

Table A2.1: Overview of literature data used

Sample number	Unit name		LAT (N)	LONG (W)	Comment	published by
BE SRP 14 038	Huckleberry Ridge Tuff		43.91273	111.5358	Teton dam Embree location basal vitrophyre	Ellis et al., 2018
BP5-23-12-8	Kilgore Tuff		43.48842	111.90332	Basal vitrophyre Kilgore Tuff	Ellis et al., 2018
BP5-23-12-6	Kilgore Tuff		43.65009	111.68466	Upper vitrophryre Kilgore Tuff	Ellis et al., 2018
BP4-19-12-2	Kilgore Tuff		43.53290	111.69989	Basal vitrophyre, Kilgore tuff, reference section (Morgan and McIntosh, 2005)	Ellis et al., 2018
BP5-25-12-2	Kilgore Tuff		44.1277	112.5379	upper vitrophryre, Kilgore Tuff	Ellis et al., 2018
BP140625-1	Conant Creek Tuff		44.06265	110.92682	glassy sample of Conant Creek Tuff at type section, S Boone Creek	Ellis et al., 2018
DS13003	Wolverine Creek Tuff		43.52775	111.69442	Massive , dark grey deposit, full of cm-size pumice and dense clasts up to 15 cm	Szymanowski et al., 2015
DS14038	Wolverine Creek Tuff		43.64805	111.68558	Massive unwelded, pumice-rich, black deposit	Szymanowski et al., 2015
DS13018	Walcott Tuff		43.80732	112.84908	Basal part of Walcott Tuff at reference section (Morgan and McIntosh, 2005), black layer with spherulites	Szymanowski et al., 2015; Ellis et al., 2018
BP5-23-12-9	Walcott Tuff		43.42539	111.90997	Basal vitrophyre	Szymanowski et al., 2015
BP4-19-12-1	Blacktail Creek		43.5049	111.76157	Upper vitrophyre, Blacktail Creek Tuff, type section (Morgan and McIntosh, 2005)	Szymanowski et al., 2015; Ellis et al., 2018
DS13019	Winnetou Ignimbrite		43.80732	112.84908	Upper vitrophyre from enigmatic red ignimbrite at base of Walcott ref section	Ellis et al., 2017b
BE SRP 11 032	Greys Landing		42.21137	114.73346	Upper perlitic vitrophyre GL, Salmon Falls dam	Ellis et al., 2015
BE SRP 11 039	Greys Landing		42.06757	114.76372	Basal vit GL Backwaters	Ellis et al., 2015
BE SRP 09 031	Gwin Springs		43.18005	114.65634	Upper vitrophyre of the Tuff of Gwin Springs	This study
BE SRP 13 002	Wooden Shoe Butte		42.34459	114.29541	Wooden Shoe Butte next to the road in Rock Creek	Ellis et al., 2018
BE SRP 09 023	Tuff of Knob		43.23937	114.9171	Upper vitrophyre of Knob	Ellis et al., 2018
BE SRP 09 020	Tuff of Knob		43.20672	115.0054	Basal vitrophyre Tuff of Knob	Ellis et al., 2018
CPT XIII						This study
BE SRP 09 015	Rhyolite of Deer Springs		43.2137	114.98688	Vitrophyre of the Deer Springs Unit	This study
Samples from the drillcore	**Unit name**	**Depth (m)**				
14002	Upper Rhyolite	154.5				Ellis et al., 2017b
14006	Upper Rhyolite	181.7				Ellis et al., 2017b
14008	Upper Rhyolite	189.9				Ellis et al., 2017b
14018	Upper Rhyolite	498.3				Ellis et al., 2017b
14020	Upper Rhyolite	516.0				Ellis et al., 2017b
14021	Upper Rhyolite	518.8				Ellis et al., 2017b
14027	Middle Rhyolite	591.9				Ellis et al., 2017b

Table A2.2: Li concentration overview

Sample	Mean	Min	Max	2SD	n	taken out
Filtered Glass data						
Mesa Falls Tuff	42.5	36.1	48.7	6.5	70	3
Huckleberry Ridge Tuff	46.9	42.0	51.8	5.2	50	0
Upper Rhyolite	23.4	4.1	31.5	8.2	283	33
Middle Rhyolite	11.7	4.5	26.4	11.7	25	0
Kilgore Tuff	27.0	23.0	31.2	4.3	134	20
Conant Creek Tuff	36.5	35.5	37.7	1.3	26	0
Wolverine Creek Tuff	30.0	27.4	32.7	2.7	85	12
Walcott Tuff	35.8	26.6	53.7	16.7	53	2
Blacktail Creek Tuff	33.3	14.3	47.3	19.1	32	1
Winnetou Ignimbrite	14.8	11.9	17.0	3.2	21	0
Greys Landing	23.5	16.8	26.2	5.5	34	6
Tuff of Gwin Spring	24.9	23.2	26.1	2.0	10	0
Wooden Shoe Butte	25.5	18.0	32.2	8.5	54	0
Tuff of Knob	30.3	24.1	36.5	6.2	34	2
Cougar Point Tuff XIII	38.8	22.2	50.6	16.7	22	1
Rhyolite of Deer Springs	25.7	19.9	29.2	4.6	35	14

Table A2.3: Kds

	MFT	Mean	Min	Max	n
rim	Sanidine	0.11	0.03	0.18	69
rim	Plagioclase	0.52	0.41	0.67	68
rim2	Plagioclase	0.28	0.11	0.42	97
rim	Orthopyroxene	0.20	0.18	0.22	58
rim	Clinophyroxene	0.26	0.23	0.29	74
rim	Fayalite	0.39	0.31	0.58	168
rim	Quartz	0.45	0.35	0.53	148
core	Sanidine	0.15	0.09	0.28	338
core	Plagioclase	0.43	0.27	0.63	276
core	Clinophyroxene	0.27	0.23	0.32	185
core	Fayalite	0.38	0.33	0.46	84
core	Quartz	0.41	0.31	0.58	570

HRT	Mean	Min	Max	n
Sanidine	0.04	0.02	0.10	119
Plagioclase	0.13	0.08	0.19	10
Orthopyroxene	-	-	-	-
Clinopyroxene	-	-	-	-
Fayalite	-	-	-	-
Quartz	0.50	0.39	0.56	51

Middle Rhyolite	Mean	Min	Max	n
Sanidine				
Plagioclase	0.14	0.11	0.17	20
Orthopyroxene	-	-	-	-
Clinophyroxene	-	-	-	-
Fayalite	-	-	-	-
Quartz	-	-	-	-

Upper Rhyolite	Mean	Min	Max	n
Sanidine	0.09	0.06	0.13	42
Plagioclase	0.29	0.13	0.48	74
Orthopyroxene	-	-	-	-
Clinophyroxene	-	-	-	-
Fayalite	-	-	-	-
Quartz	-	-	-	-

Kilgore Tuff	Mean	Min	Max	n
Sanidine	0.08	0.04	0.18	118
Plagioclase	0.23	0.04	0.49	245
Orthopyroxene	0.27	0.23	0.48	98
Clinophyroxene	0.33	0.21	0.42	71
Fayalite	-	-	-	-
Quartz	-	-	-	-

Conant Creek Tuff	Mean	Min	Max	n
Sanidine	-	-	-	-
Plagioclase	0.13	0.08	0.18	30
Orthopyroxene	-	-	-	-
Clinophyroxene	-	-	-	-
Fayalite	-	-	-	-
Quartz	-	-	-	-

Wolverine Creek Tuff	Mean	Min	Max	n
Sanidine	0.17	0.06	0.38	23
Plagioclase	0.07	0.04	0.16	8
Orthopyroxene	-	-	-	-
Clinophyroxene	-	-	-	-
Fayalite	-	-	-	-
Quartz	-	-	-	-

Walcott Tuff	Mean	Min	Max	n
Sanidine	-	-	-	-
Plagioclase	0.16	0.09	0.23	36
Orthopyroxene	0.24	0.22	0.38	19
Clinophyroxene	0.30	0.26	0.33	31
Fayalite	-	-	-	-
Quartz	-	-	-	-

Blacktail Creek	Mean	Min	Max	n
Sanidine	0.12	0.07	0.45	82
Plagioclase	0.38	0.26	0.55	68
Orthopyroxene	0.32	0.22	0.56	10
Clinophyroxene	0.31	0.25	0.83	131
Fayalite	-	-	-	-
Quartz	-	-	-	-

Winnetou Ignimbrite	Mean	Min	Max	n
Sanidine	-	-	-	-
Plagioclase	0.44	0.14	0.74	35
Orthopyroxene	-	-	-	-
Clinopyroxene	-	-	-	-
Fayalite	-	-	-	-
Quartz	-	-	-	-

Greys Landing	Mean	Min	Max	n
Sanidine	-	-	-	-
Plagioclase	0.24	0.14	0.42	59
Orthopyroxene	-	-	-	-
Clinopyroxene	-	-	-	-
Fayalite	-	-	-	-
Quartz	-	-	-	-

Tuff of Gwin Springs	Mean	Min	Max	n
Sanidine	-	-	-	-
Plagioclase	0.19	0.10	0.27	44
Orthopyroxene	-	-	-	-
Clinophyroxene	-	-	-	-
Fayalite	-	-	-	-
Quartz	-	-	-	-

Tuff of Wooden Shoe Butte	Mean	Min	Max	n
Sanidine	-	-	-	-
Plagioclase	0.17	0.07	0.27	95
Orthopyroxene	-	-	-	-
Clinopyroxene	0.44	0.28	0.81	20
Pigeonite	0.58	0.43	0.76	46
Quartz	-	-	-	-

Tuff of Knob	Mean	Min	Max	n
Sanidine				
Plagioclase	0.22	0.12	0.33	189
Orthopyroxene	0.37	0.28	0.53	27
Clinophyroxene	0.25	0.21	0.38	14
Fayalite	-	-	-	-
Quartz	-	-	-	-

CPT XIII	Mean	Min	Max	n
Sanidine	-	-	-	-
Plagioclase	0.16	0.09	0.22	14
Orthopyroxene	-	-	-	-
Clinophyroxene	-	-	-	-
Fayalite	-	-	-	-
Quartz	-	-	-	-

Rhyolite of Deer Springs	Mean	Min	Max	n
Sanidine	0.07	0.05	0.10	31
Plagioclase	0.25	0.15	0.44	26
Pigeonite	0.59	0.42	0.86	15
Clinophyroxene	0.30	0.19	0.47	4
Fayalite	-	-	-	-
Quartz	-	-	-	-

Table A2.4: Whole rock data

MESA FALLS TUFF - Whole rock data							
Unnormalized Major Elements (Weight %):							
SiO_2	76.1	73.5	72.6	73.8	75.4	76.2	76.3
TiO_2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
Al_2O_3	11.1	11.6	12.2	11.8	12.3	11.6	11.6
FeO*	1.9	1.6	1.6	1.9	1.8	1.2	1.2
MnO	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MgO	0.1	0.1	0.1	0.1	0.1	0.0	0.0
CaO	0.9	0.7	0.7	0.8	0.5	0.5	0.5
Na_2O	2.6	2.6	2.8	2.6	3.2	3.5	3.5
K_2O	4.9	5.1	5.5	5.2	5.2	4.8	4.8
P_2O_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sum	97.8	95.3	95.6	96.2	98.8	98.0	98.1
Normalized Major Elements (Weight %):							
SiO_2	77.8	77.1	75.9	76.6	76.3	77.8	77.8
TiO_2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
Al_2O_3	11.4	12.2	12.7	12.2	12.4	11.9	11.9
FeO*	1.9	1.7	1.7	1.9	1.8	1.3	1.3
MnO	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MgO	0.1	0.1	0.1	0.1	0.1	0.0	0.0
CaO	0.9	0.8	0.8	0.8	0.5	0.5	0.5
Na_2O	2.7	2.7	2.9	2.7	3.3	3.6	3.6
K_2O	5.0	5.3	5.7	5.4	5.3	4.9	4.9
P_2O_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Alkalis	7.7	8.0	8.6	8.1	8.6		
Unnormalized Trace Elements (ppm):							
Ni	4	4	4	12	5	3	3
Cr	6	3	3	4	3	3	3
Sc	4	2	3	3	3	2	1
V	5	4	5	4	6	2	1
Ba	1006	444	595	423	527	42	43
Rb	97	180	174	173	175	230	232
Sr	56	29	38	32	33	3	2
Zr	250	242	266	296	283	173	172
Y	40	73	69	71	64	76	74
Nb	21.7	43.6	41.6	43.4	41.5	60.7	60.8
Ga	17	20	21	20	22	24	23
Cu	3	2	2	1	3	2	2
Zn	54	65	66	69	55	75	76
Pb	24	30	30	28	25	47	46
La	57	82	86	91	85	72	69
Ce	105	157	161	166	172	119	125
Th	14	30	28	30	31	30	31
Nd	44	61	62	65	61	48	51
U	2	7	5	5	5	8	8
sum tr.	1808	1477	1657	1535	1599	1018	1022
in %	0	0	0	0	0	0	0
sum m+tr	98	95	96	96	99	98	98
M+Toxides	98	96	96	96	99	98	98
Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO.							
"R" denotes a duplicate bead made from the same rock powder.							
NiO	5.6	4.5	5.0	15.1	6.1	3.8	3.2
Cr_2O_3	8.6	4.8	4.7	6.4	5.0	4.2	4.5
Sc_2O_3	5.7	3.1	4.1	3.8	4.4	2.8	1.4
V_2O_3	7.4	6.0	7.8	5.9	8.5	2.4	0.9
BaO	1123.4	495.8	663.8	472.4	587.9	46.6	47.9
Rb_2O	105.9	197.3	189.7	188.8	191.6	251.9	253.2
SrO	66.6	34.3	45.2	37.5	39.1	3.3	2.7
ZrO_2	337.0	326.6	359.3	399.3	382.1	234.0	232.9
Y2O3	51.1	93.1	87.0	90.4	80.8	96.1	94.5
Nb_2O_5	31.0	62.4	59.5	62.1	59.4	86.8	87.0
Ga_2O_3	22.6	27.0	27.8	27.2	30.1	32.4	30.2
CuO	3.5	2.0	2.0	1.1	3.8	1.9	2.5
ZnO	67.9	81.3	82.4	86.7	68.6	93.6	94.8
PbO	25.9	31.9	32.4	30.3	26.7	50.1	49.6
La_2O_3	66.5	96.6	100.7	106.3	100.0	84.7	80.7
CeO2	128.5	192.7	197.9	203.8	210.9	145.8	153.8
ThO_2	15.7	32.8	30.6	32.9	33.9	33.5	34.1
Nd_2O_3	51.0	70.7	72.5	75.9	71.4	56.5	59.7
U_2O_3	1.7	7.2	5.5	5.8	5.4	9.1	8.7
Cs_2O	103.9	101.2	101.6	102.2	104.9	104.0	104.1
As_2O_5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W_2O_3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
sum tr.	2229	1871	2080	1954	2021	1343	1346
in %	0.22	0.19	0.21	0.20	0.20	0.13	0.13

Table A2.5: Melts modell

MELTS - Results			
MINERALS IN		**MINERALS OUT**	
feldspar	960	feldspar	790
quartz	1030	quartz	850
spinel	940	spinel	800
Rhm-oxide		Rhm-oxide	
olivine	920	olivine	780
orthopyroxene	940	orthopyroxene	810
clinopyroxene	910	clinopyroxene	780
amphibole		amphibole	
biotite		biotite	
muscovite		muscovite	
cummingtonite		cummingtonite	
apatite		apatite	
whitlockite		whitlockite	
garnet		garnet	
sillimanite		sillimanite	
leucite		leucite	
cristobalite		cristobalite	
tridymite		tridymite	
corundum		corundum	
water	1300	water	930

MELT FRACTION at temperature (°C)		TEMPERATURE at melt fraction (%)		
675	-	100	100.0000022	1301
700	-	90	89.83098498	970
725	-	80	79.94398126	960
750	35.0	70	69.99702319	950
775	70.0	60	60.07446892	950
800	84.1	50	58.20250982	940
825	92.9	40	35.03891458	940
850	96.6	30	35.03891458	940
875	99.6	20	19.71361557	930
900	100.0	10	10.1662347	930
925	100.0	1	0	-
950	100.0			
975	100.0			
1000	100.0			
1025	100.0			
1050	100.0			
1075	100.0			
1100	100.0			

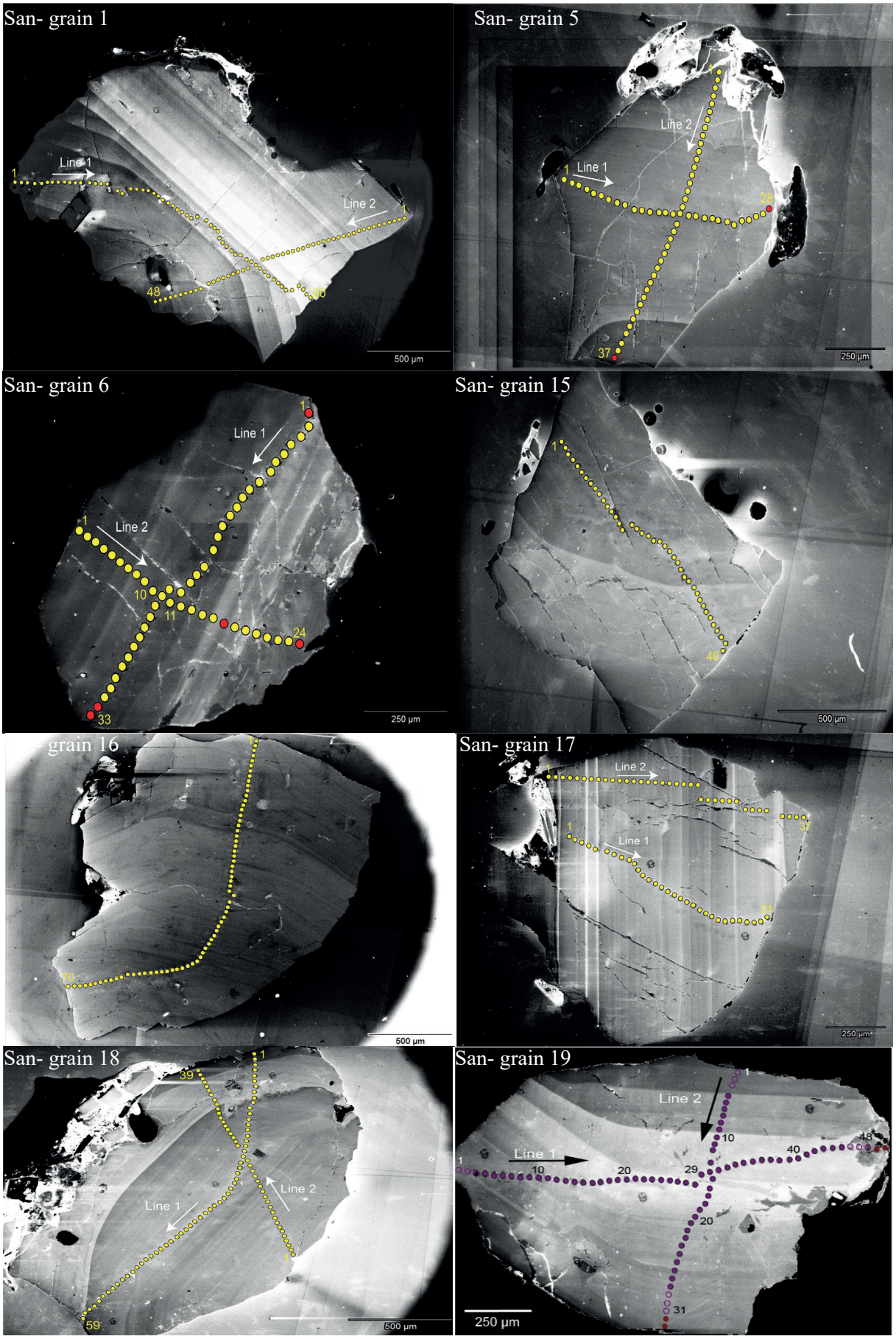


Fig. A3. CL images of sanidine

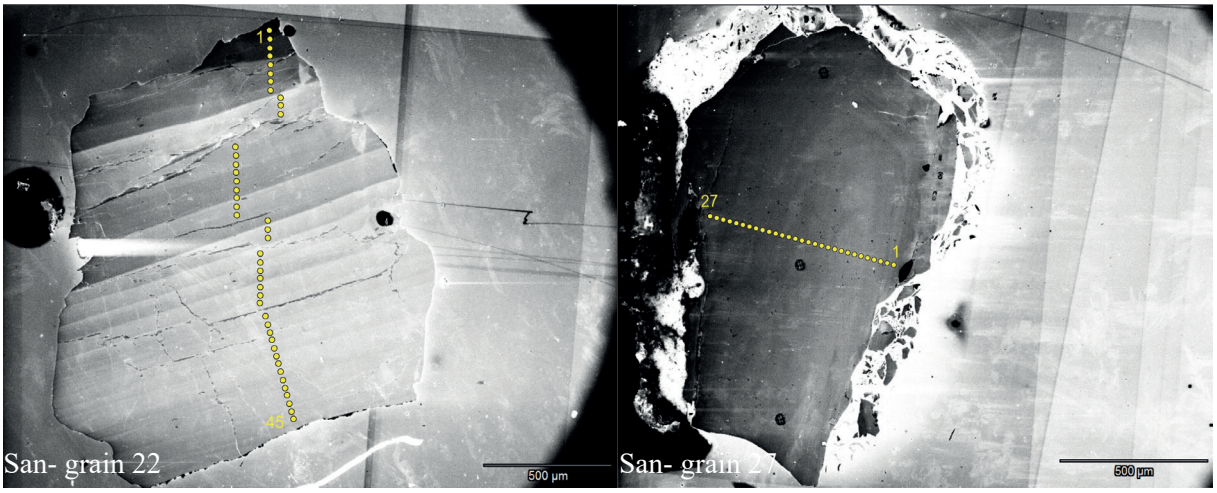


Fig. A3. CL images of sanidine

Appendix

Appendix B: Supplementary material for Chapter 3

B: Plagioclase major and trace element data and Fs-LA-MC-ICP-MS data

Table B1: Plagioclase grain 7 - Line 1

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD
core	2	20	2	19	1	54577	3367	18	5	118448	7045	12758	770	27200	1917	51	8	1332	106	4	1	171	12	308	20	23	2
core	7	21	2	21	1	61027	4331	18	5	124693	8128	13884	726	28436	1980	57	8	1413	140	4	1	182	12	339	26	24	2
core	12	20	2	19	1	55914	5630	21	5	114384	6250	12708	742	25366	1532	51	9	1246	104	3	1	170	10	327	26	23	2
core	17	20	2	19	1	54428	2543	18	4	116504	5283	12951	616	26240	2041	45	7	1368	114	3	0	175	7	335	21	24	1
core	22	19	2	19	1	53110	2787	18	4	114870	5037	12748	720	25460	1631	51	8	1302	98	4	1	169	9	314	21	23	2
core	27	20	2	19	1	54283	3780	19	3	113621	6971	12504	797	26144	2314	41	5	1303	108	3	1	173	12	319	22	23	2
core	32	18	2	18	1	52408	3399	17	5	112691	8130	12249	794	26031	2310	47	10	1337	86	4	1	174	12	302	29	21	2
core	37	19	2	18	1	52666	3022	22	7	114311	7289	12118	675	25033	1612	46	8	1248	92	3	1	165	12	311	21	20	1
core	42	23	3	19	2	55696	4596	19	4	119285	9920	12820	1071	28000	3154	48	6	1304	150	3	1	177	14	332	29	23	2
core	47	20	2	20	1	54477	2729	21	4	120350	5772	12885	654	27182	1408	48	9	1341	99	4	0	175	11	314	25	22	1
core	52	21	2	20	1	57853	4109	20	6	124552	8191	13277	910	28977	2072	49	10	1344	126	4	0	183	13	314	31	23	2
core	57	19	2	19	1	53255	2257	21	5	115677	4131	12205	571	26128	1589	43	7	1271	74	3	1	170	7	300	16	23	2
core	62	21	1	20	1	55230	3906	17	4	118221	8778	12975	1167	28079	2260	53	10	1384	136	4	1	172	15	320	37	23	2
core	67	21	2	20	1	58060	3771	19	5	122378	6519	13312	678	27999	1641	51	10	1443	122	4	0	182	11	322	22	24	2
core	72	20	1	19	1	54935	2405	19	5	118088	5592	12782	606	27006	1448	40	8	1345	75	4	1	170	8	292	17	22	1
core	77	20	1	19	1	54151	2910	21	4	116214	5792	12819	613	27519	2037	45	6	1386	105	4	1	174	9	304	21	21	2
core	82	20	3	18	1	52194	2624	18	4	113437	5734	12367	641	26695	1446	40	8	1249	91	3	0	162	8	275	22	21	2
core	87	23	3	20	1	56275	2942	20	5	118575	6190	12922	689	27332	1751	44	8	1412	119	3	0	178	10	290	17	22	2
core	92	22	3	20	2	56648	4424	19	5	120921	8394	13067	925	27587	1949	47	10	1318	115	4	1	171	15	304	23	23	2
core	97	19	2	18	1	52721	3624	19	4	112321	7797	12352	876	25904	1961	40	8	1299	155	4	1	158	12	268	25	21	2
core	102	22	3	19	1	53060	2394	19	5	115132	5136	12983	629	26134	1818	41	6	1249	61	4	1	166	8	269	15	21	1
core	107	19	2	19	1	53098	2693	19	6	113124	5823	12594	649	25499	1887	42	9	1218	92	4	1	159	9	262	18	20	1
core	112	20	2	20	1	56091	2967	19	5	119517	5607	13445	671	27546	1655	37	6	1358	95	4	0	167	9	284	20	22	2
core	117	23	3	21	2	56853	4269	21	4	120373	9073	13413	866	26493	2687	46	9	1311	132	4	1	172	12	289	26	22	2
core	122	20	3	20	1	56211	4621	21	7	119415	9138	13533	1129	26892	2144	41	7	1390	156	4	1	161	11	270	24	21	2
core	127	20	2	20	1	54587	2950	18	6	116440	5954	12762	642	26674	1811	50	9	1237	115	4	1	162	9	281	18	20	1
core	132	19	2	20	1	56432	3412	18	3	118539	6689	13053	721	27595	2013	37	6	1323	109	4	1	164	11	273	19	21	1
core	137	23	2	20	1	56786	3423	17	5	118514	6832	13315	789	26891	2205	38	9	1299	116	4	1	162	10	268	22	21	1
core	142	19	1	18	1	51219	2671	14	4	109087	6131	12004	589	24252	1203	40	6	1192	90	3	0	143	7	257	16	20	1
core	147	20	1	20	1	54913	2219	20	5	117179	4838	13364	572	25669	1728	41	7	1303	92	4	0	159	7	272	12	21	1
core	152	22	2	20	1	56026	3127	19	5	118331	7290	13436	959	27982	1843	45	8	1308	94	4	1	162	11	274	19	22	2
core	157	20	1	20	1	55419	3985	22	5	116530	7557	13268	874	25859	2080	42	7	1256	94	4	1	156	10	255	20	22	2
core	162	20	2	20	1	54621	3126	20	3	117749	5521	13137	642	25872	1858	44	9	1271	128	5	1	153	9	261	18	23	2
core	167	18	2	20	1	54998	2717	14	5	115838	6228	12651	630	26138	2004	44	8	1248	72	4	1	151	9	262	20	22	1
core	172	20	1	19	1	53465	2751	18	4	111814	5145	12805	542	24325	1434	33	5	1181	74	4	1	148	7	258	17	20	2
core	177	20	1	19	1	52607	2212	18	5	112202	5347	12785	500	25655	1629	39	5	1202	96	4	1	142	7	256	16	21	1
core	182	20	2	19	1	53396	3041	23	5	112822	5474	12923	687	25659	2377	39	7	1231	92	4	1	146	8	244	14	21	2
core	187	18	2	19	1	54131	3037	13	4	113096	6279	12939	659	25030	1692	39	5	1199	98	4	1	141	9	248	27	21	1
core	192	20	2	20	1	55295	2532	15	5	116003	4969	13193	603	25789	1941	42	5	1184	78	4	1	148	8	256	17	21	2
core	197	19	2	19	1	53672	2760	17	4	111815	6260	12886	619	25041	1391	40	6	1132	64	4	1	138	7	256	15	21	2
core	202	22	2	21	1	57727	3988	19	5	119921	6353	13754	781	27409	1969	46	7	1348	138	4	1	145	9	276	18	21	2
core	207	21	2	20	1	55408	2824	20	4	117282	6944	13089	644	25881	1462	44	7	1194	94	4	0	140	7	246	16	21	1
core	212	20	2	19	1	55069	3025	21	6	117468	7319	13175	723	26241	1967	48	8	1275	86	4	0	137	8	236	20	21	2
core	217	18	2	18	1	54188	3085	20	6	113753	6492	12619	760	25159	1592	41	8	1233	102	4	0	130	8	222	17	22	2
core	222	20	4	18	1	54686	4349	17	4	114202	8018	12971	984	25185	2315	46	9	1212	147	4	1	132	10	230	19	20	2
core	227	19	2	17	1	53995	2991	18	5	111914	6437	12982	627	24969	1609	37	5	1202	63	4	1	130	9	210	16	22	2
core	232	17	2	17	1	52902	2938	20	4	109372	5528	12948	819	24813	1837	41	8	1163	94	4	1	121	7	196	12	19	2
core	237	17	2	17	1	54235	2372	16	3	112147	4954	13502	610	23762	1515	41	6	1150	67	4	0	123	7	194	13	20	2
core	242	18	2	18	1	57913	3037	22	4	114018	5162	14128	717	25874	3650	44	15	1217	90	4	1	126	6	188	14	21	1
core	247	18	2	18	2	57904	1954	28	7	118579	4167	14092	605	25341	1428	40	7	1198	78	5	1	127	4	177	10	20	1
core	252	17	2	17	1	57357	3499	26	6	118216	6650	13912	907	26917	1850	40	6	1272	108	4	1	128	8	159	17	20	1
rim	257	14	2	15	1	52751	2659	16	6	111473	4465	12929	681	24556	1830	36	5	1176	63	4	1	117	7	136	8	20	2
rim	262	15	1	15	1	56822	3215	22	5	116678	6210	13919	853	25609	1735	42	7	1164	94	4	1	126	9	135	13	20	1
rim	267	16	2	14	1	58110	3319	18	4	117657	6703	13981	729	24148	1248	39	9	1227	119	5	1	125	7	138	12	21	2
rim	272	15	2	13	1	55166	3245	14	3	109870	6043	13395	676	24594	1653	41	5	1108	88	5	1	118	7	126	12	20	2
rim	276	13	1	12	0	53782	2108	15	3	109368	4672	13071	393	23396	1289	40	6	1092	73	4	1	119	6	127	8	18	1
rim	281	13	1	12	1	55504	3146	16	4	112217	6390	13235	747	24556	1847	35	5	1178	89	5	1	124	8	136	10	19	2
rim	286	13	2	12	1	57312	4382	26	7	117661	9053	13763	1040	25184	2381	42	9	1180	99	4	1	130	9	153	12	20	2
rim	291	12	1	12	1	57180	4241	18	7	116889	9222	13675	1051	25525	2156	48	7	1271	113	5	1	130	12	176	16	20	2
rim	296	9	1	10	1	54821	2915	18	5	110542	5324	12887	587	24456	1683	40	8	1202	93	4	1	125	6	169	16	20	1
rim	301	9	1	9	1	58477	3474	19	6	116846	6327	13066	720	26357	1890	44	8	1300	89	5	1	135	9	198	17	21	2
rim	306	8	1	8	0	58315	4169	536	1026	117109	7750	13222	943	26352	2104	43	7	1298	111	4	1	134	11	227	19	22	2
rim	311	6	1	7	1	56480	4083	21	4	112753	6693	12542	756	25660	1863	44	8	1281	109	4	1	130	9	219	16	20	2
rim	316	7	1	6	0	57115	2815	16	4	115099	5547	13006	704	27006	1692	39	8	1350	123	5	1	127	6	216	16	21	1
rim	321	6	1	5	0	54170	3034	21	4	109537	5835	12372	684	24715	1961	39	8	1256	87	5	1	121	6	212	10	20	1

Table B1: continued

Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD	Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
24	2	2	0	5	1	1	0	5	1	0	0	13	2														
26	2	2	0	5	1	0	0	5	1	0	0	13	2														
22	2	2	0	4	1	0	0	4	1	0	0	12	2														
24	1	2	0	5	1	1	0	5	1	0	0	12	1														
24	2	2	0	4	1	0	0	4	1	0	0	12	1														
23	2	2	0	4	1	0	0	5	1	0	0	12	2	63.1	0.1	22.9	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.2	21	71	9
22	2	2	0	4	1	1	0	4	1	0	0	13	1	63.1	0.1	22.8	0.2	0.0	4.2	8.0	1.6	0.0	0.0	99.9	20	71	9
22	2	1	0	4	1	0	0	5	1	0	0	12	2	63.0	0.1	23.0	0.2	0.0	4.1	8.1	1.6	0.0	0.0	100.1	20	71	9
24	2	2	0	4	1	0	0	5	1	0	0	12	1	63.1	0.1	23.1	0.2	0.0	4.3	8.1	1.5	0.1	0.0	100.4	21	71	9
22	2	2	0	4	1	1	1	6	1	0	0	12	1	63.1	0.1	22.8	0.2	0.0	4.1	8.2	1.5	0.1	0.0	100.2	20	71	9
24	2	2	0	4	1	0	0	5	1	0	0	13	1	63.4	0.0	22.7	0.2	0.0	3.9	8.1	1.6	0.0	0.0	99.8	19	72	9
23	2	2	0	5	1	1	1	5	1	0	0	12	1	63.5	0.1	22.9	0.2	0.0	3.8	8.1	1.6	0.0	0.0	100.3	19	72	9
22	2	2	0	4	1	1	1	5	1	0	0	14	1	63.4	0.1	22.8	0.2	0.0	4.0	8.1	1.6	0.0	0.0	100.2	19	71	9
24	1	1	0	6	1	0	0	4	1	0	0	13	1	63.3	0.1	22.8	0.2	0.0	4.0	8.0	1.6	0.0	0.1	100.0	20	71	9
24	2	2	0	4	1	1	1	5	1	0	0	13	1	63.0	0.1	22.8	0.2	0.0	4.0	8.1	1.5	0.0	0.0	99.8	20	72	9
23	2	2	0	4	1	0	0	5	1	0	0	12	1	63.2	0.1	22.7	0.2	0.0	4.0	8.0	1.6	0.0	0.0	99.8	20	71	9
22	1	2	0	5	1	0	0	4	1	0	0	12	1	63.1	0.1	22.9	0.2	0.0	4.2	8.1	1.5	0.0	0.1	100.1	20	71	9
23	2	2	0	5	1	1	0	4	1	0	0	12	1	63.0	0.1	22.8	0.2	0.0	4.1	8.1	1.5	0.0	0.1	100.0	20	71	9
24	3	2	0	5	2	0	0	5	1	0	0	14	2	63.2	0.1	22.7	0.2	0.0	4.0	8.2	1.6	0.0	0.0	99.9	19	72	9
22	3	2	0	5	1	0	0	4	1	0	0	12	1	63.3	0.1	22.8	0.2	0.0	4.1	8.1	1.5	0.0	0.1	100.2	20	71	9
21	2	1	0	5	1	0	0	4	1	0	0	13	1	63.1	0.1	22.9	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.1	20	71	9
20	2	1	0	5	1	0	0	4	1	0	0	13	1	63.1	0.1	22.8	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.0	20	71	9
22	2	2	0	3	1	0	0	5	1	0	0	13	1	63.1	0.1	23.0	0.2	0.0	4.2	8.1	1.5	0.1	0.0	100.2	20	71	9
23	2	2	0	4	1	0	0	5	1	0	0	14	1	63.2	0.1	22.8	0.2	0.0	4.0	8.1	1.6	0.0	0.0	100.0	20	71	9
22	2	1	0	3	1	0	0	5	1	0	0	13	2	63.4	0.1	22.6	0.2	0.0	3.9	8.2	1.6	0.0	0.0	100.0	19	72	9
21	2	1	0	3	1	1	0	5	1	0	0	13	1	63.3	0.1	22.9	0.2	0.0	4.1	8.1	1.6	0.1	0.0	100.3	20	71	9
21	1	1	0	4	2	0	0	4	1	0	0	13	1	63.3	0.1	22.8	0.2	0.0	4.1	8.1	1.6	0.0	0.0	100.2	20	71	9
22	2	2	0	4	1	1	0	5	1	0	0	12	1	63.1	0.1	22.7	0.2	0.0	4.1	8.0	1.6	0.1	0.0	99.8	20	71	9
20	2	1	0	5	1	0	0	4	1	0	0	12	1	63.1	0.1	22.7	0.2	0.0	4.1	8.1	1.6	0.0	0.0	99.9	20	71	9
21	1	2	0	4	1	0	0	4	1	0	0	12	1	63.1	0.0	22.5	0.2	0.0	4.0	8.0	1.6	0.0	0.0	99.4	20	71	9
22	2	2	0	4	1	0	0	4	1	0	0	13	1	63.1	0.1	22.9	0.2	0.0	4.0	8.2	1.6	0.1	0.0	100.1	19	72	9
22	2	2	0	4	1	0	0	4	1	0	0	14	1	63.2	0.1	22.6	0.2	0.0	4.0	8.0	1.6	0.0	0.1	99.7	20	71	9
21	1	2	0	4	1	0	0	4	1	0	0	13	1	63.0	0.1	23.0	0.2	0.0	4.2	8.0	1.5	0.0	0.1	100.1	20	71	9
21	2	1	0	4	1	0	0	5	1	0	0	13	2	63.1	0.1	23.0	0.2	0.0	4.0	8.2	1.6	0.1	0.0	100.1	19	72	9
22	2	2	0	3	1	0	0	4	1	0	0	12	1	63.2	0.1	22.9	0.2	0.0	4.0	8.0	1.6	0.1	0.0	100.0	20	71	9
20	1	2	0	4	1	1	0	4	1	0	0	13	1	63.1	0.1	22.9	0.2	0.0	4.1	8.0	1.6	0.0	0.0	99.9	20	71	9
21	2	1	0	3	1	0	0	4	1	0	0	12	1	63.3	0.1	23.0	0.2	0.0	4.1	8.0	1.6	0.0	0.0	100.2	20	71	9
22	2	1	0	5	1	0	0	4	1	0	0	12	1	63.1	0.1	22.8	0.2	0.0	4.0	8.0	1.6	0.0	0.0	99.8	20	71	9
23	2	1	0	5	1	0	0	4	1	0	0	13	2	63.0	0.1	22.8	0.2	0.0	4.0	8.0	1.6	0.0	0.1	99.6	20	71	9
21	2	1	0	4	1	0	0	4	1	0	0	13	1	63.1	0.1	22.9	0.2	0.0	4.2	7.9	1.6	0.1	0.0	100.1	21	70	9
24	3	2	0	4	1	1	1	3	0	0	0	14	2	63.5	0.1	22.6	0.2	0.0	3.9	8.1	1.6	0.0	0.0	99.9	19	72	9
22	1	2	0	4	1	0	0	4	1	0	0	13	1	63.4	0.1	22.6	0.2	0.0	3.9	8.1	1.6	0.0	0.0	99.9	19	72	9
22	2	2	0	4	1	0	0	4	1	0	0	13	1	63.3	0.1	22.7	0.2	0.0	4.0	8.0	1.6	0.0	0.0	99.9	19	71	9
21	1	1	0	5	1	0	0	3	1	0	0	12	1	63.3	0.1	22.9	0.2	0.0	4.1	8.0	1.5	0.0	0.0	100.1	20	71	9
21	2	2	0	4	1	0	0	4	1	0	0	12	1	63.2	0.1	22.7	0.2	0.0	4.1	8.1	1.6	0.0	0.0	99.9	20	71	9
20	2	1	0	3	1	1	1	3	1	0	0	13	2	63.2	0.1	22.8	0.2	0.0	4.0	8.1	1.6	0.0	0.0	99.9	19	71	9
21	2	1	0	3	1	0	0	3	1	0	0	11	1	63.2	0.1	22.7	0.2	0.0	4.1	8.1	1.6	0.0	0.1	99.9	20	71	9
20	1	1	0	3	1	0	0	3	1	0	0	13	1	63.1	0.1	22.9	0.2	0.0	4.0	8.0	1.6	0.0	0.1	99.9	20	71	9
21	2	1	0	4	1	0	0	3	1	0	0	14	1	63.2	0.1	22.6	0.2	0.0	4.0	8.1	1.6	0.0	0.0	99.8	19	71	9
21	1	2	0	4	1	1	1	4	1	0	0	17	2	63.3	0.1	22.7	0.2	0.0	4.1	7.9	1.6	0.0	0.0	99.8	20	71	9
22	2	2	0	5	2	0	0	3	1	0	0	25	5	63.5	0.0	22.5	0.2	0.0	3.9	8.0	1.6	0.1	0.0	99.8	19	71	10
19	1	1	0	3	1	0	0	3	1	0	0	14	2	63.5	0.1	22.6	0.2	0.0	3.9	8.0	1.7	0.0	0.0	100.0	19	71	10
21	2	1	0	3	1	1	0	3	0	0	0	13	1	63.6	0.1	22.5	0.1	0.0	3.9	8.1	1.6	0.0	0.0	100.0	19	71	9
21	2	1	0	5	1	0	0	4	1	0	0	14	2	63.4	0.1	22.6	0.2	0.0	3.9	8.0	1.6	0.0	0.0	99.8	19	71	10
20	2	1	0	3	1	0	0	3	1	0	0	14	2	63.6	0.1	22.8	0.2	0.0	3.9	8.1	1.6	0.0	0.0	100.2	19	71	9
18	2	1	0	4	1	0	0	3	1	0	0	13	1	63.2	0.0	22.7	0.2	0.0	3.9	8.2	1.6	0.0	0.0	99.8	19	72	9
18	1	1	0	4	1	0	0	3	1	0	0	14	1	63.2	0.1	22.5	0.2	0.0	3.8	8.2	1.7	0.0	0.0	99.7	19	72	10
19	2	1	0	3	1	0	0	3	1	0	0	14	2	63.4	0.1	22.5	0.2	0.0	3.9	8.1	1.6	0.0	0.0	99.8	19	71	9
20	2	1	0	3	1	0	0	3	1	0	0	14	1	63.5	0.1	22.7	0.1	0.0	3.9	8.0	1.6	0.1	0.0	99.9	19	71	10
20	1	1	0	4	1	0	0	4	1	0	0	14	1	63.4	0.0	22.6	0.2	0.0	4.0	8.1	1.6	0.0	0.0	99.8	19	71	9
21	2	1	0	3	1	0	0	3	1	0	0	15	2	63.2	0.1	23.0	0.2	0.0	4.2	8.0	1.5	0.1	0.0	100.1	21	71	9
23	2	2	0	3	1	1	1	4	1	0	0	15	2	63.1	0.1	22.9	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.0	20	71	9
21	2	2	0	4	1	1	1	3	1	0	0	15	1	63.3	0.1	23.0	0.2	0.0	4.1	8.1	1.6	0.1	0.0	100.4	20	71	9
21	2	1	0	5	1	0	0	3	0	0	0	16	1	63.1	0.1	22.7	0.2	0.0	4.0	7.9	1.6	0.1	0.0	99.6	20	71	9
20	1	1	0	4	1	0	0	3	1	0	0	14	1	63.2	0.1	22.7	0.2	0.0	4.1	8.0	1.6	0.0	0.0	99.8	20	71	9

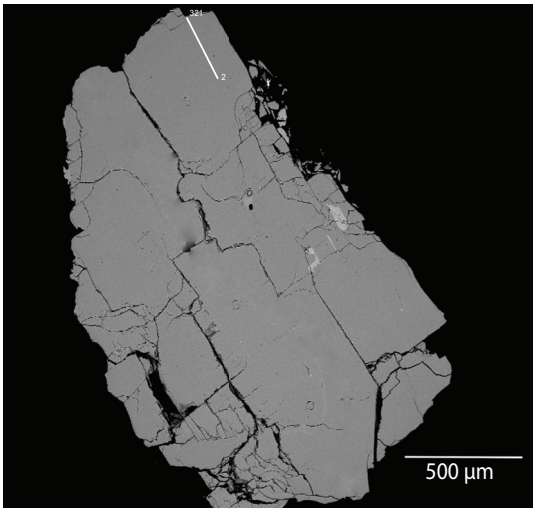
Table B2: Plagioclase grain 7 - Line 2

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD
core	2	14.3	2	15.7	1	52372	2729	19.2	6	108724	5050	11532	614	26258	1586	47.2	8	1285	79	3.4	1	175	8	343	24	20.8	1	21.1	1	1.5	0
core	7	17.2	2	16.1	1	52260	2552	20.7	6	112182	5102	12042	488	26280	1835	44.1	8	1333	88	3.1	1	187	12	368	27	21.7	1	23.0	2	1.7	0
core	12	16.6	2	16.2	1	53531	4590	21.0	5	110212	9290	12271	1097	25817	2531	51.2	13	1567	508	3.6	1	178	16	357	32	20.4	2	22.4	2	1.4	0
core	17	19.6	5	15.7	1	53142	2377	18.6	6	108077	5188	12547	646	25287	1314	47.2	9	1257	74	3.5	1	178	11	340	20	21.6	2	21.3	1	1.6	0
core	22	15.7	1	16.2	1	51666	2523	17.5	5	108387	5518	11984	532	25072	1610	47.7	8	1205	87	3.6	0	179	10	339	17	21.6	1	22.8	2	1.7	0
core	27	15.8	2	15.4	1	51327	2056	18.5	5	110035	4510	12081	518	25095	1220	41.1	9	1286	101	3.5	1	168	9	333	18	21.2	1	21.3	1	1.4	0
core	32	16.7	2	16.8	1	54971	4562	18.1	5	115058	8802	12819	1073	25678	2031	45.3	7	1295	128	3.8	1	178	14	346	33	21.9	2	22.8	2	1.4	0
core	37	18.6	3	16.3	1	54946	4318	16.7	5	114932	7961	12690	984	27333	2670	46.3	8	1330	95	3.8	1	182	13	326	26	22.1	2	23.1	2	1.6	0
core	42	16.2	1	16.3	1	51368	2189	22.8	5	109150	5120	11977	496	24758	1466	46.7	7	1275	70	3.5	0	171	12	326	25	21.2	2	22.6	1	1.6	0
core	47	18.0	2	15.9	1	52848	2253	21.4	4	114221	5184	12400	494	26354	1528	48.1	7	1291	67	3.8	0	177	10	320	20	21.6	1	22.5	1	1.5	0
core	52	16.1	3	15.8	1	51160	2646	15.5	4	111980	5360	11953	659	25245	1652	52.0	8	1280	85	3.9	0	170	8	302	21	20.1	1	21.1	1	1.4	0
core	57	17.2	2	16.1	1	51652	2704	17.1	4	111540	5314	11971	649	25346	1858	47.5	7	1284	90	3.8	1	172	10	315	24	21.4	2	22.8	2	1.5	0
core	62	17.4	2	16.8	1	52865	2705	21.5	4	114710	6590	12165	668	25844	1680	46.4	9	1336	94	3.9	1	177	11	317	25	21.5	2	22.0	2	1.6	0
core	67	18.0	2	16.6	1	52039	2803	17.4	3	114440	5884	11865	562	26161	1620	40.7	6	1367	84	3.5	1	172	8	314	19	22.0	1	22.4	2	1.6	0
core	72	17.6	2	17.3	1	54998	3877	23.7	7	119314	8711	12686	854	27031	2402	47.1	6	1357	135	4.0	1	176	16	299	26	21.7	2	24.2	2	1.6	0
core	77	16.8	2	16.5	1	51515	2313	17.2	5	111768	5149	11726	531	25257	1845	41.8	7	1284	99	4.0	1	171	9	274	15	20.4	1	22.5	1	1.4	0
core	82	17.0	1	17.0	1	53243	2695	19.0	5	113495	5750	12306	676	26104	1679	41.2	7	1283	90	3.8	1	171	6	277	17	21.3	2	21.5	2	1.6	0
core	87	18.5	2	16.6	1	52276	3113	19.9	5	109782	6548	12189	761	25472	1852	40.7	9	1235	84	3.4	1	163	9	267	14	21.3	2	20.9	2	1.3	0
core	92	16.5	2	17.2	1	52249	3291	21.8	6	114013	6531	11956	721	26504	1486	44.6	6	1281	116	3.6	0	165	9	272	13	20.4	1	21.5	2	1.5	0
core	97	18.4	2	17.2	1	53431	2330	21.8	5	115861	5226	12496	560	27199	1433	48.7	8	1338	96	4.2	1	171	8	276	20	21.6	2	22.4	2	1.5	0
core	102	17.3	1	17.7	1	55116	2860	19.0	4	114687	5848	12492	649	25682	1598	42.1	6	1335	105	3.1	0	167	9	280	22	21.4	2	21.5	2	1.5	0
core	107	19.0	2	18.0	1	54302	2849	21.8	4	117323	6487	12802	571	28025	1694	42.2	5	1328	94	3.8	1	170	9	274	16	21.3	2	22.5	2	1.5	0
core	112	18.4	2	17.1	1	52016	2481	25.6	5	111507	4801	12097	528	25303	1709	38.7	8	1290	98	3.5	1	162	10	276	14	20.5	1	21.4	2	1.4	0
core	117	17.6	2	18.5	1	55186	3959	18.5	4	118408	7044	13116	839	27262	1436	45.5	7	1341	100	3.7	1	169	10	264	22	22.4	2	22.4	2	1.4	0
core	122	17.0	2	16.8	1	50285	3282	16.6	4	108427	7515	11984	804	25078	1715	37.2	7	1207	109	3.5	1	157	11	240	21	19.6	2	20.0	2	1.5	0
core	127	19.2	2	18.3	1	55248	3928	22.7	5	116363	7616	12711	877	26013	1982	41.7	8	1321	121	3.4	1	166	11	265	28	20.1	1	22.1	2	1.5	0
core	132	20.0	1	18.8	1	54424	3480	24.0	6	116915	6425	12920	727	26537	1913	47.3	11	1338	105	3.8	1	165	10	261	21	20.1	1	21.5	2	1.8	0
core	137	19.6	2	19.0	1	55435	2979	22.3	5	119106	5282	13053	687	27442	2063	45.4	8	1347	119	3.8	1	170	10	272	17	22.7	2	22.4	1	1.4	0
core	142	18.3	2	18.0	1	52799	2379	16.2	3	111423	5304	12332	502	25527	1578	40.3	5	1251	93	3.8	1	160	10	258	17	20.8	1	21.4	2	1.7	0
core	147	19.5	1	17.8	1	51856	1902	15.2	4	110852	3441	12269	502	25557	1315	46.7	7	1300	73	4.1	1	157	6	262	16	20.5	1	20.4	1	1.5	0
core	152	18.4	2	18.5	1	53767	3433	24.3	4	116853	6897	12365	757	26702	1975	43.4	9	1303	139	4.4	1	163	10	255	19	22.1	2	22.4	2	1.5	0
core	157	19.6	2	19.0	1	54458	3271	21.7	6	115322	7242	12427	686	25560	998	36.1	8	1275	103	4.2	1	163	11	253	18	21.3	1	21.8	1	1.5	0
core	162	17.8	1	17.4	1	50425	2563	20.3	6	105627	4887	11862	585	23917	1754	44.0	7	1259	96	3.9	0	145	5	235	15	17.5	1	19.7	2	1.4	0
core	167	18.8	2	18.5	1	52193	2725	18.7	4	111005	5634	12370	663	24781	1683	39.0	9	1219	83	4.0	1	150	7	248	19	20.1	2	21.0	2	1.6	0
core	172	19.7	2	18.7	1	51416	2134	20.0	4	110354	6323	12132	601	25515	1685	39.5	8	1170	59	3.7	0	151	8	244	18	20.2	1	21.2	1	1.6	0
core	177	19.1	2	18.6	1	51754	2776	21.6	6	112508	6278	12308	610	25285	1360	40.6	6	1198	96	3.3	0	149	8	243	20	19.7	1	21.6	1	1.2	0
core	182	20.3	2	19.6	1	55715	4701	18.9	7	119885	8871	13163	1033	27300	2489	41.0	7	1314	125	3.7	1	162	13	263	18	22.1	2	21.8	2	1.7	0
core	187	18.6	2	18.4	1	51608	2299	22.4	5	112329	4886	12269	539	25520	1636	43.2	8	1198	69	3.9	1	147	8	245	14	21.6	1	20.4	1	1.3	0
core	192	20.5	2	18.9	1	53256	3585	20.7	5	113718	7071	12518	748	26097	1901	40.8	7	1260	110	3.6	1	150	10	251	18	19.9	1	21.5	2	1.6	0
core	197	18.6	1	19.4	1	53990	2940	19.8	6	114907	6274	12758	766	24692	1829	44.9	8	1248	65	3.5	1	144	8	250	18	21.1	1	21.4	2	1.6	0
core	202	18.8	1	19.1	1	54317	2644	16.3	4	117140	6488	13038	646	25773	1574	39.1	8	1350	88	4.2	0	149	6	266	17	22.0	2	21.3	2	1.6	0
core	207	21.1	3	19.3	1	54824	2962	15.8	3	116208	7606	13120	702	25981	1754	45.7	8	1281	90	4.4	1	145	10	249	18	21.7	2	22.1	2	1.6	0
core	212	19.2	2	19.2	1	54690	2813	16.6	5	114602	6447	13030	654	24210	1360	42.4	6	1206	84	4.1	0	143	9	240	18	21.9	2	20.5	1	1.5	0
core	217	20.4	2	18.7	1	52583	3153	17.8	5	111760	6349	12576	720	24377	2165	37.9	7	1242	105	4.1	1	139	8	247	24	21.1	2	21.4	2	1.3	0
core	222	20.2	2	19.1	1	53159	3096	17.4	4	113676	5740	12972	696	25495	1876	43.7	7	1191	82	3.7	0	135	9	237	17	20.4	1	20.3	2	1.5	0
core	227	19.6	2	18.8	1	54359	1559	16.8	5	113634	3009	12977	385	24400	1519	40.3	6	1264	83	3.5	0	134	6	234	11	19.9	1	20.4	1	1.4	0
core	232	18.8	1	19.1	1	55409	2972	17.2	5	118792	6530	13468	661	27465	1780	45.3	7	1295	114	4.6	1	137	7	233	15	20.9	2	23.0	2	1.6	0
core	237	19.0	2	17.2	1	49544	2777	14.8	4	105578	5433	12082	693	23535	1350	41.7	8	1174	84	3.7	0	120	6	213	18	19.4	2	20.0	1	1.4	0
core	242	19.2	2	18.0	1	53283	3005	16.7	3	111322	6623	13129	736	24628	1605	38.4	6	1187	100	4.1	1	127	7	224	22	20.5	2	21.2	1	1.6	0
core	247	19.9	2	18.9	1	56678	2816	19.0	5	118945	6875	14239	834	26622	1805	38.0	9	1251	88	4.7	1	129	7	212	17	21.0	2	21.7	2	1.3	0
core	252	17.3	1	18.0	1	55080	3721	16.1	4	112975	7397	13536	807	24545	1985	40.3	8	1213	90	4.6	1	123	8	188	16	20.1	2	20.4	2	1.4	0
core	257	18.2	1	17.6	1	53970	3360	15.4	3	114634	5655	13285	664	25754	4100	39.3	7	1140	104	4.0	1	121	7	181	11	19.9	1	20.0	2	1.4	0
core	262	18.0	2	17.2	1	54263	2669	17.6	3	113067	6837	13402	723	24606	1878	40.2	6	1129	75	4.2	1	116	7	183	16	20.9	2	19.8	1	1.5	0
core	267	17.2	2	17.5	1	56364	3265	15.0	4	115838	6109	13861	677	24564	1731	44.3	7	1201	106	4.2	0	118	7	162	11	20.3	1	21.0	2	1.6	0
core	272	17.0	2	16.1	1	53616	3406	18.5	6	111781	7243	13323	902	24690	1888	38.2	9	1171	96	4.3	1	111	7	141	14	19.6	2	19.9	1	1.4	0
core	276	15.3	1	15.4	1	53249	2953	13.2	4	106712	4946	12793	561	23828	1427	38.4	7	1104	81	3.6	1	106	5	129	14	18.4	1	19.2	1	1.4	0
core	281	16.0	1	15.5	1	55348	2236	19.0	6	113809	4395	13465	485	24856	1878	44.9	5	1196	66	4.0	1	115	5	124	11	20.4	1	20.2	1	1.4	0
core	286	15.1	2	14.8	1	54353	2883	17.1	4	109952	5442	13152	748	23790	1709	35.8	7	1155	81	4.9	1	107	6	115	9	19.2	1	19.8	2	1.3	0
rim	291	14.1	2	13.5	1	52317	3251	17.0	4	106651	6787	12956	763	23241	1789	41.1	7	1058	91	3.5	0	105	6	99	12	18.0	1	18.9	2	1.4	0
rim	296	13.8	1	13.4	1	55111	3316	15.8	4	112024	6112	13466	781	23618	1526	39.8	7	1149	74	4.3	1	110	6	109	9	19.0	1	19.8	1	1.1	0
rim	301	13.4	1	13.1	1	57231	3849	18.3	5	113166	6224	13376	677	23618	1518	37.7	7	1169	95	4.1	1	111	5	103	9	18.9	2	18.9	2	1.3	0
rim	306	11.6	2	11.7	1	54140	3420	15.3	3	105326	6475	12869	800	22284	2013	39.5	8	1088	71	4.4	1	105	7	104	10	17.1	2	17.7	2	1.3	0
rim	311	10.8	1	10.9	1	53130	2150	24.8	5	107701	4825	12765	493	21886	1466	33.4	5	1125	74	4.6	1	105	6	116	10	16.2	1	17.0	1	1.2	0
rim	316	11.3	1	11.1	1	58058	2627	28.6	6	116964	5344	14006	642	23720	1246	38.9	7	1230	95	4.9	1	114	4	134	10	19.0	1	18.9	2	1.2	0
rim	321	9.8	2	11.3	1	61982	3781	23.9	6	129357	9676	14301	807	26856	1838	43.0	10	1225	86	4.6	1	126	7	173	15	20.0	2	21.5	2	1.5	0
rim	326	9.7	2	9.4	1	57602	6005	26.3	6	123356	10379	13280	1048	25706	2743	44.5	9	1152	110	4.3	1	124	12	151	12	19.9	2	20.1	2	1.7	0
rim	331	10.9	3	9.9	1	65476	9923	55.6	22	136351	18894	14734	2062	25751	4199	46.2	12	1491	419	4.2	1	136	21	212	40	21.3	3	24.4	3	1.7	1
rim	335	9.1	3	6.7	1	48927	6531	111.3	25	101676	12637	11314	1394	20777	3307	51.1	16	1013	145	3.8	1	92	13	165	33	14.6	3	15.7	2	0.9	0

Table B2: continued

Nd ppm	2SD	Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD
4.0	1	0.0	0	4.8	1	0.1	0	11.3	2
4.2	1	0.2	0	5.5	1	0.5	0	12.4	2
4.8	1	0.1	0	4.8	1	0.2	0	11.9	1
4.0	1	0.3	0	4.9	1	0.2	0	11.4	1
4.3	1	0.4	0	5.1	1	0.2	0	11.1	1
5.1	1	0.9	0	4.4	1	0.3	0	10.9	1
4.5	1	0.5	0	4.9	1	0.0	0	12.2	2
3.9	1	0.3	0	4.8	1	0.2	0	13.3	1
4.1	1	0.2	0	4.9	1	0.6	0	11.9	1
4.5	1	0.2	0	4.1	1	0.2	0	12.5	1
4.8	1	0.1	0	4.5	1	0.5	0	11.0	1
5.1	1	0.5	0	5.0	1	0.2	0	11.8	1
4.9	1	0.1	0	5.9	1	0.2	0	11.9	2
4.8	1	0.8	0	5.0	1	0.1	0	12.0	1
3.7	1	0.6	1	4.8	1	0.1	0	12.0	1
5.2	2	0.5	0	4.3	1	0.1	0	14.9	1
3.8	1	0.6	0	4.7	1	0.3	0	11.9	1
4.7	1	0.5	0	4.6	1	0.2	0	11.8	2
4.5	1	0.3	0	5.0	1	0.1	0	12.2	2
5.6	2	0.8	1	5.2	1	0.0	0	12.1	2
5.1	1	0.5	0	4.6	1	0.4	0	13.1	1
4.4	1	0.4	0	5.0	1	0.4	0	12.9	1
3.5	1	0.4	0	4.2	1	0.2	0	11.9	1
5.0	1	0.3	0	5.2	1	0.3	0	12.9	1
4.3	1	0.4	0	4.1	1	0.2	0	12.3	2
3.8	1	0.2	0	4.6	1	0.2	0	12.6	2
4.8	1	0.4	0	4.0	1	0.3	0	12.6	2
3.9	1	0.6	0	4.6	1	0.1	0	13.1	1
5.1	1	0.2	0	4.3	1	0.1	0	12.4	1
4.1	1	0.2	0	4.4	1	0.1	0	12.3	1
4.0	1	0.2	0	4.0	1	0.1	0	13.4	2
4.7	1	0.3	0	4.6	1	0.1	0	12.4	2
4.3	1	0.4	0	4.5	1	0.2	0	11.7	1
3.8	1	0.2	0	4.0	1	0.2	0	13.1	1
4.0	1	0.2	0	4.5	1	0.3	0	12.0	1
4.8	1	0.4	0	4.1	1	0.2	0	12.8	1
3.4	1	0.2	0	4.1	1	0.2	0	12.4	1
4.8	1	0.6	0	4.0	1	0.2	0	12.7	1
5.2	1	0.8	1	4.1	1	0.2	0	13.1	1
3.7	1	0.5	0	4.5	1	0.0	0	13.5	1
4.6	1	0.2	0	4.2	1	0.2	0	13.1	1
3.7	1	0.2	0	4.0	1	0.1	0	13.0	1
4.0	1	0.5	0	4.0	1	0.1	0	12.9	1
3.8	1	0.7	0	3.5	1	0.2	0	12.6	1
3.1	1	0.2	0	4.2	1	0.1	0	13.5	2
4.9	1	0.4	0	3.8	1	0.3	0	11.9	1
3.4	1	0.3	0	3.2	1	0.0	0	13.0	2
3.8	1	0.6	0	4.1	1	0.2	0	13.5	1
3.5	1	0.2	0	3.1	0	0.5	0	12.1	2
4.1	1	0.3	0	3.2	1	0.5	0	12.5	1
4.3	1	0.2	0	3.1	0	0.1	0	12.8	2
3.2	1	0.4	0	3.5	1	0.2	0	13.3	1
3.9	1	0.7	1	2.6	0	0.3	0	12.7	2
3.0	1	0.3	0	3.1	1	0.2	0	13.9	1
2.6	1	0.4	0	3.7	1	0.5	0	11.9	1
3.0	1	0.3	0	2.4	0	0.4	0	13.4	2
3.9	1	0.3	0	2.8	1	0.0	0	14.0	2
3.4	1	0.2	0	3.8	1	0.0	0	14.1	1
2.6	1	0.6	0	3.1	1	0.2	0	12.9	2
3.4	1	0.4	0	2.7	0	0.0	0	13.3	1
3.9	1	0.4	0	2.9	1	0.2	0	13.2	2
3.6	1	0.1	0	3.3	1	0.1	0	13.1	2
3.6	1	0.4	0	3.1	1	0.2	0	10.8	2
4.4	2	0.2	0	2.9	1	0.1	0	12.6	3
1.7	1	0.2	0	1.9	1	0.0	0	11.1	2

grain7 - line 1



grain 7 - line 2

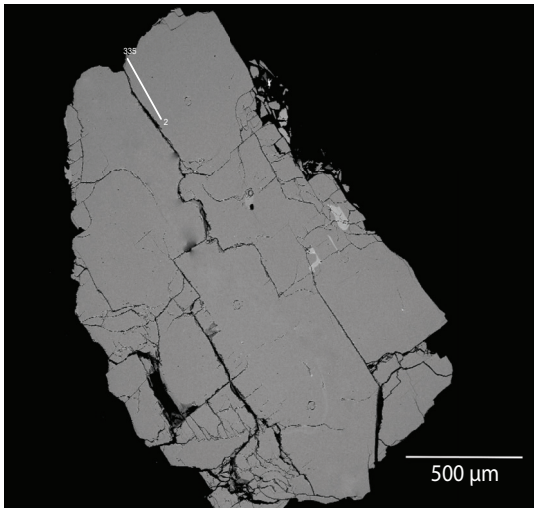


Fig. B1. BSE images of plagioclase grain 7 with trace element lines (by LA-ICP-MS) indicated.

Table B3: Plagioclase grain 7 - Lithium isotopes

	MEASURED			background		Results (BLK + tau corr.)					
	^{7}Li (V)	^{6}Li (cps)	^{6}Li (V)	^{7}Li (V)	^{6}Li (cps)	^{7}Li/6Li	SE	SD	1 SD	n	D time (min)
1	0.00547	21260	0.00034	0.0000496	240	16.1250	0.0129	0.1416	802	119	5.6
2	0.00819	31865	0.00051	0.0000428	228	16.1009	0.0097	0.1094	601	129	4.5
3	0.00947	36709	0.00059	0.0000474	224	16.1004	0.0096	0.1073	599	124	5.2
4	0.01063	41418	0.00066	0.0000420	217	16.0680	0.0087	0.0983	541	129	5.2
5	0.01053	41075	0.00066	0.0000403	221	16.0320	0.0093	0.1061	583	129	5.0
6	0.01140	44599	0.00071	0.0000402	223	15.9816	0.0082	0.0922	512	129	4.2
7	0.01059	41420	0.00066	0.0000432	226	15.9450	0.0086	0.0933	538	121	4.4
8	0.01076	42230	0.00068	0.0000398	216	15.9213	0.0094	0.1038	592	120	4.1
9	0.00991	38857	0.00062	0.0000541	266	15.9239	0.0083	0.0930	524	124	4.8

std drift ^{7}Li/^{6}Li	δ^{7}Li (‰) rel GOR132-G	2 s	δ^{7}Li (‰) rel IRMM-016	RepRate Hz	integr. time (s)		distance	Li	2 σ	d^{7}Li	2 σ
0.7	-9.0	2.3	-0.1	28	1.049	rim	35	12.4	1.0	-0.1	2.3
-0.8	-10.5	2.0	-1.6	28	1.049	core	70	16.6	1.0	-1.6	2.0
1.7	-10.2	1.8	-1.3	23	1.049	core	103	18.1	1.4	-1.3	1.8
-0.5	-11.6	1.7	-2.7	23	1.049	core	143	19.3	1.1	-2.7	1.7
-0.1	-14.1	1.8	-5.2	23	1.049	core	185	19.9	1.4	-5.2	1.8
1.4	-16.5	1.7	-7.6	25	1.049	core	216	18.6	0.9	-7.6	1.7
1.8	-19.1	1.8	-10.2	25	1.049	core	252	18.8	1.0	-10.2	1.8
1.9	-18.7	1.9	-9.8	25	1.049	core	290	18.3	1.3	-9.8	1.9
-0.7	-18.0	1.8	-9.1	25	1.049	core	329	16.1	1	-9.1	1.8

grain 7 - isotopes

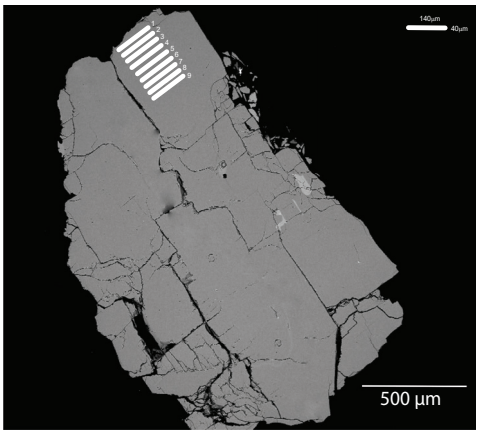


Fig. B2. BSE image of plagioclase grain 7 with Fs-LA-MC-ICP-MS lines indicated.

Table B4: Plagioclase grain 11 - Line 1.1

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	2	23.9	3	22.3	1	54165	1597	19.7	5	112722	3424	11261	281	25858	1643	52.8	11	1443	111	4.0	1	177	9	467	24	19.3	1	21.6	2	1.4	0	2.9	1
core	7	24.8	4	22.5	1	55395	3290	16.0	4	114038	5694	11461	609	25322	1413	41.7	12	1404	135	3.3	1	180	12	447	28	19.2	1	22.0	1	1.4	0	4.4	1
core	12	24.3	4	24.0	2	58595	2965	20.7	7	124277	7114	12338	618	28593	2575	66.6	15	1343	136	4.2	1	197	13	497	37	22.5	2	24.3	2	1.5	0	4.6	2
core	17	26.0	2	24.3	2	57061	2070	20.7	6	118911	4427	11848	412	26924	1627	57.5	13	1532	110	3.3	1	197	13	511	29	21.9	2	23.3	1	1.7	0	3.8	1
core	22	23.3	3	23.9	1	56638	1774	20.4	5	118961	2999	11739	383	27330	1723	52.2	11	1457	134	4.0	1	192	9	490	23	22.0	1	23.2	2	1.8	0	4.3	1
core	27	25.0	2	23.8	1	53916	2392	22.3	4	112834	5231	11240	482	24943	2008	52.3	11	1301	133	3.8	1	179	9	472	29	20.3	1	22.7	2	1.4	0	4.0	1
core	32	25.2	3	23.9	1	55918	2812	26.1	7	118275	5764	11668	598	26360	1454	52.0	12	1461	108	4.1	1	187	9	467	23	21.0	1	22.8	2	1.6	0	5.9	1
core	37	24.4	4	23.4	2	55633	3961	17.8	6	117122	7850	11407	843	24776	2336	43.4	12	1400	127	3.3	1	192	14	475	33	20.3	2	24.7	3	1.5	0	3.9	1
core	41	24.8	3	25.2	2	55654	2301	19.3	5	116899	4291	11514	473	27284	1836	46.5	13	1466	114	4.2	1	194	12	466	27	22.9	2	24.6	2	1.8	0	5.1	1
core	46	25.0	2	23.7	1	56093	3742	23.5	7	118255	5088	11772	576	26846	1993	52.1	10	1384	127	4.1	1	185	12	482	25	20.8	2	22.2	2	1.4	0	4.2	1
core	51	25.2	2	24.6	2	55862	3017	23.7	6	116942	6446	11482	599	27715	2517	46.2	10	1351	104	4.0	1	186	13	498	39	21.1	1	23.2	2	1.7	0	3.7	2
core	56	24.8	3	25.4	2	55886	3180	21.6	6	117653	5622	11538	638	26779	2274	59.0	12	1376	132	3.8	1	190	14	502	37	20.9	2	24.6	2	1.6	0	3.9	1
core	61	27.0	3	25.3	2	56303	3022	17.0	5	116189	4243	11802	446	26581	1374	50.4	8	1382	168	3.9	1	189	11	499	31	20.0	1	22.7	1	1.7	0	4.7	1
core	66	27.5	3	26.0	1	56566	3624	25.1	7	118937	6408	11841	700	26412	2356	46.3	10	1430	134	3.9	1	191	13	477	23	21.5	2	24.9	2	1.7	0	5.5	2
core	71	27.3	4	27.4	2	55200	2908	16.1	4	118675	5527	11600	422	26781	1295	57.7	10	1402	108	3.6	1	182	11	466	27	20.5	2	23.0	2	1.4	0	4.6	1
core	76	28.7	4	28.2	2	59287	4873	20.5	6	125608	8894	12301	828	27769	2481	55.1	11	1520	155	3.8	1	207	18	541	47	22.4	2	24.9	2	1.4	0	5.8	2
core	81	25.7	4	25.5	2	53604	2606	18.6	5	115908	5020	11238	493	26990	1860	44.9	7	1322	107	4.0	1	177	14	489	37	21.0	2	24.5	1	1.4	0	4.2	1
core	86	28.4	3	27.3	2	56440	2362	17.7	5	123047	6132	12159	479	27738	2051	54.7	12	1457	143	4.2	1	196	14	517	31	22.1	2	23.2	2	1.7	0	4.4	1
core	91	29.7	3	26.4	2	55942	3676	23.0	7	115218	6303	11703	558	25236	1503	36.4	8	1362	149	4.2	1	186	11	492	20	19.5	2	23.7	2	1.5	0	3.9	1
core	96	27.4	3	25.4	2	55664	3643	20.1	5	114767	4096	11598	568	25426	1612	40.3	11	1525	137	3.8	1	187	12	502	37	19.5	2	23.1	2	1.8	0	3.9	1
core	101	26.1	3	26.9	2	54711	3789	21.0	5	118632	8030	11632	765	26877	2079	47.6	10	1411	180	3.6	1	186	13	494	37	20.7	2	23.1	2	1.5	0	3.7	1
core	106	28.1	3	26.2	2	55585	2944	23.2	6	118888	6701	11832	570	25988	2217	48.7	10	1286	147	4.1	1	183	13	495	30	20.9	2	24.1	2	1.6	0	3.6	1
core	111	28.0	3	27.1	2	54189	2780	21.7	6	114381	5764	11721	749	26555	2377	46.2	9	1405	118	3.4	1	183	12	502	27	19.9	2	23.8	3	1.5	0	3.8	1
core	116	28.2	3	28.6	2	59868	7467	18.4	5	116683	3589	11952	453	28016	1699	47.6	12	1427	152	2.7	1	197	11	521	36	20.7	2	21.1	1	1.6	0	3.8	1
core	121	27.3	4	25.2	1	51756	2436	21.8	6	107289	4788	11189	398	23872	1448	35.6	9	1263	125	3.6	1	174	7	473	22	19.3	2	21.7	2	1.4	0	4.0	1
core	126	29.4	4	29.7	4	56422	3948	23.2	5	122957	9235	12498	894	28616	2345	55.2	9	1447	157	4.2	1	199	16	525	38	21.5	2	26.7	3	1.8	0	4.8	1
core	131	24.3	2	25.5	2	52484	2139	19.5	5	113437	4895	11163	537	25447	1884	44.1	10	1403	107	3.2	1	184	10	481	29	18.5	2	21.6	1	1.6	0	2.8	1
core	136	27.2	3	25.5	1	54536	1848	21.9	6	117165	3703	11846	370	26071	1737	50.4	9	1394	122	3.6	1	191	7	525	27	20.2	2	23.5	1	1.8	0	3.8	1
core	141	26.1	3	27.3	2	55139	2049	21.2	7	118472	4849	11830	344	26584	2104	54.5	13	1380	141	4.6	1	189	11	540	35	20.7	2	22.3	1	1.7	0	3.5	1
core	146	26.9	4	25.4	2	54479	2293	17.8	5	114622	3763	11653	427	26730	1613	52.1	11	1373	137	3.7	1	186	10	514	29	19.8	1	23.3	2	1.9	0	4.1	1
core	151	26.9	3	27.7	2	56514	2890	21.3	6	120407	6449	12310	590	27736	2391	47.6	12	1484	106	4.1	1	194	12	535	33	20.9	2	24.7	2	1.4	0	3.1	1
core	156	28.9	3	27.7	2	54599	2701	18.3	6	116293	6410	11936	630	26820	1738	49.0	10	1417	160	3.7	1	192	14	545	40	21.1	2	22.9	2	1.6	0	3.5	1
core	161	24.7	2	25.1	2	52292	2339	19.3	6	113320	4953	12325	1029	25710	1826	47.7	9	1427	122	4.0	1	180	12	519	32	19.4	2	21.6	2	1.3	0	4.1	1
core	166	28.8	3	26.2	2	54488	2802	23.7	6	118207	5322	12212	580	26717	1800	49.1	14	1370	129	3.8	1	185	13	526	31	21.0	2	21.1	1	1.6	0	3.5	1
core	171	24.6	3	27.2	1	56372	2154	25.9	6	117064	4339	12268	507	26751	1279	50.5	9	1337	117	4.2	1	185	7	545	29	19.7	1	23.1	2	1.6	0	4.1	1
core	176	28.3	4	27.5	2	56207	3043	22.0	5	123158	6605	12289	678	27528	1865	63.8	13	1426	129	3.5	1	193	13	565	35	21.3	2	23.5	2	1.8	0	5.2	1
core	181	27.9	3	26.1	2	53646	2103	25.0	7	115939	5576	11748	503	27504	2175	53.2	9	1290	87	3.4	1	184	10	533	36	19.6	2	22.4	1	1.6	0	4.5	1
core	186	27.0	2	25.6	2	53835	2463	23.9	6	116688	5933	11628	629	26514	2057	54.2	13	1443	127	3.6	1	190	11	504	37	21.0	3	22.3	2	1.4	0	4.4	1
core	191	26.6	3	26.3	2	54587	4141	21.8	5	113809	4735	11830	486	25648	1920	38.6	7	1448	139	3.5	1	183	9	536	24	21.3	2	22.9	2	1.5	0	3.6	1
core	196	28.8	4	28.3	2	56249	2024	19.5	6	122104	6232	12015	541	27645	2070	54.5	11	1513	151	4.2	1	191	13	560	35	21.0	2	23.4	2	1.6	0	5.0	1
core	201	27.4	4	26.5	2	53820	2271	19.7	6	114390	4721	11583	486	26390	2031	51.4	11	1314	117	4.0	1	175	8	520	30	20.6	2	22.7	2	1.6	0	4.2	1
core	206	27.1	3	26.0	2	55144	3401	20.5	5	116290	6346	11972	615	26651	2170	52.5	13	1356	132	3.5	1	180	12	524	34	20.0	2	23.1	2	1.4	0	4.0	1
core	211	29.5	3	27.3	2	56606	2438	22.6	5	121650	6779	12325	602	28623	2100	58.7	12	1355	98	3.5	1	190	10	569	35	21.5	2	23.7	1	1.6	0	3.9	1
core	216	25.5	3	26.7	2	55297	3012	18.3	5	117780	4935	11822	515	27309	1858	50.1	12	1432	159	3.5	1	182	10	561	38	20.8	1	22.9	1	1.6	0	3.3	1
core	221	28.2	3	25.0	2	54960	3160	21.6	7	120357	7514	11631	531	25431	1872	54.0	10	1430	122	4.1	1	183	13	524	38	21.9	2	22.9	2	1.7	0	3.7	1
core	226	27.0	4	27.4	3	53849	2623	16.3	4	116391	6417	11514	586	26820	2110	57.7	12	1383	179	3.5	1	181	14	538	45	19.7	2	22.4	2	1.7	0	3.7	1
core	231	26.9	3	26.9	2	56086	3055	23.8	5	119548	4961	12078	512	27984	1838	44.4	14	1404	109	3.9	1	185	10	590	37	18.5	2	22.8	2	1.5	0	4.1	1
core	236	25.7	3	27.4	1	54988	2252	21.2	4	116973	4246	11873	442	25452	1985	42.9	12	1450	157	3.8	1	186	12	544	36	20.6	1	22.9	2	1.5	0	3.3	1
core	241	27.6	3	25.1	2	53080	3375	20.4	5	110410	7376	11378	653	25206	2293	48.1	12	1436	174	4.0	1	172	14	568	54	19.1	2	21.8	2	1.6	0	3.8	1
core	246	26.4	3	26.6	1	52557	2803	23.7	8	111905	4822	11209	442	26231	1848	43.7	10	1371	131	3.2	1	165	10	521	28	19.5	2	21.4	2	1.4	0	4.3	1
core	251	25.0	3	25.8	1	54426	1779	21.8	5	113992	4071	11838	467	24592	1476	49.3	11	1420	117	3.5	1	172	9	555	32	19.2	1	21.9	1	1.3	0	4.2	1
core	256	27.3	3	26.8	2	54115	2593	21.6	7	115592	5364	11931	680	25756	1625	52.2	10	1366	97	3.5	1	180	9	584	33	19.0	1	24.5	2	1.7	0	3.7	1
core	261	27.5	4	26.1	2	53784	2110	22.8	6	114196	4661	11603	422	24726	1850	51.3	11	1313	91	3.1	1	175	11	574	44	19.3	2	23.0	2	1.3	0	4.2	2
core	266	27.9	3	25.8	2	52197	4609	21.8	5	112750	9302	11393	946	24496	2727	46.0	11	1392	154	3.7	1	165	15	554	45	19.3	3	23.1	3	1.3	0	4.8	1
core	271	24.8	3	25.8	1	57194	3097	18.4	6	121783	6037	12126	535	26828	1531	43.0	14	1466	138	4.2	1	178	9	561	30	21.2	2	23.0	2	1.6	0	3.6	1
core	276	28.1	3	25.4	2	52560	2457	24.1	6	114086	5089	11931	874	25731	2274	49.0	11	1315	123	2.8	0	166	12	567	37	19.7	2	21.6	2	1.3	0	3.7	2
core	281	21.7	2	25.3	2	52373	2102	15.8	5	112997	5860	11617	541	25265	1519	45.5	10	1316	147	3.3	1	169	10	541	28	20.0	2	22.1	1	1.6	0	4.6	1
core	286	26.0	2	26.0	2	54909	2448	18.5	5	117474	3927	11977	406	26318	1921	48.9	12	1352	102	4.4	1	177	6	581	29	19.7	2	22.1	2	1.6	0	4.3	1
core	291	25.3	4	24.9	2	56886	3463	18.1	6	117724	7338	12170	764	25993	1789	52.8	13	1338	177	3.8	1	170	13	572	38	19.9	2	23.3	2	1.4	0	4.8	2
core	296	23.0	3	22.1	2	52030	2261	19.8	6	108248	4616	11424	532	24456	2296	43.5	9	1251	116	3.7	1	162	8	553	29	18.8	1	21.5	2	1.5	0	4.1	1
core	301	25.4	3	23.2	2	55948	2308	21.3	8	116884	4394	12422	523	24990	1766	53.4	12	1387	98	4.0	1	174	11	582	37	19.1	2	24.1	2	1.5	0	3.9	1
core	306	23.4	3	21.5	1	56743	5914	21.5	7	114285	4309	11705	389	26016	1554	47.2	10	1416	148	3.6	1	171	10	577	31	20.8	2	22.4	2	1.6	0	3.1	1
core	311	21.5	2	21.0	2	54249	2927	21.2	4	114659	5489	11691	622	26015	1972	47.8	11	1368	109	3.0	1	172	9	568	34	20.1	1	22.8	2	1.3	0	3.9	2
core	316	21.7	3	20.8	2	54386	3007	22.8	5	117258	6177	12126	561	26678	2687	32.9	12	1370	133	3.8	1	174	12	589	43	22.3	1	24.2	2	1.6	0	4.4	1
core	321	18.0	3	19.3	1	55564	3182	21.7	6	115517	5383	11856	590	25055	1660	46.1	9	1336	116	3.7	1	165	10	564	31	19.8	2	22.9	2	1.5	0	4.0	1

Table B4: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.4	0	4.2	1	0.3	0	2.7	1														
0.5	0	4.8	1	0.4	0	3.9	1														
0.3	0	4.9	1	0.4	0	13.6	1														
0.3	0	5.3	1	0.1	0	13.0	1														
0.2	0	4.2	1	0.2	0	14.0	2	61.7	0.1	23.0	0.2	0.0	4.6	7.7	1.4	0.1	0.0	98.8	23	69	8
0.6	0	5.0	1	0.7	1	12.7	1	61.8	0.1	22.9	0.2	0.0	4.5	7.8	1.4	0.1	0.0	98.9	22	69	8
0.2	0	5.3	1	0.3	0	11.6	1	61.8	0.1	23.2	0.2	0.0	4.4	7.9	1.5	0.0	0.0	99.0	22	70	9
0.3	0	5.3	1	0.2	0	12.7	1	61.6	0.0	22.8	0.2	0.0	4.3	7.8	1.5	0.1	0.0	98.3	21	70	9
0.5	0	4.7	1	0.2	0	12.6	1	61.7	0.1	22.9	0.2	0.0	4.3	8.0	1.5	0.1	0.0	98.9	21	71	8
0.5	0	5.3	1	0.3	0	13.0	1	61.7	0.0	22.8	0.2	0.0	4.3	7.9	1.5	0.0	0.0	98.5	21	71	9
0.3	0	5.1	1	0.2	0	12.6	1	61.9	0.0	22.8	0.2	0.0	4.3	7.9	1.6	0.1	0.0	98.7	21	70	9
0.3	0	5.5	1	0.2	0	12.7	1	62.0	0.1	22.9	0.2	0.0	4.3	8.0	1.5	0.1	0.0	99.0	21	70	9
0.4	0	4.7	1	0.3	0	11.7	1	61.9	0.1	22.5	0.2	0.0	4.3	7.9	1.5	0.0	0.0	98.4	21	70	9
0.4	0	5.4	1	0.5	0	12.0	1	62.0	0.1	22.7	0.2	0.0	4.2	7.9	1.5	0.0	0.0	98.6	21	70	9
0.4	0	4.7	1	0.1	0	12.1	1	62.0	0.1	22.5	0.2	0.0	4.1	7.9	1.6	0.0	0.0	98.4	20	70	9
0.6	0	5.7	1	0.3	0	13.4	1	62.3	0.0	22.7	0.2	0.0	4.1	7.9	1.6	0.0	0.0	98.8	20	71	9
0.3	0	4.7	1	0.1	0	11.6	1	62.3	0.1	22.6	0.2	0.0	4.0	7.9	1.5	0.0	0.0	98.8	20	71	9
0.5	0	5.1	1	0.1	0	13.2	1	62.1	0.1	22.8	0.2	0.0	4.1	7.9	1.6	0.1	0.0	98.8	20	71	9
0.2	0	4.6	1	0.5	0	11.7	1	62.1	0.0	22.9	0.1	0.0	4.1	8.0	1.6	0.1	0.0	98.9	20	71	9
0.3	0	5.4	1	0.0	0	11.8	1	62.2	0.1	22.7	0.2	0.0	4.1	7.9	1.5	0.0	0.0	98.7	20	71	9
0.5	0	4.7	1	0.2	0	11.8	2	62.0	0.1	22.9	0.2	0.0	4.4	7.9	1.5	0.0	0.0	99.0	21	70	9
0.3	0	4.8	1	0.4	0	11.9	1	62.1	0.1	22.9	0.2	0.0	4.2	8.0	1.5	0.1	0.0	98.9	20	71	9
0.1	0	5.3	1	0.4	0	11.8	1	62.2	0.1	22.8	0.2	0.0	4.1	7.8	1.5	0.0	0.0	98.8	20	71	9
0.4	0	4.6	1	0.3	0	12.5	1	61.9	0.1	22.7	0.2	0.0	4.1	8.0	1.6	0.1	0.0	98.6	20	71	9
0.4	0	4.5	1	0.7	0	11.8	1	62.1	0.1	23.0	0.2	0.0	4.2	8.0	1.6	0.1	0.0	99.3	20	71	9
0.6	0	5.1	1	0.2	0	13.5	2	62.0	0.0	22.6	0.2	0.0	4.1	7.9	1.6	0.1	0.0	98.5	20	71	9
0.5	0	5.2	1	0.3	0	11.5	1	62.1	0.1	23.2	0.2	0.0	4.1	8.0	1.5	0.1	0.0	99.3	20	71	9
0.4	0	5.2	1	0.3	0	11.4	1	62.2	0.1	22.8	0.2	0.0	4.1	7.9	1.5	0.1	0.0	98.8	20	71	9
0.2	0	4.6	1	0.1	0	10.5	1	62.0	0.1	22.7	0.2	0.0	4.1	7.9	1.6	0.1	0.0	99.0	20	71	9
0.3	0	5.5	1	0.2	0	12.4	1	62.3	0.1	22.8	0.2	0.0	4.1	7.9	1.6	0.1	0.0	98.7	20	71	9
0.4	0	4.7	1	0.3	0	11.7	1	62.0	0.1	22.8	0.2	0.0	4.1	8.0	1.6	0.1	0.0	98.9	20	71	9
0.4	0	5.4	1	0.5	0	12.0	1	62.0	0.1	22.7	0.2	0.0	4.2	7.9	1.5	0.0	0.0	98.6	20	71	9
0.4	0	4.7	1	0.1	0	12.1	1	62.0	0.1	22.5	0.2	0.0	4.1	7.9	1.6	0.0	0.0	98.4	20	70	9
0.6	0	5.7	1	0.3	0	13.4	1	62.3	0.0	22.7	0.2	0.0	4.1	7.9	1.6	0.0	0.0	98.8	20	71	9
0.3	0	4.7	1	0.1	0	11.6	1	62.3	0.1	22.6	0.2	0.0	4.0	7.9	1.5	0.0	0.0	98.8	20	71	9
0.5	0	5.1	1	0.1	0	13.2	1	62.1	0.1	22.8	0.2	0.0	4.1	7.9	1.6	0.1	0.0	98.8	20	71	9
0.2	0	4.6	1	0.5	0	11.7	1	62.1	0.0	22.9	0.1	0.0	4.1	8.0	1.6	0.1	0.0	98.9	20	71	9
0.3	0	5.4	1	0.0	0	11.8	1	62.2	0.1	22.7	0.2	0.0	4.1	7.9	1.5	0.0	0.0	98.7	20	71	9
0.5	0	4.7	1	0.2	0	11.8	2	62.0	0.1	22.9	0.2	0.0	4.4	7.9	1.5	0.0	0.0	99.0	21	70	9
0.3	0	4.8	1	0.4	0	11.9	1	62.1	0.1	22.9	0.2	0.0	4.2	8.0	1.5	0.1	0.0	98.9	20	71	9
0.1	0	5.3	1	0.4	0	11.8	1	62.2	0.1	22.8	0.2	0.0	4.1	7.8	1.5	0.0	0.0	98.8	20	71	9
0.4	0	4.6	1	0.3	0	12.5	1	61.9	0.1	22.7	0.2	0.0	4.1	8.0	1.6	0.1	0.0	98.6	20	71	9
0.4	0	4.5	1	0.7	0	11.8	1	62.1	0.1	23.0	0.2	0.0	4.2	8.0	1.6	0.1	0.0	99.3	20	71	9
0.6	0	5.1	1	0.2	0	13.5	2	62.0	0.0	22.6	0.2	0.0	4.1	7.9	1.6	0.1	0.0	98.5	20	71	9
0.5	0	5.2	1	0.3	0	11.5	1	62.1	0.1	23.2	0.2	0.0	4.1	8.0	1.5	0.1	0.0	99.3	20	71	9
0.4	0	5.2	1	0.3	0	11.4	1	62.2	0.1	22.8	0.2	0.0	4.1	7.9	1.6	0.1	0.0	98.8	20	71	9
0.2	0	4.6	1	0.1	0	10.5	1	62.0	0.1	22.7	0.2	0.0	4.1	7.9	1.6	0.1	0.0	99.0	20	71	9
0.3	0	5.5	1	0.2	0	12.4	1	62.3	0.1	22.8	0.2	0.0	4.1	7.9	1.6	0.1	0.0	98.7	20	71	9
0.4	0	4.7	1	0.3	0	11.7	1	62.0	0.1	22.8	0.2	0.0	4.1	8.0	1.6	0.1	0.0	98.9	20	71	9
0.4	0	5.4	1	0.5	0	12.0	1	62.0	0.1	22.7	0.2	0.0	4.0	8.0	1.6	0.0	0.0	98.6	20	71	9
0.4	0	4.7	1	0.1	0	12.1	1	62.1	0.1	22.6	0.2	0.0	4.0	8.0	1.6	0.0	0.0	98.4	20	71	9
0.2	0	4.8	1	0.2	0	11.7	1	62.1	0.0	22.7	0.2	0.0	4.0	8.0	1.6	0.0	0.0	98.6	20	71	9
0.7	1	4.8	1	0.3	0	11.4	1	62.0	0.1	22.8	0.2	0.0	4.0	7.9	1.5	0.1	0.0	98.5	20	71	9
0.5	0	5.1	1	0.7	1	10.9	1	61.7	0.1	22.7	0.2	0.0	4.1	8.1	1.6	0.0	0.0	98.7	20	71	9
0.7	0	4.9	1	0.3	0	12.2	1	61.9	0.1	22.8	0.2	0.0	4.1	8.0	1.6	0.1	0.0	98.8	20	71	9
0.5	0	5.3	1	0.2	0	11.4	1	61.7	0.0	22.8	0.2	0.0	4.2	7.9	1.5	0.1	0.0	98.5	20	71	9
0.3	0	4.9	1	0.3	0	11.3	1	61.8	0.1	22.6	0.2	0.0	4.2	7.9	1.5	0.1	0.0	98.4	21	70	9
0.3	0	4.3	1	0.2	0	11.4	1	61.6	0.0	22.6	0.2	0.0	4.2	7.9	1.5	0.1	0.0	98.1	21	70	9
0.2	0	5.5	1	0.4	0	11.1	1	61.8	0.1	22.7	0.2	0.0	4.2	7.9	1.5	0.1	0.0	98.6	21	70	9
0.5	0	4.6	1	0.4	0	11.4	1	62.0	0.1	23.1	0.2	0.0	4.2	7.9	1.5	0.1	0.0	99.1	21	70	9
0.1	0	4.7	1	0.3	0	11.5	1	61.5	0.1	22.9	0.2	0.0	4.2	8.0	1.5	0.0	0.0	98.5	21	70	9
0.2	0	5.0	1	0.1	0	11.7	1	61.5	0.1	22.8	0.2	0.0	4.3	7.8	1.5	0.1	0.0	98.3	21	70	9
0.5	0	4.4	1	0.2	0	11.5	1	61.8	0.1	22.9	0.2	0.0	4.2	7.8	1.5	0.1	0.0	98.6	21	70	9

Table B4: continued

core	326	17.9	2	19.4	1	57694	2950	18.0	7	122222	3875	12385	624	26609	1477	48.9	10	1447	137	5.0	1
core	331	19.5	3	18.1	1	56438	2134	23.7	7	120825	5137	12216	489	25545	1161	36.9	9	1424	132	3.5	1
core	336	23.2	7	17.1	1	57328	2400	26.6	6	121161	4925	12780	572	27755	2010	45.5	13	1446	109	3.7	1
rim	341	15.4	2	14.8	1	54551	2849	19.8	7	116358	4699	11824	540	26642	1782	47.7	9	1372	123	3.6	1
rim	346	14.8	2	14.6	1	55886	3064	24.1	6	121856	7052	12208	685	27633	2313	44.3	12	1407	130	4.2	1
rim	351	13.1	2	13.0	1	54152	2254	20.5	6	112781	4469	11968	622	26493	2065	47.9	11	1331	125	4.2	1
rim	355	11.9	2	12.0	1	53025	2171	25.2	8	112442	4385	11696	412	25740	1626	62.2	9	1342	87	3.8	1
rim	360	9.6	2	10.8	1	54780	3080	20.8	5	117225	5711	12142	526	25848	1985	51.7	10	1367	135	3.4	1
rim	365	8.8	2	10.0	2	56043	1981	23.9	5	124981	10067	12364	430	25926	1800	47.5	10	1334	122	4.0	1
rim	370	8.8	2	8.2	1	56414	3327	21.8	5	119050	7181	12266	747	27557	1824	54.3	9	1292	145	3.2	1
rim	375	8.2	1	7.5	1	55486	2169	25.6	5	116912	3700	12189	508	25917	1883	50.8	13	1416	134	3.7	1
rim	380	7.6	2	7.5	1	55783	2444	21.3	7	121544	4984	12425	612	26802	1893	55.4	10	1375	151	3.7	1
rim	385	4.0	1	6.2	1	55359	3195	23.4	5	115358	5861	12214	612	25457	1518	53.8	10	1265	104	4.2	1

173	5	588	23	21.7	2	24.6	2	1.7	0	3.9	1
174	8	583	29	20.5	2	23.7	2	1.5	0	4.2	1
172	9	589	28	21.3	2	23.4	2	1.6	0	4.7	1
167	11	577	33	21.4	2	23.2	2	1.6	0	3.7	1
165	11	604	53	20.9	2	23.6	2	1.4	0	4.6	2
157	6	555	37	20.4	1	23.0	2	1.4	0		1
159	8	567	42	20.3	2	23.0	2	1.2	0	3.6	1
159	9	581	36	20.3	2	22.3	2	1.4	0	3.7	1
157	8	585	21	22.3	2	23.5	2	1.6	0	4.6	1
168	14	587	46	21.5	2	25.1	2	1.8	0	4.5	2
160	7	570	37	20.4	1	21.9	2	1.4	0	4.9	1
165	9	575	39	21.3	2	23.9	2	1.8	0	3.7	1
156	11	576	41	20.0	2	24.0	2	1.4	0	3.9	1

Table B4: continued

0.3	0	4.4	1	0.6	1	12.3	1	61.9	0.0	22.7	0.2	0.0	4.2	8.0	1.5	0.1	0.0	98.6	20	71	9
0.3	0	4.7	1	0.0	0	12.2	1	61.6	0.0	22.7	0.2	0.0	4.2	7.9	1.6	0.1	0.0	98.2	21	70	9
0.5	0	5.2	1	0.1	0	13.0	1	61.9	0.1	23.1	0.2	0.0	4.3	7.9	1.5	0.0	0.0	99.0	21	70	9
0.4	0	4.5	1	0.0	0	12.6	1	61.9	0.1	22.7	0.2	0.0	4.2	7.9	1.5	0.0	0.0	98.5	21	70	9
0.6	0	5.7	1	0.1	0	12.5	1	61.8	0.1	22.8	0.2	0.0	4.3	7.8	1.5	0.1	0.0	98.6	21	70	9
0.5	0	4.0	1	0.1	0	11.9	1	61.8	0.1	22.8	0.2	0.0	4.3	7.9	1.5	0.1	0.0	98.7	21	70	9
0.1	0	4.7	1	0.1	0	12.5	1	62.0	0.1	22.9	0.2	0.0	4.4	7.9	1.5	0.1	0.0	99.0	21	70	9
0.4	0	4.9	1	0.4	0	12.4	1	62.0	0.1	22.8	0.2	0.0	4.2	7.9	1.5	0.0	0.0	98.7	21	70	9
0.0	0	4.8	1	0.2	0	12.1	1	61.5	0.0	22.8	0.2	0.0	4.3	7.9	1.5	0.1	0.0	98.4	21	70	9
0.7	1	4.5	0	0.5	0	12.6	1	61.6	0.1	22.9	0.2	0.0	4.2	7.9	1.5	0.1	0.0	98.5	21	70	9
0.4	0	4.5	1	0.7	1	11.8	1	61.6	0.1	22.9	0.2	0.0	4.3	7.9	1.5	0.1	0.0	98.4	21	70	9
0.6	1	4.6	1	0.3	0	12.8	1	61.7	0.1	22.8	0.2	0.0	4.3	7.9	1.5	0.1	0.0	98.6	21	70	9
0.3	0	4.5	1	0.3	0	13.1	2	61.9	0.1	22.8	0.2	0.0	4.3	7.9	1.5	0.1	0.0	98.7	21	70	9

grain 11 - Line 1.1

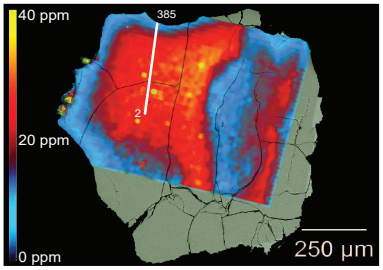


Fig. B3. BSE image of plagioclase grain 11 with trace element line 1.1 (by LA-ICP-MS) indicated.

Table B5: Plagioclase grain 11 - Line 1.2

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	1	21.9	3	22.8	2	55546	2215	25.3	4	119998	3151	11380	569	23462	938	43.5	7	1429	141	3.5	1	188	12	486	23	19.7	1	23.9	1	1.6	0	4.8	1
core	4	26.4	3	24.1	2	56975	2977	16.5	4	120110	5373	12100	569	26260	1881	49.0	11	1467	159	4.5	1	196	10	490	28	20.5	2	23.0	1	1.6	0	4.1	1
core	9	24.4	2	25.3	2	57204	3319	18.3	3	116873	3751	11977	586	27146	1845	49.5	10	1498	96	3.7	1	184	9	483	33	20.1	1	23.7	2	1.3	0	4.9	1
core	14	30.5	4	28.9	3	57685	2882	23.9	5	120721	5066	12634	643	25619	1829	49.4	9	1567	162	4.5	1	194	10	516	32	21.1	2	25.3	2	1.4	0	3.4	1
core	19	22.8	2	26.5	3	54391	2886	18.8	6	113331	6345	11694	575	27719	2171	36.6	11	1252	96	4.8	1	191	13	489	39	20.5	2	21.8	2	1.9	0	4.2	1
core	24	26.3	2	27.4	3	55848	2988	19.5	5	119467	4485	12195	620	26901	2067	46.3	12	1332	120	4.3	1	191	12	532	44	19.1	2	22.6	2	1.5	0	4.5	1
core	29	28.9	3	28.6	3	56693	2604	18.6	6	119247	4469	12811	554	25807	1487	52.8	9	1424	113	4.2	1	196	9	491	34	20.7	1	23.6	2	1.3	0	4.3	1
core	34	26.2	3	27.4	3	54487	3106	20.7	4	117038	5674	11943	624	25835	1750	53.6	15	1383	149	3.5	1	188	12	497	38	20.5	2	22.9	2	1.4	0	4.5	1
core	39	24.9	3	26.2	2	56158	2780	18.0	6	118234	7044	11846	793	25225	2545	52.5	12	1254	117	4.3	1	191	15	465	31	19.8	2	23.6	2	1.6	0	3.9	1
core	44	24.8	2	25.2	2	54880	2777	18.9	5	116056	4605	11875	718	25490	2122	45.8	12	1545	140	4.1	1	186	8	477	34	20.6	2	22.5	2	1.5	0	4.9	1
core	49	29.2	4	27.4	3	57291	2672	22.6	6	117078	3181	12480	572	25757	1690	51.9	10	1370	142	3.2	0	202	10	486	27	18.6	1	22.5	2	1.6	0	4.3	1
core	54	27.7	5	25.6	2	55433	3236	21.4	5	117967	6930	12230	781	26051	2450	52.0	12	1404	135	4.0	1	189	15	474	35	19.7	1	22.9	1	1.5	0	3.4	1
core	59	27.8	3	28.8	3	62958	8242	19.1	4	125472	7959	12509	853	28375	2545	54.6	13	1438	104	4.1	1	195	15	487	37	21.0	2	24.4	3	1.8	0	4.6	1
core	64	26.9	3	28.6	2	55310	3105	21.5	9	119830	5998	12281	667	26279	2156	48.8	7	1379	150	3.6	1	194	15	502	38	20.6	2	23.4	2	1.3	0	3.5	1
core	69	28.7	3	27.3	2	56186	2338	18.8	5	118291	4667	12238	647	27196	1721	43.3	9	1347	55	3.9	1	189	8	494	30	20.6	2	23.3	3	1.5	0	3.7	1
core	74	26.4	3	26.4	1	56754	2711	21.4	5	122009	5403	12288	461	25775	1731	47.7	13	1432	141	3.9	1	199	9	500	29	21.7	2	23.5	2	1.6	0	4.2	1
core	79	27.4	3	28.4	2	60354	5232	16.3	5	123535	6829	12685	796	27561	1974	56.2	15	1485	132	4.9	1	205	15	513	39	21.1	2	24.3	2	1.6	0	5.1	1
core	84	26.8	4	27.8	3	58450	7971	22.7	7	113651	8240	11838	1072	25900	2335	43.2	9	1314	149	4.3	1	190	15	466	43	19.1	2	22.4	2	1.3	0	3.3	1
core	89	23.2	4	26.0	4	53940	8414	19.9	6	105525	11337	10696	1196	22399	2714	37.7	10	1309	169	3.3	1	176	21	443	49	16.7	2	20.6	3	1.4	0	4.6	1
core	94	28.6	5	27.8	2	55845	2599	21.8	7	118621	5131	12624	946	27541	2023	46.9	9	1472	129	4.2	1	200	10	470	32	20.8	1	23.0	1	1.7	0	4.1	1
core	99	27.5	3	27.3	2	54045	3972	27.5	7	116078	9616	12267	947	26007	2507	44.7	8	1336	166	3.7	1	185	15	480	39	18.7	2	22.5	2	1.2	0	4.9	1
core	104	28.1	3	30.7	3	59542	5217	22.2	6	119263	5687	12562	741	26368	1995	46.1	11	1401	161	3.6	1	194	11	498	43	20.7	2	22.7	2	1.6	0	4.7	1
core	109	31.2	3	29.4	2	55985	3405	18.0	5	116366	6221	12109	1122	26164	1812	47.0	9	1407	121	3.7	1	195	13	501	40	21.1	2	21.9	2	1.5	0	3.3	1
core	114	32.4	6	28.3	2	57431	4045	18.1	6	119734	6246	12302	545	26450	2293	57.1	14	1394	104	3.9	1	196	13	494	45	20.2	2	22.3	2	1.7	0	4.3	1
core	118	28.7	3	29.7	4	54642	3534	21.6	7	118765	5872	11793	655	26406	2548	42.7	11	1388	148	4.2	1	193	15	481	31	19.9	2	20.6	2	1.4	0	3.2	1
core	123	29.9	2	30.1	2	57369	2416	30.3	8	120632	6131	12342	650	25794	1701	61.1	12	1473	83	4.4	1	196	9	514	36	19.4	1	24.4	2	1.6	0	4.2	1
core	128	32.4	4	31.9	4	56372	3727	21.0	6	118460	4978	12322	474	26617	2155	44.9	12	1580	134	3.6	1	198	12	483	30	20.5	2	22.4	2	1.5	0	3.7	1
core	133	32.4	4	30.7	3	60518	4761	22.8	6	116698	7422	12774	984	25521	1703	48.3	9	1468	140	4.5	1	182	11	474	37	18.9	2	23.0	2	1.6	0	4.3	1
core	138	25.8	3	28.4	2	57252	2655	19.2	5	112180	5991	12091	548	23550	1422	46.1	9	1378	139	3.6	1	176	7	485	34	17.5	1	21.0	2	1.3	0	3.4	1
core	143	28.7	3	28.9	2	57468	3810	25.6	6	115222	6496	11918	589	26537	2034	40.2	11	1464	150	3.7	1	193	11	514	37	18.6	2	23.2	1	1.6	0	4.5	1
core	148	29.3	4	28.3	3	54064	2875	22.7	5	118014	7365	12466	919	27364	2396	60.5	13	1446	181	3.1	1	191	13	497	36	20.0	2	22.7	2	1.3	0	4.4	1
core	153	30.2	3	30.0	3	57431	4831	17.6	5	119670	7863	12208	804	27869	2025	53.4	14	1446	182	3.1	1	190	18	523	53	19.1	2	24.6	2	1.8	0	4.5	1
core	158	26.2	3	29.4	2	53735	3169	19.8	5	117118	5984	11797	639	25874	1727	42.6	13	1404	136	3.5	1	192	12	509	28	19.6	1	23.5	2	1.4	0	4.9	1
core	163	32.5	3	29.1	2	56815	3203	22.3	6	122023	6364	12668	771	27464	2458	59.2	11	1454	112	3.8	1	194	14	494	45	18.8	2	24.1	2	1.6	0	4.3	1
core	168	29.2	4	27.3	3	54384	4434	13.4	5	114494	8852	11588	983	26154	2513	48.0	10	1296	175	4.4	1	187	18	479	58	19.1	2	21.8	2	1.5	0	4.2	1
core	173	31.7	3	29.9	2	57030	2183	15.3	6	117127	5962	11857	559	26308	2370	46.2	12	1415	151	4.0	1	196	14	507	25	19.9	2	21.9	2	1.5	0	3.7	1
core	178	38.5	14	29.0	3	55613	4052	19.9	5	118316	6394	11981	562	27280	2090	51.7	13	1547	123	4.3	1	191	9	490	35	20.6	2	21.6	2	1.8	0	3.5	1
core	183	30.9	4	30.2	3	56451	2624	22.2	5	117329	6109	11770	657	25990	2217	47.3	11	1538	170	4.3	1	191	12	515	36	18.3	2	21.4	1	1.4	0	4.0	1
core	188	32.5	4	29.1	2	56853	4381	23.3	6	121158	7823	11972	689	26996	2005	36.8	8	1435	117	3.4	1	194	16	513	58	20.7	2	22.0	3	1.7	0	3.8	1
core	193	30.2	3	28.7	2	56632	2856	26.2	5	117777	4355	11665	508	25573	2192	54.0	11	1334	120	3.4	1	182	9	498	32	18.7	2	22.4	2	1.5	0	4.8	1
core	198	33.5	6	31.3	3	56534	3467	21.6	7	122042	6115	12248	758	28958	1983	42.2	11	1370	144	4.4	1	196	15	510	34	21.5	2	23.8	2	1.5	0	4.7	1
core	203	30.6	5	31.4	6	56077	3789	20.6	5	120328	6966	11617	663	26003	1630	44.3	8	1439	189	3.7	1	191	12	503	43	20.2	2	24.0	2	1.7	0	4.0	1
core	208	31.5	3	29.2	3	57411	6049	25.6	7	116416	6150	11542	782	26761	2032	53.1	11	1389	110	3.4	1	193	11	486	32	20.0	2	22.7	2	1.7	0	5.1	1
core	213	29.2	4	28.1	3	54594	4712	22.0	5	111907	4948	11691	958	24406	1639	48.6	9	1394	104	3.8	1	180	10	495	30	19.2	2	21.5	1	1.5	0	3.7	1
core	218	28.2	2	26.5	2	54844	4354	20.2	6	113072	8087	11352	751	24406	2008	42.2	8	1318	152	3.5	1	186	14	514	46	17.7	2	21.6	2	1.6	0	4.0	1
core	223	30.9	4	32.0	2	56675	2860	18.6	5	121454	5234	12088	650	27446	2200	40.4	9	1386	141	3.6	1	187	13	547	41	20.5	2	23.4	2	1.5	0	3.2	1
core	228	29.0	4	27.7	2	56726	7077	24.3	7	117555	8443	11983	867	26493	2317	46.2	12	1463	190	3.5	1	185	17	561	47	18.9	2	22.7	2	1.6	0	4.2	1
core	233	31.2	5	30.4	3	56932	3344	23.2	5	122453	7532	12319	781	26803	1779	48.0	8	1435	159	4.7	1	190	15	553	48	20.3	2	23.2	2	1.4	0	4.7	1
core	238	31.3	4	27.4	1	54794	2520	22.1	6	118605	5818	12081	788	27554	1685	54.0	14	1407	130	4.5	1	189	9	541	40	21.0	2	23.4	2	1.7	0	3.1	1
core	243	29.2	4	27.9	2	56343	2302	21.2	6	118291	5189	12482	646	25380	1843	45.2	7	1315	123	4.1	1	182	9	565	37	19.7	2	22.7	2	1.7	0	4.3	1
core	248	33.6	5	30.1	3	57706	3529	23.3	6	120721	5796	12192	614	27965	2762	54.0	11	1467	135	3.6	1	194	12	536	40	21.7	2	22.9	2	1.9	0	3.3	1
core	253	27.8	3	29.7	2	57546	3777	20.1	9	122833	6433	12249	626	28424	1453	47.3	10	1483	161	3.6	1	195	12	563	37	21.3	2	23.4	2	1.7	0	3.8	1
core	258	29.9	3	28.5	2	53257	2671	21.8	6	115847	5994	11868	824	27711	1929	49.3	7	1409	163	3.0	1	176	9	526	31	19.8	2	23.7	3	1.5	0	4.8	1
core	263	27.4	4	28.3	2	58784	5733	23.9	6	117001	5288	11955	724	25767	1719	52.7	12	1310	129	3.5	1	184	12	546	42	19.8	2	22.7	2	1.3	0	4.3	1
core	268	31.9	5	26.6	3	55294	4302	19.8	5	118271	8085	11690	785	25403	2245	41.2	10	1476	129	3.6	1	180	11	544	41	20.9	1	21.8	2	1.4	0	3.8	1
core	273	27.7	4	27.8	2	58365	2877	19.3	4	121287	4983	12385	533	27154	1659	41.3	11	1436	132	3.4	1	186	8	597	40	20.8	1	23.3	2	1.5	0	3.5	1
core	278	26.2	4	26.1	3	56792	7221	18.1	6	115683	10251	11608	1129	25797	2897	41.8	11	1362	153	4.5	2	178	17	576	63	19.1	2	21.3	3	1.6	0	4.1	1
core	283	24.8	3	26.9	2	53893	2977	28.7	8	118556	7305	11937	852	26764	1168	47.4	10	1353	88	3.9	1	175	9	531	43	18.9	2	23.1	3	1.5	0	3.8	1
core	288	26.0	3	25.2	2	57094	6353	23.6	6	116520	6329	11945	843	27994	2231	51.3	12	1345	147	3.7	1	178	9	560	28	19.4	2	21.1	2	1.6	0	4.0	1
core	293	24.6	4	25.3	2	57033	3439	23.2	7	120417	6822	12254	909	26811	2116	52.5	11	1379	156	3.6	1	182	13	568	44	19.9	2	21.7	2	1.4	0	3.8	1
core	298	26.3	2	22.9	1	54264	2117	25.5	6	118064	3530	12059	536	27686	2015	36.5	11	1391	129	3.7	1	178	9	590	28	20.0	2	23.9	2	1.6	0	3.6	1
core	303	23.4	3	23.2	2	54791	2551	17.2	5	118824	5572	12145	762	27233	2020	51.6	15	1275	121	3.7	1	180	11	582	36	20.6	2	21.9	2	1.4	0	4.5	1
core	308	21.8	3	23.4	2	51930	2252	18.0	7	115277	4933	11660	510	25512	1594	54.5	10	1432	138	3.8	1	172	10	586	54	20.2	2	20.7	2	1.5	0	3.8	1
core	313	22.8	2	22.1	2	56121	2253	21.3	8	119115	4277	12970	1332	25583	1514	36.7	6	1358	102	3.7	1	182	10	572	29	20.7	1	23.4	2	1.2	0	3.4	1
core	318	23.2	4	22.8	2	59033	2995	24.2	7	123003	5571	12436	566	28413	2597	61.3	15	1498	192	3.3	1	191	13	594	47	20.9	2	23.4	2	1.6	0	4.2	1

Table B5: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD
0.2	0	5.0	0	0.3	0	11.8	1
0.4	0	5.7	1	0.2	0	11.0	1
0.3	0	4.9	1	0.3	0	10.9	1
0.1	0	5.9	1	0.3	0	12.7	1
0.4	0	5.2	1	0.4	0	11.8	1
0.3	0	5.4	1	0.0	0	12.1	1
0.6	0	5.2	1	0.1	0	12.9	1
0.6	0	4.8	1	0.8	1	11.5	1
0.4	0	5.5	1	0.4	0	11.9	1
0.2	0	4.9	1	0.3	0	12.8	1
0.6	0	5.1	1	0.5	1	11.1	1
0.2	0	4.9	1	0.2	0	10.8	1
0.1	0	5.9	1	0.0	0	12.4	1
0.6	0	5.5	1	0.1	0	12.3	1
0.5	0	5.1	1	0.2	0	11.3	1
0.2	0	5.7	1	0.1	0	11.9	1
0.5	0	4.6	1	0.5	0	12.7	1
0.4	0	5.0	1	0.4	0	11.9	1
0.3	0	4.8	1	0.2	0	11.3	2
0.6	0	5.9	1	0.5	0	11.2	1
0.2	0	5.1	1	0.4	0	11.8	1
0.1	0	5.7	1	0.2	0	11.7	1
0.5	0	5.4	1	0.4	0	11.5	1
0.5	0	5.9	1	0.1	0	11.8	1
0.3	0	5.7	1	0.3	0	12.4	1
0.2	0	5.2	1	0.2	0	11.9	1
0.1	0	5.3	1	0.3	0	12.3	1
0.3	0	5.3	1	0.1	0	12.2	1
0.6	0	5.1	1	0.2	0	12.5	1
0.1	0	5.3	1	0.2	0	11.6	1
0.2	0	5.1	1	0.0	0	12.1	1
0.3	0	5.0	1	0.2	0	11.9	1
0.4	0	5.5	1	0.4	0	11.6	1
0.3	0	6.1	1	0.2	0	12.5	1
0.7	0	5.4	1	0.5	0	11.2	1
0.4	0	5.7	1	0.3	0	11.7	1
0.4	0	5.7	1	0.5	0	11.1	1
0.5	0	4.4	1	0.4	0	11.8	1
0.4	0	5.0	1	0.3	0	12.0	1
0.5	0	4.8	1	0.0	0	12.0	2
0.0	0	5.0	1	0.5	1	13.0	2
0.5	0	5.5	1	0.1	0	12.1	1
0.1	0	5.2	1	0.4	0	11.3	1
0.3	0	5.6	1	0.3	0	11.5	1
0.2	0	6.2	1	0.5	0	12.8	1
0.6	0	5.5	1	0.2	0	12.4	2
0.4	0	5.3	1	0.2	0	12.4	1
0.2	0	5.1	1	0.1	0	12.8	1
0.5	0	5.0	1	0.2	0	12.5	1
0.2	0	4.8	1	0.4	0	12.4	1
0.9	1	5.6	1	0.2	0	12.8	1
0.8	0	5.4	1	0.3	0	10.8	1
0.5	0	5.2	1	0.3	0	10.8	1
0.6	0	4.5	1	0.1	0	12.0	2
0.2	0	5.9	1	0.2	0	12.9	1
0.6	0	5.8	1	0.6	0	11.6	2
0.0	0	5.1	1	0.2	0	12.5	2
0.4	0	5.6	1	0.5	0	10.8	1
0.4	0	5.4	1	0.3	0	12.1	1
0.5	0	5.8	1	0.4	0	12.2	1
0.3	0	5.8	1	0.4	0	22.1	20
0.5	0	5.4	1	0.0	0	11.0	1
0.5	1	5.6	1	0.4	0	12.1	1
1.0	0	4.7	1	0.2	0	12.8	1

Table B5: continued

rim	323	20.3	3	18.7	1	56621	3243	19.6	5	124083	7652	12173	541	25936	2642	47.4	9	1454	104	3.1	1	178	10	584	39	20.3	2	23.3	2	1.4	0	4.3	1	0.5	0
rim	328	17.6	2	17.6	1	57304	4281	18.4	4	118692	7157	12199	736	27243	2356	47.0	14	1480	161	3.7	1	179	11	582	41	20.8	2	23.3	2	1.9	0	4.8	1	0.3	0
rim	333	17.8	3	17.3	1	65323	8000	30.4	7	122341	4126	12804	623	27031	1719	55.2	8	1490	125	3.8	1	178	8	630	45	20.1	2	23.5	2	1.7	0	4.0	1	0.3	0
rim	338	15.1	3	17.2	3	54885	2740	19.9	6	115845	5273	12377	737	25708	1762	39.1	10	1366	141	3.7	1	174	11	572	20	19.5	2	22.7	2	1.5	0	3.0	1	0.5	0
rim	343	14.3	2	14.3	2	56245	3256	21.4	5	118174	7115	12175	629	27285	2572	56.7	10	1393	118	3.3	1	172	10	575	45	20.2	2	22.6	2	1.2	0	5.5	1	0.4	1
rim	348	13.1	3	13.4	2	55477	2618	21.7	6	119848	5112	12133	481	25996	1789	44.0	14	1433	127	3.7	1	177	7	607	41	19.3	2	23.2	2	1.7	0	4.1	1	0.3	0
rim	353	11.1	2	12.4	2	58116	3487	27.0	6	123880	7225	12424	674	24817	1727	54.7	9	1459	155	3.3	1	182	15	648	51	22.7	2	23.1	2	1.6	0	4.0	1	0.3	0
rim	358	11.6	4	10.2	2	56111	3269	18.9	6	118752	6493	12361	743	27747	2304	47.8	14	1397	114	3.6	1	171	14	605	47	20.6	2	21.3	2	1.3	0	4.6	1	0.2	0
rim	363	8.0	2	8.8	1	54709	2296	19.5	4	118646	4925	12297	467	25249	1642	52.5	13	1336	133	4.1	1	168	10	601	42	20.0	1	23.4	2	1.6	0	3.5	1	0.3	0
rim	368	6.6	2	7.3	2	55570	3497	29.3	8	116211	7007	11660	562	26554	2040	46.8	11	1387	136	3.9	1	172	12	613	45	20.4	2	22.0	2	1.6	0	4.4	1	0.7	0
rim	373	4.5	2	5.9	1	56470	2800	28.4	5	120017	5127	12847	811	26317	1920	51.2	10	1418	131	3.9	1	169	11	632	38	20.8	2	22.7	2	1.6	0	3.4	1	0.5	0

Table B5: continued

4.8	1	0.3	0	11.5	1
4.7	1	0.0	0	11.4	2
5.6	0	0.8	1	11.7	1
4.9	1	0.2	0	12.0	1
5.6	1	0.2	0	11.2	1
4.9	1	0.5	0	11.4	1
4.5	1	0.8	1	12.5	1
4.7	1	0.2	0	12.2	1
5.1	1	0.5	1	12.2	1
5.0	1	0.3	0	11.7	1
4.6	1	0.1	0	12.4	2

grain 11 - Line 1.2

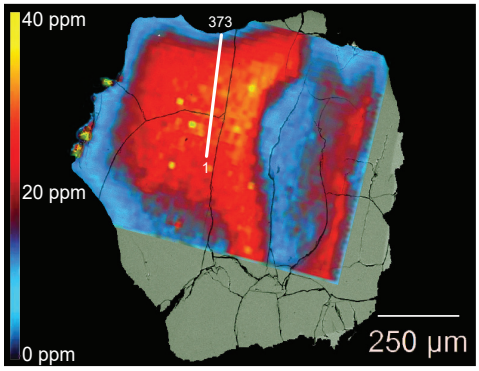


Fig. B4. BSE image of plagioclase grain 11 with trace element line 1.2 (by LA-ICP-MS) indicated.

grain 11 - Line 2

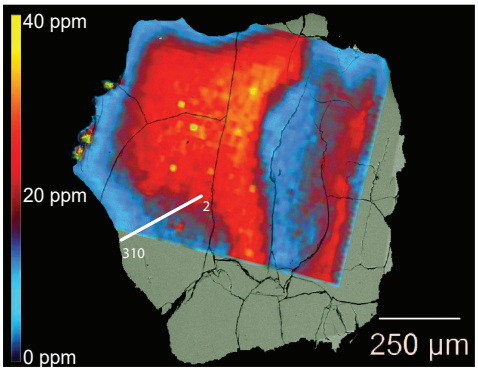


Fig. B5. BSE image of plagioclase grain 11 with trace element line 2 (by LA-ICP-MS) indicated.

grain 11 - Isotopes

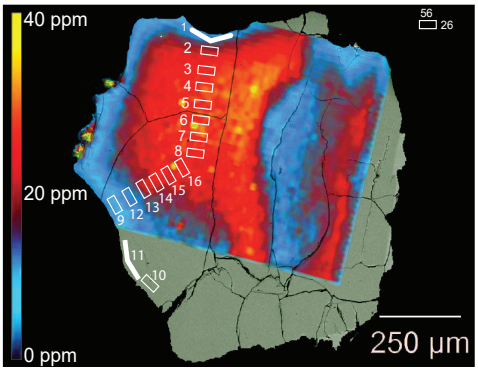


Fig. B6. BSE image of plagioclase grain 11 with Fs-LA-MC-ICP-MS lines indicated.

Table B6: Plagioclase grain 11 - Line 2

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
cracked	2	23.0	3	22.8	3	57125	2439	23.3	5	116216	3868	12167	764	25028	991	51.1	6	1473	116	3.8	1	185	9	469	27	21.2	1	22.1	2	1.8	0	4.5	1
cracked	6	23.5	2	21.1	1	64741	13319	25.2	7	118850	5345	12470	624	26955	1975	55.1	14	1464	118	3.8	1	187	11	487	30	21.1	2	23.4	1	1.5	0	4.8	1
cracked	11	24.2	4	22.5	2	57227	3001	21.6	6	117902	5210	11833	581	26659	1935	50.4	11	1459	124	4.8	1	189	11	479	30	21.5	2	22.3	2	1.6	0	4.3	1
cracked	16	20.1	4	22.4	3	57059	5223	18.6	5	111749	7609	11890	987	24501	2499	50.0	6	1382	119	3.6	1	184	14	456	32	20.2	2	23.0	2	1.6	0	3.9	1
cracked	21	24.4	3	21.0	2	55899	2455	21.1	6	118093	4133	12121	595	27411	1455	55.0	11	1427	117	3.9	1	187	12	504	30	21.0	1	22.9	2	1.5	0	4.2	1
cracked	26	22.6	2	21.1	2	54782	2823	23.0	5	118292	6203	12214	676	28035	2487	42.3	10	1388	148	3.7	1	194	12	493	25	21.0	2	22.9	2	1.4	0	4.2	1
cracked	31	19.0	3	20.5	2	57790	5469	22.7	7	121614	7182	11974	715	28288	2400	47.2	9	1579	145	3.4	1	201	13	492	37	23.3	2	24.3	2	2.0	0	3.7	1
cracked	36	19.5	3	20.0	2	56623	3655	20.5	8	123584	6654	12148	594	26684	1956	48.8	10	1436	130	3.3	1	195	13	483	27	23.1	2	23.5	2	1.5	0	4.8	1
cracked	41	17.4	2	19.1	1	56985	4330	24.9	5	121880	6144	12775	941	27946	2178	50.9	12	1581	154	4.4	1	201	13	515	35	22.4	2	23.9	2	1.4	0	5.3	1
cracked	46	18.6	3	19.8	1	55888	3366	24.5	6	118200	5158	12043	776	27184	1758	48.6	10	1412	123	3.4	1	187	12	495	31	21.0	1	23.1	1	1.5	0	3.8	1
cracked	51	18.6	3	19.0	1	54266	2356	19.4	6	120165	4848	12035	588	26884	2011	47.9	12	1542	124	4.0	1	193	8	512	23	22.4	2	23.7	2	1.5	0	4.0	1
cracked	56	19.8	2	19.4	2	56407	4940	22.1	7	121294	7737	12210	770	27369	2481	51.2	16	1411	112	4.5	1	195	14	519	37	22.1	2	24.4	2	1.4	0	3.4	1
cracked	61	19.3	3	18.8	2	55383	3613	17.5	6	116328	5795	11773	694	26743	1790	46.0	9	1271	111	3.4	1	191	15	503	30	20.9	2	23.6	3	1.5	0	4.5	1
cracked	66	19.3	3	18.9	1	55685	1530	20.6	6	123365	4440	12672	782	27618	1828	50.4	7	1496	165	3.8	1	196	7	500	29	22.4	2	24.6	1	1.7	0	4.5	1
cracked	71	17.6	3	19.6	2	56392	2654	22.2	7	118202	5564	12203	600	25869	1228	46.3	14	1430	146	3.5	1	186	10	508	26	22.2	2	23.6	2	1.7	0	4.8	1
cracked	76	19.4	3	19.3	2	55506	3591	20.8	3	117611	6585	12310	734	25673	1939	49.9	10	1536	138	3.6	1	180	11	494	32	22.3	2	24.1	2	1.6	0	4.7	2
cracked	81	21.5	3	19.0	2	55137	3304	18.2	6	117511	7408	12287	898	26726	2320	46.3	10	1491	185	4.8	1	191	13	504	34	22.3	2	23.3	2	1.9	0	3.7	1
cracked	86	18.3	2	17.5	1	53857	2917	20.5	5	118855	6656	12301	653	28112	2514	54.3	7	1502	96	5.2	1	193	13	504	37	22.7	2	24.5	2	1.8	0	5.2	1
cracked	91	20.0	4	18.2	2	56131	4132	20.6	7	120854	8239	12332	1101	27342	1813	42.1	11	1380	98	3.7	1	191	13	503	34	21.9	2	25.1	2	1.6	0	4.6	2
cracked	96	17.2	3	17.5	2	57694	4893	20.0	6	121239	7085	13005	978	27464	2002	52.1	13	1434	175	3.6	1	188	11	502	29	22.5	2	24.1	2	1.7	0	5.0	1
cracked	101	17.9	3	17.1	2	55959	5815	21.3	7	117286	5252	12102	645	26824	2391	59.1	12	1345	141	4.3	1	192	9	509	25	22.2	2	23.7	2	1.6	0	4.0	1
cracked	106	18.7	3	17.3	2	53985	3060	18.3	6	119133	8404	12105	831	27527	2467	47.7	12	1359	117	3.8	1	188	17	512	39	23.8	2	25.3	2	1.8	0	3.9	1
cracked	111	16.2	3	15.2	1	54359	2785	22.9	4	121414	7683	12868	1130	27283	2395	56.4	13	1385	93	3.7	1	184	11	506	34	22.3	2	22.7	2	1.5	0	5.2	1
cracked	116	15.6	3	15.5	1	52661	3023	27.6	11	117611	4474	12092	696	25622	1483	61.6	13	1415	154	3.5	1	184	11	503	32	22.0	2	22.2	2	1.8	0	4.2	1
cracked	120	15.5	2	18.2	2	58368	3247	24.3	5	123894	6197	12899	827	28410	2211	57.5	15	1439	140	3.6	1	198	15	531	37	23.5	2	25.5	2	1.7	0	4.4	1
cracked	125	16.7	2	17.5	2	57479	3256	22.8	5	119676	4463	12565	548	27101	1518	57.0	10	1481	134	3.1	1	193	11	545	30	21.5	2	24.1	2	1.4	0	4.9	1
cracked	130	15.4	1	14.9	1	53512	4501	27.3	6	114516	8665	11555	959	26277	2674	55.9	12	1269	149	3.7	1	187	15	471	36	20.5	2	23.0	2	1.7	0	5.1	1
cracked	135	16.4	4	15.6	2	54547	4561	19.2	5	112633	8227	11655	868	26105	2559	54.9	12	1420	230	4.3	1	179	14	487	44	19.8	2	22.7	3	1.6	0	4.9	1
cracked	140	17.8	3	15.8	2	56432	3666	23.0	9	120982	7125	12102	888	27213	1791	63.4	14	1487	106	3.9	1	188	10	502	38	22.4	2	23.8	2	1.6	0	4.4	1
cracked	145	14.7	2	15.2	2	62502	10127	17.7	6	119401	4618	11904	616	28277	2097	49.8	11	1308	123	4.0	1	190	10	492	24	23.3	2	24.1	2	1.7	0	4.0	1
cracked	150	15.7	4	14.7	2	56429	3431	21.6	6	122256	5378	12196	620	28459	2470	43.3	9	1401	114	4.4	1	195	8	515	36	22.9	1	24.2	2	1.6	0	4.5	1
cracked	155	16.2	2	17.4	2	56742	4688	20.5	7	124109	6281	12431	1228	27734	1885	58.2	12	1418	140	3.2	1	192	9	497	39	22.6	2	24.3	2	1.7	0	4.7	1
cracked	160	13.8	2	16.7	2	54550	2374	20.9	6	122143	5959	12157	851	27617	1756	67.2	12	1488	131	3.4	1	192	13	516	28	23.8	2	25.6	2	1.6	0	4.8	1
cracked	165	15.2	3	15.9	2	55581	2886	21.7	5	120762	6656	12035	784	26902	2164	62.9	13	1442	115	3.9	1	192	14	505	27	21.9	2	24.6	2	1.9	0	5.2	1
cracked	170	18.8	3	16.5	3	53965	2970	21.0	7	118277	7446	12463	1109	27836	2291	64.1	13	1386	182	3.4	1	187	13	489	36	21.7	2	23.9	3	2.0	0	4.2	1
cracked	175	16.9	2	15.8	2	54676	3349	23.6	7	117152	3980	11511	547	25052	2082	52.8	12	1321	95	3.2	1	177	11	478	36	22.6	2	22.4	2	1.7	0	5.0	1
cracked	180	17.1	3	16.8	2	58050	3530	17.6	7	121668	5849	11969	554	27611	1826	62.6	12	1400	137	4.0	1	191	11	503	29	22.7	2	26.5	2	1.5	0	4.5	1
cracked	185	15.3	3	15.6	2	55624	2538	24.0	6	119486	4409	12268	558	26573	1873	59.5	12	1488	107	3.4	1	182	12	492	34	22.6	2	25.1	2	1.4	0	5.0	2
cracked	190	14.5	2	14.2	1	59722	6572	18.8	4	116421	7104	11575	839	26415	1783	51.9	10	1397	131	3.4	1	180	13	463	37	21.6	2	23.6	2	1.9	0	4.2	1
cracked	195	17.1	3	14.6	2	56852	3900	20.0	6	120111	5704	12301	979	27955	1559	51.4	8	1413	174	3.7	1	195	15	517	51	22.4	2	25.2	2	1.7	0	4.4	1
cracked	200	16.5	4	14.9	2	60335	4890	16.5	4	122567	7502	12400	911	29441	1779	53.0	9	1436	171	4.0	1	189	13	469	37	21.9	1	24.6	2	1.4	0	3.8	1
cracked	205	13.0	1	15.5	1	55452	3554	26.2	6	119117	5085	11758	535	27079	2050	47.9	11	1434	158	4.1	1	181	11	474	33	21.0	2	24.6	2	1.5	0	5.1	1
cracked	210	18.8	5	15.6	2	56192	3965	18.7	4	120762	6923	12303	925	29821	2448	61.0	13	1482	122	3.7	1	193	11	483	28	21.6	2	25.3	2	1.4	0	4.2	1
cracked	215	16.7	2	15.7	2	56308	4769	18.2	5	119621	8748	11980	954	26978	1972	41.7	11	1535	160	3.9	1	178	14	473	31	22.5	3	25.6	2	1.6	0	5.1	1
cracked	220	14.9	2	15.6	3	58403	4884	21.1	6	119980	8979	11674	931	27264	2689	42.7	11	1475	217	3.4	1	182	14	470	38	22.5	2	25.0	2	1.6	0	3.5	1
cracked	225	11.2	2	14.3	2	55906	3890	24.1	6	117057	7095	11671	840	27500	2196	51.6	8	1363	191	3.1	1	178	13	468	30	22.2	2	24.8	2	1.8	0	5.0	1
cracked	230	15.6	3	14.8	2	54999	3764	20.7	5	118870	10505	11870	1092	26760	2727	48.4	12	1503	266	3.7	1	177	12	450	28	20.4	2	21.9	2	1.5	0	3.5	1
cracked	235	13.2	3	13.3	2	53509	4731	18.0	6	110069	5521	11344	765	25510	1951	43.1	8	1363	129	2.9	1	164	11	432	36	20.1	2	21.8	2	1.5	0	3.8	1
cracked	240	13.0	2	12.2	2	56666	6254	19.5	3	115080	9777	11637	969	27571	2909	50.8	12	1523	183	3.5	1	178	16	469	37	22.4	2	24.2	3	1.9	0	4.7	1
cracked	245	11.7	1	12.8	2	56422	3892	25.9	5	116253	6362	11360	713	28054	2609	54.1	10	1379	145	3.8	1	180	12	444	33	21.8	2	24.2	2	1.4	0	4.0	1
cracked	250	13.0	3	13.2	2	59905	4500	20.2	6	126089	8253	12266	894	28832	2965	57.1	10	1561	155	3.4	1	185	15	482	45	22.2	2	23.3	3	1.6	0	5.0	1
cracked	255	13.5	3	11.9	2	54920	6566	23.5	6	113850	10544	11699	1595	26878	2981	52.8	10	1347	154	3.4	1	172	18	435	46	20.3	2	23.4	3	1.6	0	4.6	1
cracked	260	12.6	3	15.8	4	54010	3634	26.2	6	119069	9650	11650	1322	27812	2159	52.9	13	1388	123	2.8	1	171	13	436	36	20.7	2	22.2	1	1.4	0	5.3	1
cracked	265	13.2	2	13.3	2	56027	3935	27.4	6	117258	6789	12345	1158	29203	2694	68.3	20	1435	135	3.5	1	173	11	452	23	20.2	2	22.7	2	1.5	0	4.0	1
cracked	270	12.5	2	11.9	2	54489	3079	17.6	4	117992	5953	11675	598	28755	1982	49.2	11	1353	128	3.4	1	173	10	462	39	20.1	2	22.0	2	1.4	0	4.0	1
cracked	275	11.3	2	13.1	2	57988	7839	22.3	6	115297	8327	11665	867	26189	2937	48.5	13	1425	162	3.4	1	175	16	416	38	20.0	2	24.2	3	1.4	0	4.5	1
cracked	280	11.4	2	12.3	3	55917	3290	19.1	6	118976	8272	12364	813	26225	1998	57.1	12	1477	151	3.8	1	177	13	454	32	18.9	2	21.7	2	1.6	0	5.4	1
cracked	285	8.5	2	9.7	1	54760	4266	22.6	6	111397	7288	11625	813	25831	1960	45.8	12	1403	136	3.3	1	168	13	446	41	19.8	1	20.8	2	1.4	0	4.2	1
cracked	290	7.6	2	13.4	2	60073	8466	25.9	7	115369	10496	11925	1044	26348	2285	49.4	10	1393	165	3.7	1	175	14	438	37	19.8	2	21.6	2	1.4	0	4.2	1
cracked	295	7.0	1	10.1	2	58355	4812	28.0	6	114906	6141	12651	1272	25484	2489	56.6	13	1389	123	3.8	1	168	8	419	29	18.6	1	21.9	2	1.6	0	4.8	1
cracked	300	8.7	2	10.5	2	54595	3360	17.5	5	120067	6753	12257	634	26852	2061	40.1	9	1368	126	3.8	1	174	13	429	39	22.0	2	22.6	1	1.9	0	4.5	1
cracked	305	10.9	3	10.0	2	55175	3628	23.5	8	118219	6285	11606	604	26710	2066	45.9	11	1487	146	3.8	1	170	12	411	23	19.9	1	22.0	2	1.6	0	5.2	1
cracked	310	7.9	2	8.2	1	54055	3802	17.6	6	116233	9794	11931	1058	27081	2540	58.6	14	1312	148	3.1	1	168	13	395	37	19.4	2	22.8	3	1.5	0	4.0	2

Table B6: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.2	0	4.5	1	0.1	0	10.9	1	63.2	0.1	22.7	0.2	0.0	4.2	8.1	1.5	0.1	0.0	100.1	20	71	9
0.3	0	4.7	1	0.4	0	13.0	1	63.4	0.0	22.8	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.2	21	71	9
0.2	0	4.8	1	0.4	0	12.6	1	63.1	0.0	23.0	0.2	0.0	4.2	7.9	1.5	0.0	0.0	99.9	21	70	9
0.1	0	4.8	1	0.3	0	13.1	1	63.4	0.1	22.7	0.2	0.0	4.1	7.9	1.5	0.1	0.1	100.0	20	71	9
0.3	0	5.0	1	0.0	0	12.7	1	63.4	0.1	22.7	0.2	0.0	4.2	7.8	1.5	0.0	0.0	100.0	21	70	9
0.3	0	4.9	1	0.1	0	13.1	1	63.8	0.1	22.7	0.2	0.0	4.2	7.9	1.6	0.1	0.0	100.4	21	70	9
0.3	0	5.5	1	0.5	1	12.8	1	63.4	0.1	22.5	0.2	0.0	4.1	7.9	1.5	0.1	0.0	99.8	20	71	9
0.2	0	5.5	1	0.2	0	13.4	2	63.6	0.1	22.8	0.2	0.0	4.2	7.9	1.5	0.1	0.0	100.5	21	70	9
1.0	1	5.3	1	0.4	0	12.8	2	63.4	0.1	22.8	0.2	0.0	4.3	7.8	1.5	0.1	0.0	100.3	21	70	9
0.3	0	4.7	1	0.1	0	12.8	1	63.5	0.1	22.7	0.2	0.0	4.2	8.0	1.5	0.1	0.0	100.2	21	71	9
0.4	0	4.3	1	0.2	0	12.0	1	63.5	0.1	22.8	0.2	0.0	4.2	7.9	1.5	0.1	0.0	100.3	20	71	9
0.4	0	5.2	1	0.2	0	11.8	2	63.3	0.1	22.8	0.2	0.0	4.1	8.0	1.6	0.1	0.0	100.2	20	71	9
0.5	0	4.9	1	0.1	0	12.3	1	63.4	0.0	22.6	0.2	0.0	4.1	8.0	1.5	0.1	0.0	100.0	20	71	9
0.5	0	5.2	1	0.6	1	12.3	1	63.5	0.1	22.6	0.2	0.0	4.2	7.9	1.5	0.1	0.0	100.0	21	71	9
0.4	0	4.9	1	0.6	0	14.6	2	63.4	0.1	22.9	0.2	0.0	4.2	7.9	1.5	0.1	0.0	100.2	21	70	9
0.6	0	4.8	1	0.2	0	12.2	1	63.0	0.1	22.7	0.2	0.0	4.3	7.9	1.5	0.2	0.0	99.8	21	70	9
0.5	0	4.7	1	0.2	0	12.2	1	63.4	0.1	22.9	0.2	0.0	4.4	7.8	1.5	0.0	0.0	100.5	21	70	9
0.3	0	5.1	1	0.2	0	12.0	1	63.1	0.1	22.9	0.2	0.0	4.4	7.8	1.5	0.0	0.0	99.8	22	70	9
0.3	0	5.4	1	0.3	0	12.9	2	63.2	0.1	22.9	0.2	0.0	4.4	7.9	1.4	0.0	0.0	100.0	21	71	8
0.5	0	5.4	1	0.3	0	12.9	2	63.2	0.1	22.9	0.2	0.0	4.3	7.9	1.5	0.1	0.0	100.1	21	70	9
0.3	0	4.8	1	0.1	0	12.0	1	63.2	0.0	22.9	0.2	0.0	4.3	7.9	1.5	0.1	0.0	100.3	22	70	9
0.4	0	4.7	1	0.5	0	12.4	1	63.6	0.1	23.0	0.2	0.0	4.2	7.9	1.5	0.1	0.0	100.5	21	71	9
0.4	0	5.1	1	0.5	0	11.6	1	63.4	0.1	22.8	0.2	0.0	4.2	7.9	1.5	0.1	0.1	100.2	20	71	9
0.5	0	5.0	1	0.3	0	11.7	1	63.5	0.1	22.6	0.2	0.0	4.1	7.9	1.5	0.0	0.1	100.0	20	71	9
0.4	0	5.3	1	0.4	0	12.6	1	63.4	0.1	22.8	0.2	0.0	4.3	7.9	1.5	0.0	0.0	100.2	21	70	9
0.4	0	4.6	1	0.3	0	12.2	2	63.2	0.1	22.6	0.2	0.0	4.4	7.8	1.4	0.2	0.0	99.8	22	70	8
0.4	0	4.7	1	0.5	0	12.5	2	63.2	0.1	22.9	0.2	0.0	4.5	7.6	1.4	0.1	0.0	99.9	22	69	8
0.1	0	4.4	1	0.2	0	10.6	1	62.9	0.1	23.0	0.2	0.0	4.5	7.9	1.4	0.1	0.0	100.0	22	70	8
0.5	0	4.4	1	0.4	0	11.4	1	63.3	0.1	22.8	0.2	0.0	4.5	7.8	1.4	0.0	0.1	100.2	22	70	8
0.3	0	4.3	1	0.3	0	12.3	2	63.4	0.1	23.0	0.2	0.0	4.4	7.9	1.5	0.0	0.0	100.4	22	70	8
0.3	0	5.5	1	0.1	0	11.7	2	63.3	0.1	22.6	0.2	0.0	4.2	7.8	1.5	0.1	0.0	99.7	22	70	8
0.2	0	4.4	1	0.1	0	12.5	1	62.8	0.1	22.8	0.2	0.0	4.3	8.0	1.5	0.1	0.0	99.7	21	70	8
0.3	0	4.5	1	0.1	0	11.7	1	63.0	0.1	23.0	0.2	0.0	4.3	7.9	1.5	0.0	0.0	99.9	21	70	9
0.4	0	4.5	1	0.2	0	12.2	1	63.0	0.0	23.0	0.2	0.0	4.4	7.8	1.4	0.1	0.0	100.0	22	70	8
0.3	0	4.9	1	0.2	0	12.1	1	62.7	0.1	23.1	0.2	0.0	4.5	7.9	1.4	0.1	0.0	100.0	22	70	8
0.5	0	4.8	1	0.6	1	12.4	2	62.7	0.1	23.5	0.2	0.0	4.6	7.9	1.4	0.0	0.0	100.2	22	70	8
0.5	0	4.6	1	0.7	1	11.2	1	62.5	0.1	23.4	0.2	0.0	4.7	7.7	1.4	0.1	0.0	100.1	23	69	8
0.1	0	4.9	1	0.2	0	11.7	1	62.1	0.1	23.6	0.2	0.0	4.9	7.8	1.3	0.1	0.0	100.2	24	69	8
0.3	0	4.7	1	0.2	0	11.4	1	62.3	0.1	23.5	0.2	0.0	4.9	7.7	1.3	0.1	0.0	100.0	24	68	7
0.2	0	5.2	1	0.6	0	11.7	1	62.4	0.0	23.4	0.2	0.0	4.7	7.8	1.3	0.1	0.0	99.9	23	69	8
0.3	0	4.7	1	0.2	0	11.8	1	62.8	0.1	23.4	0.2	0.0	4.8	7.8	1.3	0.1	0.0	100.5	23	69	8
0.5	0	5.1	1	0.1	0	12.0	1	63.0	0.1	23.2	0.2	0.0	4.5	7.9	1.4	0.0	0.0	100.3	22	70	8
0.3	0	5.1	1	0.3	0	12.8	2	63.2	0.0	22.9	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.0	21	71	8
0.4	0	4.1	1	0.2	0	12.3	1	63.1	0.0	22.9	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.0	20	71	9

Table B7: Plagioclase grain 11 - Lithium isotopes

0.5 pt			background		Results (BLK + tau corr.)									
	^{7}Li (V)	^{6}Li (cps)	^{6}Li (V)	^{7}Li (V)	6Li (cps)	^{7}Li/^{6}Li	SE	SD	1 RSD	n	D time (min)	std drift ^{7}Li/^{6}Li	δ^7Li (‰) rel GOR132-G	2 σ
1	0.0070	32362.7836	0.0005	0.0001	697.5950	13.3574	0.0134	0.1038	1003	60	15.1	1.6	-5.7	2.5
2	0.0158	73725.3802	0.0012	0.0001	674.1693	13.3222	0.0086	0.0910	649	110	6.1	-0.8	-7.9	1.9
3	0.0177	83128.5559	0.0013	0.0001	613.0078	13.3035	0.0073	0.0763	552	107	4.9	0.5	-9.5	1.8
4	0.0142	66626.4843	0.0011	0.0001	574.7694	13.2871	0.0077	0.0836	577	119	4.8	-1.1	-11.0	1.9
5	0.0117	55363.6839	0.0009	0.0001	565.1176	13.2800	0.0098	0.1013	734	109	5.0	1.1	-11.5	2.0
6	0.0123	57731.7148	0.0009	0.0001	446.0795	13.2792	0.0089	0.0948	672	113	4.9	1.3	-10.5	2.3
7	0.0118	55213.5691	0.0009	0.0001	443.4655	13.2875	0.0075	0.0805	567	117	4.1	-1.3	-9.9	2.0
8	0.0097	45077.8599	0.0007	0.0001	736.3028	13.4737	0.0111	0.1184	827	114	4.6	0.7	-7.8	2.1
9	0.0059	27474.2157	0.0004	0.0001	590.4535	13.3128	0.0158	0.1222	1185	60	8.0	-0.3	-8.6	2.7
10	0.0031	14732.1037	0.0002	0.0001	552.0140	13.3275	0.0214	0.1598	1602	55	6.9	0.7	-7.3	3.5
11	0.0032	15210.1102	0.0002	0.0001	530.7668	13.3162	0.0156	0.1708	1171	119	5.9	-1.4	-8.5	2.8
12	0.0077	35981.5362	0.0006	0.0001	514.2114	13.3223	0.0127	0.1232	954	95	5.7	1.7	-7.8	2.4
13	0.0097	45348.2484	0.0007	0.0001	496.3825	13.3697	0.0104	0.1068	779	106	4.9	-0.1	-3.5	2.1
14	0.0122	56796.8687	0.0009	0.0001	477.4811	13.3520	0.0100	0.0999	748	100	4.6	0.2	-4.8	2.0
15	0.0111	51726.0323	0.0008	0.0001	460.2220	13.3298	0.0084	0.0887	629	114	4.3	0.5	-6.1	2.0
16	0.0144	67748.5325	0.0011	0.0001	461.9311	13.3405	0.0096	0.0777	722	65	4.2	-1.5	-5.8	2.3

δ^7Li (‰) rel IRMM-016	RepRate Hz	integr.time (s)		distance	Li	2 σ	d^{7}Li	2 σ
3.2	50	1.049	rim	44	14.6	1	3.2	2.5
1.0	36	1.049	core	87	23.2	2	1.0	1.9
-0.6	31	1.049	core	154	27.4	1	-0.6	1.8
-2.1	22	1.049	core	179	27.3	2	-2.1	1.9
-2.6	18	1.049	core	229	27.7	2	-2.6	2.0
-1.6	18	1.049	core	274	27.1	2	-1.6	2.3
-1.0	18	1.049	core	327	25.3	2	-1.0	2.0
1.1	18	1.049	core	379	22.5	1	1.1	2.1
0.3	45	1.049	cracked	38	13.1	2	0.3	2.7
1.6	50	1.049	cracked	30	13.1	2	1.6	3.5
0.4	50	1.049	cracked	36	13.1	2	0.4	2.8
1.1	36	1.049	cracked	69	12.8	2	1.1	2.4
5.4	31	1.049	cracked	120	14.2	1	5.4	2.1
4.1	31	1.049	cracked	168	15.2	2	4.1	2.0
2.8	25	1.049	cracked	215	17.5	2	2.8	2.0
3.1	22	1.049	cracked	258	19.4	2	3.1	2.3

Table B7: Plagioclase grain 13 - Line 1.1

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	0	27.1	1	22.8	0	49731	1221	35.3	3	107456	34	8055	92	28858	1066	82.0	6	1560	142	3.4	2	245	3	696	27	27.8	0	28.7	1	1.9	0	4.6	1
core	3	26.5	3	26.6	1	55627	2049	23.9	6	125217	5029	9406	341	32036	2080	76.5	13	1562	99	2.6	1	263	13	747	48	32.3	3	36.5	2	2.3	0	8.0	1
core	8	25.1	3	26.5	1	53927	2543	28.1	7	120859	5508	9148	389	33074	2651	85.8	13	1605	147	2.6	1	250	14	712	55	31.1	2	34.4	3	2.7	0	5.7	2
core	13	30.1	3	27.5	2	54529	2351	27.9	7	124659	4567	9275	385	32926	1722	75.3	14	1797	168	3.1	1	258	13	750	42	34.7	3	36.7	3	2.9	1	6.9	2
core	18	29.0	3	26.8	2	54149	2332	25.6	8	123738	4708	9099	355	32575	2342	84.4	18	1630	139	2.6	1	265	13	724	39	34.8	3	36.4	2	2.6	0	7.2	2
core	23	30.8	3	27.5	1	56666	2277	30.3	6	132652	4670	9440	437	33991	2584	77.3	13	1717	148	2.5	1	272	12	753	44	35.6	2	38.6	2	2.4	0	7.5	2
core	28	27.6	3	25.5	1	54673	1987	32.4	8	126055	4418	9077	334	33756	1952	78.5	16	1555	144	2.2	0	260	12	760	51	33.7	2	36.9	2	2.5	0	6.1	2
core	33	26.4	4	25.6	2	55307	3430	25.4	6	129757	8280	9427	595	35634	2998	84.4	14	1546	133	2.9	1	274	19	783	43	34.8	3	38.6	4	2.7	1	6.9	1
core	38	26.2	2	25.0	2	53005	2171	29.4	11	125393	4821	8986	362	31990	2301	83.7	17	1593	104	2.1	1	259	12	747	35	32.1	2	37.6	2	2.5	0	6.4	2
core	43	26.9	3	24.5	2	54034	1786	30.2	7	128331	5037	9077	331	33250	1998	81.7	14	1647	117	2.6	1	267	13	755	31	35.6	3	40.4	3	2.6	0	7.0	1
core	48	23.3	3	22.3	1	54815	2911	30.9	8	130865	5415	9143	357	36065	1863	80.2	15	1618	149	2.8	1	271	14	770	43	33.3	2	38.8	2	2.5	0	6.7	2
core	53	20.2	2	19.6	1	52488	2188	27.4	7	122429	4362	8683	286	33251	1548	76.9	14	1607	115	2.8	1	257	14	723	34	33.1	2	35.6	2	3.1	0	7.4	1
core	58	17.1	2	17.7	1	50640	2828	24.7	6	121630	6195	8510	406	33180	1936	87.2	16	1504	175	1.9	0	249	12	703	42	31.5	3	36.5	2	2.4	0	5.5	2
crack	63	18.0	3	16.5	1	55176	2630	28.7	5	131083	6659	9223	510	34990	2966	83.1	14	1636	162	2.4	1	270	19	769	49	35.5	3	39.2	3	2.6	0	6.7	2
crack	68	16.1	2	14.2	1	53929	2763	32.7	7	128709	5527	9198	398	34561	2297	81.6	13	1687	155	2.2	1	275	15	733	55	34.5	2	38.9	3	2.9	0	6.2	1
crack	73	13.9	3	12.6	1	55981	3815	32.3	8	132780	9521	9531	615	35591	2821	77.3	11	1623	180	2.9	1	270	17	793	55	36.9	3	41.2	3	2.5	0	6.3	2
crack	78	11.3	2	10.0	1	58962	3926	31.6	9	137391	7068	9833	542	37300	2366	87.9	12	1817	190	3.2	1	288	19	799	60	33.8	3	40.7	4	2.6	0	8.3	2
crack	83	9.6	2	8.0	1	56423	3677	37.2	8	133733	7619	9473	471	36655	2570	91.3	14	1602	150	2.3	1	274	18	746	51	35.9	4	37.1	3	2.8	1	8.4	1
crack	88	6.6	2	6.6	1	56708	1913	28.5	5	133464	4243	9294	437	35847	2950	77.3	16	1737	129	2.7	1	279	14	773	48	36.2	4	41.9	3	3.0	0	8.8	1
crack	93	7.0	2	6.3	1	55742	2383	34.9	7	133495	6194	9432	441	34827	2081	95.3	18	1619	175	2.0	1	284	18	789	47	36.5	2	41.1	4	3.0	1	9.2	3
crack	98	5.3	1	7.0	1	57218	2386	27.8	7	137597	4336	9723	347	36595	2098	80.9	12	1667	186	2.0	1	281	14	817	45	35.9	2	40.3	2	2.7	1	8.0	2
crack	103	6.8	2	7.8	1	55523	2942	31.4	8	130740	7064	9166	498	33421	2728	86.3	20	1617	192	2.2	1	259	14	751	62	34.4	3	38.5	4	2.7	0	8.1	2
crack	108	8.4	2	9.5	2	53864	2454	22.9	5	125225	5462	8964	359	34098	2204	70.6	12	1665	153	2.5	1	259	14	726	40	33.4	3	38.1	2	2.7	0	7.0	1
crack	113	10.8	2	11.7	2	54361	3248	26.0	6	126994	6872	8781	452	35245	2650	81.5	12	1556	135	2.8	1	257	16	725	46	35.1	3	36.6	2	3.1	0	7.8	1
crack	118	16.9	3	14.1	2	56873	4446	32.5	8	134278	9118	9239	611	34987	3336	82.7	14	1580	131	2.5	1	271	20	748	61	36.6	3	41.1	4	3.0	1	8.8	2
crack	122	16.0	3	15.0	1	53642	2009	24.2	9	125480	5096	8682	335	34350	2299	92.6	16	1524	116	2.4	1	261	13	710	39	33.7	2	38.3	3	2.6	0	7.0	1
crack	127	17.6	3	17.0	1	53657	2798	24.5	7	128337	6491	8891	501	33782	2305	81.3	13	1531	152	2.6	1	258	12	718	44	36.7	2	39.8	3	2.6	0	7.7	2
core	132	20.8	3	20.6	2	54716	2425	29.2	8	130260	4709	9022	379	34024	1720	77.6	15	1723	161	2.3	1	257	16	729	52	35.0	3	37.7	2	2.8	0	8.2	2
core	137	23.3	3	21.5	1	54986	2628	35.8	6	132103	7217	9266	475	36307	2515	80.1	12	1649	131	2.0	0	261	15	745	33	35.8	2	39.8	2	2.8	0	7.9	2
core	142	23.7	4	22.7	1	52505	2228	33.5	9	128184	5683	8853	412	33600	2578	74.6	12	1611	165	2.5	1	251	17	704	52	35.4	3	41.2	3	3.0	0	7.5	1
core	147	28.2	3	25.0	1	53508	3266	30.9	8	129754	7621	8847	527	33982	2985	76.7	14	1696	227	2.4	1	264	18	729	38	35.9	2	41.4	3	2.7	1	7.3	1
core	152	28.0	3	26.1	2	55275	2016	40.9	11	133390	5182	9191	394	36485	2514	92.8	14	1658	154	2.6	1	273	13	750	40	37.0	4	41.5	2	3.0	1	8.2	1
core	157	28.7	3	27.0	2	56738	3160	44.4	12	132958	7397	9116	471	35388	2613	78.3	15	1735	175	2.3	1	276	17	739	45	36.9	3	41.8	2	2.9	0	7.9	2
core	162	26.6	3	25.7	1	54091	2762	28.0	6	129914	6591	9099	391	33947	2284	78.8	16	1738	158	2.6	1	259	14	720	51	35.4	2	40.7	3	2.9	1	7.9	2
core	167	29.1	4	26.3	1	51726	2855	19.3	6	128360	7077	8658	451	35308	2335	95.4	18	1666	140	2.6	1	248	15	655	35	34.2	3	39.0	3	2.7	0	7.8	2
core	172	27.6	3	26.3	1	53650	2364	25.1	8	129469	5222	8757	457	35275	2941	84.5	13	1698	97	1.9	1	268	15	750	42	36.7	2	38.8	3	2.9	0	7.7	2
core	177	27.6	3	27.5	2	53638	3088	32.0	8	127713	7227	8909	436	34477	3049	89.7	15	1635	167	2.8	1	257	18	684	36	35.6	2	40.6	3	3.0	1	7.7	1
core	182	25.6	3	26.8	1	53172	2544	28.4	7	125240	4230	8437	352	34911	1339	71.8	12	1550	148	2.9	1	250	13	689	33	35.7	3	40.7	3	2.3	0	7.4	1
core	187	26.7	4	26.4	2	54003	3071	26.9	7	129412	6723	8814	508	36378	3007	76.8	11	1502	91	2.8	1	254	16	693	40	36.3	3	40.4	3	2.7	0	8.5	2
core	192	28.7	3	27.2	2	54054	2564	28.8	10	130540	5561	8792	386	35100	2395	99.2	14	1605	164	2.0	1	255	14	696	43	36.1	3	39.0	2	3.0	0	9.6	2
core	197	29.9	4	28.2	2	54168	2519	28.2	6	130515	6120	9020	423	36214	2125	73.8	15	1716	145	1.7	1	254	9	700	42	37.8	2	38.8	2	2.8	0	8.5	2
core	202	27.6	3	27.8	2	54441	3727	22.0	9	129198	7780	8969	523	36611	2828	84.2	17	1678	223	2.5	1	249	14	710	57	34.9	3	40.3	3	2.6	0	9.3	2
core	207	29.4	4	26.5	3	51990	5118	23.1	5	127192	12962	8325	758	35847	3868	80.6	19	1523	193	2.2	1	240	25	678	71	36.7	4	38.6	4	3.3	1	8.9	2
core	212	28.2	3	29.1	2	53159	3843	29.6	7	132190	9605	8580	500	36349	2738	100.1	14	1611	192	2.0	1	253	17	666	60	36.6	3	40.2	4	2.5	0	9.5	2
core	217	30.6	4	28.6	2	54719	1995	26.8	8	130015	4926	8858	353	36116	2666	101.4	14	1734	178	2.7	1	256	13	684	38	36.3	2	41.3	2	3.4	1	6.6	1
core	222	30.8	3	27.2	1	53039	3353	22.9	6	129420	6604	8846	530	36038	2845	86.9	10	1536	153	2.0	1	255	14	685	44	37.1	3	40.0	3	2.9	0	7.8	2
core	227	27.7	3	28.0	2	54474	2625	27.5	6	134310	7209	8793	399	36568	2292	82.1	14	1468	125	2.3	1	256	15	658	43	35.8	3	39.4	4	2.8	0	7.0	2
core	232	26.7	3	28.7	3	54891	2110	22.4	7	132414	4026	8824	280	36577	2022	84.2	20	1559	186	2.4	1	242	11	658	39	38.6	2	39.0	3	2.9	0	7.9	1
core	237	29.4	3	26.4	2	55784	3699	26.9	7	130345	6472	8674	455	35866	2975	88.4	13	1413	142	2.1	1	245	18	658	35	37.1	3	38.1	2	3.0	1	6.9	1
core	242	32.2	4	29.0	2	55234	2736	28.3	7	132340	5612	9056	450	37341	2260	69.8	19	1386	154	2.9	1	250	12	687	41	36.1	3	39.9	3	2.4	0	8.6	2
core	247	30.3	4	28.3	1	55694	2522	28.5	6	135208	6256	8970	526	38476	2193	87.3	16	1574	160	2.4	1	247	13	688	49	36.1	3	39.5	3	3.1	1	6.4	1
core	252	28.5	4	26.5	2	52564	2669	26.8	6	129412	6140	8605	424	36613	2444	77.7	14	1483	125	1.8	1	239	14	631	41	35.1	2	37.8	4	2.4	0	7.0	1
core	257	25.3	3	26.7	1	51908	2095	25.5	7	125250	4079	8323	285	34898	2064	83.9	13	1574	135	1.9	0	223	12	603	29	32.5	3	35.8	2	2.4	0	6.8	2
core	262	27.5	4	27.2	2	52518	3337	19.6	8	131148	7500	8651	407	36112	2039	85.9	16	1520	111	2.4	1	228	11	585	46	33.9	2	36.6	2	2.6	0	7.9	2
core	267	27.7	2	24.9	1	51774	1904	23.5	6	122730	4341	7895	271	34288	1816	83.7	13	1443	141	2.1	1	223	12	580	36	33.2	3	35.9	2	2.5	1	6.8	2
core	272	30.0	4	27.2	2	52974	2181	29.6	6	129466	5170	8055	357	36287	2635	82.2	20	1521	137	2.0	1	234	12	598	33	35.1	2	38.6	3	2.5	0	8.3	2
core	277	25.8	3	28.9	2	54695	3217	31.2	7	136756	8114	7873	421	39055	3487	113.9	21	1609	185	1.9	1	238	15	601	37	36.8	3	40.8	2	2.7	0	9.4	2
core	282	28.3	4	27.0	1	49601	2113	26.5	7	129099	5588	7261	512	37598	2250	118.1	24	1439	156	1.1	0	219	14	534	33	35.8	2	39.7	2	2.7	0	9.1	2
core	287	30.9	3	28.0	2	52943	2428	26.6	7	136699	5975	7487	339	42600	3823	127.7	18	1649	205	2.3	1	234	13	571	30	35.7	2	42.5	3	3.1	1	10.0	2
core	292	30.9	3	28.6	2	54835	2917	32.3	8	139210	5721	8049	520	41512	2769	124.8	25	1581	154	1.9	0	232	12	562	36	35.9	2	42.8	3	3.3	0	7.3	2
core	297	29.2	4	29.5	3	52675	2556	26.8	6	132318	6946	8020	434	38571	1783	123.2	21	1486	131	1.5	0	228	15	561	44	34.1	3	39.1	2	3.0	1	8.2	2
core	302	30.9	4	26.9	1	54811	3070	30.0	6	134645	7399	8291	460	38338	3122	114.4	17	1468	120	2.4	1	228	11	596	37	34.5	3	39.5	3	2.9	0	7.7	2
core	307	30.4	5	28.5	2	53639	1779	25.2	8	134007	5225	8563	312	37696	1591	103.5	20	1574	140	2.2	1	225	14	580	37	32.3	2	36.5	2	2.8	1	6.1	2
core	312	26.2	3	27.5	2	54200	2943	32.2	10	132482	7932	8571	463	35430	2677	103.8	17	1469	160	2.4	1	217	14	558	35	32.7	3	38.6	3	2.5	0	8.0	2
core	317	26.8	4	25.5	2	54814	2791	29.1	9	131947	7151	9494	856	36517	3268	98.7	14	1493	141	2.3	1	219	12	599	66	33.2	3	36.7	3	3.0	0	7.4	2

grain 13 - Line 1.1

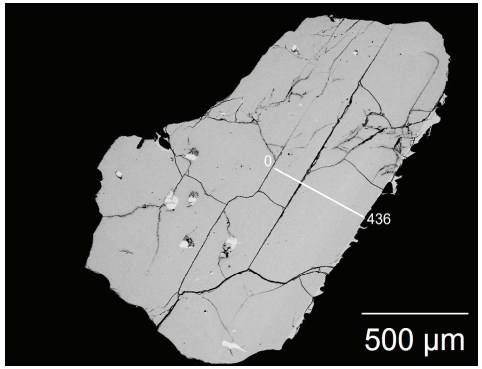


Fig. B7. BSE image of plagioclase grain 13 with trace element line 1.1 (by LA-ICP-MS) indicated.

grain 13 - Line 1.2

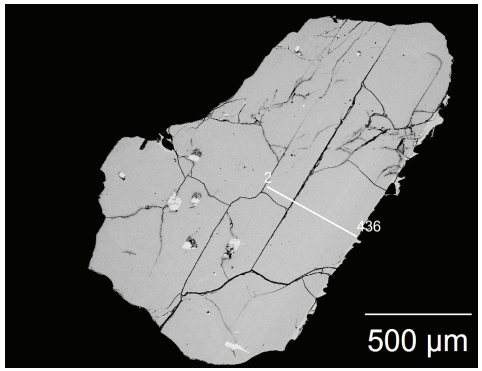


Fig. B8. BSE image of plagioclase grain 13 with trace element line 1.2 (by LA-ICP-MS) indicated.

Table B7: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
1.3	1	2.8	1	0.9	1	9.6	2														
0.4	0	5.1	1	0.4	0	12.8	1														
0.5	0	3.9	1	0.3	0	14.2	1														
0.4	0	4.4	1	0.4	0	13.9	1														
0.7	0	4.8	1	0.3	0	13.0	1	62.5	0.1	23.3	0.2	0.0	4.9	7.8	1.2	0.1	0.0	100.2	24	69	7
0.5	0	4.8	1	0.5	0	14.6	2	62.3	0.1	23.7	0.3	0.0	5.0	7.8	1.2	0.2	0.0	100.5	24	69	7
0.6	0	5.9	1	0.7	0	13.9	1	62.4	0.1	23.4	0.2	0.0	5.0	7.7	1.2	0.1	0.0	100.1	25	68	7
1.1	1	4.6	1	0.3	0	13.4	1	62.5	0.1	23.3	0.2	0.0	4.9	7.7	1.2	0.0	0.0	99.9	24	69	7
0.8	1	4.7	1	0.9	1	12.7	1	62.5	0.1	23.4	0.3	0.0	5.0	7.6	1.2	0.0	0.0	100.0	25	68	7
0.7	1	5.4	1	0.3	0	12.7	1	62.4	0.1	23.2	0.2	0.0	5.0	7.9	1.2	0.1	0.0	100.1	24	69	7
0.6	0	5.2	1	0.4	0	13.0	1	62.5	0.1	23.5	0.3	0.0	5.0	7.7	1.3	0.1	0.0	100.4	24	68	7
0.4	0	5.1	1	0.3	0	12.0	1	62.3	0.1	23.5	0.2	0.0	5.0	7.8	1.2	0.1	0.0	100.2	24	68	7
0.6	0	4.6	1	0.4	0	11.7	1	62.7	0.1	23.8	0.2	0.0	5.0	7.6	1.2	0.1	0.0	100.8	25	68	7
0.9	1	4.2	1	0.8	1	12.5	1	62.4	0.1	23.7	0.2	0.0	5.0	7.7	1.2	0.1	0.1	100.5	25	68	7
0.3	0	5.0	1	0.4	0	12.6	1	62.3	0.1	23.8	0.3	0.0	5.1	7.7	1.2	0.1	0.0	100.5	25	68	7
0.6	0	4.7	1	0.8	0	13.2	1	62.1	0.1	23.4	0.2	0.0	5.0	7.9	1.2	0.1	0.0	100.0	24	69	7
0.3	0	5.2	1	0.4	1	13.0	1	62.3	0.1	23.4	0.2	0.0	5.1	7.7	1.2	0.0	0.0	100.1	25	68	7
0.8	1	5.1	1	1.0	1	13.4	1	62.3	0.1	23.6	0.2	0.0	5.1	7.8	1.2	0.0	0.0	100.3	25	69	7
1.1	1	4.8	1	0.4	0	12.5	1	62.0	0.1	23.8	0.3	0.0	5.1	7.7	1.2	0.1	0.0	100.2	25	68	7
0.5	0	5.5	1	0.8	1	12.8	1	62.2	0.1	23.7	0.2	0.0	5.0	7.7	1.2	0.1	0.0	100.1	25	68	7
0.5	0	5.1	1	0.5	0	12.8	1	62.1	0.1	23.8	0.3	0.0	5.0	7.8	1.2	0.2	0.1	100.4	24	69	7
0.7	0	4.3	1	0.4	1	12.5	1	62.1	0.1	24.0	0.3	0.0	5.0	7.9	1.2	0.1	0.0	100.6	24	69	7
1.0	1	4.9	1	0.7	1	12.0	1	62.0	0.1	24.0	0.2	0.0	5.0	7.9	1.2	0.1	0.0	100.5	24	69	7
0.5	0	4.7	1	0.2	0	11.1	1	62.9	0.1	23.6	0.3	0.0	5.2	7.6	1.2	0.1	0.0	100.9	26	68	7
0.9	1	5.5	1	0.2	0	12.4	1	62.6	0.1	23.8	0.2	0.0	5.2	7.5	1.2	0.1	0.0	100.6	26	67	7
0.4	0	4.9	1	0.3	0	12.1	1	62.4	0.1	23.7	0.3	0.0	5.0	7.5	1.2	0.1	0.1	100.3	25	68	7
0.5	0	4.9	1	0.1	0	11.9	1	62.3	0.1	23.7	0.3	0.0	5.2	7.6	1.2	0.1	0.0	100.4	25	68	7
1.2	1	4.9	1	1.1	1	12.4	1	62.4	0.1	23.7	0.2	0.0	5.2	7.6	1.2	0.1	0.0	100.4	26	67	7
1.0	1	4.6	1	0.8	1	13.1	1	62.3	0.1	23.6	0.2	0.0	5.1	7.6	1.2	0.1	0.1	100.3	25	68	7
0.7	0	4.7	1	0.1	0	13.1	1	62.6	0.1	23.8	0.3	0.0	5.1	7.7	1.2	0.1	0.0	100.9	25	68	7
0.5	0	4.4	1	1.2	1	12.4	1	62.3	0.1	23.7	0.2	0.0	5.1	7.7	1.2	0.1	0.0	100.4	25	68	7
0.5	0	4.9	1	0.3	1	13.0	1	62.3	0.1	23.8	0.3	0.0	5.1	7.6	1.1	0.0	0.0	100.3	25	68	7
0.9	1	5.3	1	0.2	0	13.2	1	62.2	0.1	23.7	0.2	0.0	5.2	7.7	1.1	0.1	0.0	100.4	25	68	7
0.5	0	5.4	1	0.9	1	12.6	1	62.3	0.1	23.6	0.2	0.0	5.1	7.6	1.1	0.1	0.0	100.1	25	68	7
1.0	1	5.2	1	0.5	1	11.5	1	62.1	0.1	23.8	0.3	0.0	5.1	7.5	1.1	0.1	0.0	100.1	26	68	7
0.5	1	4.6	1	0.1	0	12.3	1	62.2	0.1	23.8	0.2	0.0	5.3	7.6	1.1	0.2	0.0	100.5	26	68	7
0.7	0	5.1	1	1.5	1	12.3	1	62.2	0.1	23.8	0.2	0.0	5.4	7.7	1.1	0.1	0.0	100.7	26	67	6
0.5	0	5.2	1	0.5	1	11.8	1	62.1	0.1	24.0	0.3	0.0	5.3	7.6	1.1	0.1	0.0	100.6	26	68	6
0.7	0	5.2	1	1.0	1	12.6	1	62.1	0.1	23.9	0.3	0.0	5.3	7.6	1.1	0.1	0.0	100.5	26	68	6
1.2	1	6.1	1	0.8	0	12.5	1	61.9	0.1	23.9	0.2	0.0	5.3	7.7	1.1	0.1	0.0	100.5	26	68	6
1.1	1	5.8	1	0.4	0	10.9	1	61.8	0.0	24.0	0.2	0.0	5.4	7.6	1.1	0.1	0.0	100.3	26	67	7
1.0	1	5.3	1	0.7	1	11.2	1	62.1	0.1	23.8	0.2	0.0	5.3	7.6	1.1	0.0	0.0	100.2	26	67	7
0.5	0	5.1	1	0.9	1	11.6	2	61.9	0.1	24.0	0.2	0.0	5.4	7.5	1.1	0.1	0.1	100.3	27	67	6
1.1	1	5.6	1	0.8	1	12.0	1	61.7	0.1	24.1	0.3	0.0	5.6	7.6	1.0	0.1	0.1	100.5	27	67	6
0.9	0	5.4	1	0.9	1	13.0	1	61.2	0.1	24.7	0.2	0.0	6.0	7.3	0.9	0.1	0.0	100.6	29	65	5
0.8	1	4.9	1	0.5	1	11.4	1	61.5	0.1	24.0	0.2	0.0	5.6	7.5	1.0	0.1	0.0	100.0	28	67	6
0.4	0	4.9	1	0.3	0	13.1	1	61.8	0.1	24.1	0.2	0.0	5.4	7.6	1.0	0.0	0.0	100.3	27	67	6
0.8	1	5.4	1	0.6	0	13.2	1	61.8	0.1	24.3	0.2	0.0	5.7	7.5	1.0	0.1	0.0	100.8	28	66	6
0.7	1	5.5	1	0.4	0	12.2	1	61.9	0.1	23.9	0.2	0.0	5.6	7.6	1.0	0.1	0.1	100.3	27	67	6
0.7	1	6.1	1	0.4	1	12.6	1	62.1	0.1	23.9	0.2	0.0	5.4	7.5	1.1	0.1	0.0	100.3	26	67	7
0.5	0	5.8	1	0.3	0	11.2	1	62.2	0.1	23.9	0.2	0.0	5.4	7.6	1.1	0.1	0.0	100.6	26	67	6
0.6	0	4.8	1	0.2	0	11.3	1	62.1	0.1	23.9	0.2	0.0	5.2	7.7	1.1	0.2	0.0	100.5	26	68	6
0.4	0	5.1	1	0.4	0	11.4	1	62.1	0.1	23.9	0.3	0.0	5.3	7.7	1.1	0.2	0.0	100.6	26	68	6
0.8	1	5.3	1	0.5	0	12.5	1	61.8	0.1	23.9	0.2	0.0	5.3	7.6	1.1	0.0	0.1	100.0	26	68	6
0.7	0	5.1	1	0.5	1	10.9	1	61.9	0.1	24.0	0.2	0.0	5.5	7.6	1.0	0.1	0.0	100.4	27	67	6
1.1	1	5.6	1	0.4	0	12.1	1	61.8	0.1	24.2	0.2	0.0	5.6	7.4	1.0	0.1	0.0	100.4	28	66	6
1.1	1	4.8	1	0.7	1	13.1	1	62.0	0.1	24.1	0.2	0.0	5.4	7.5	1.1	0.1	0.1	100.4	27	67	6
0.4	0	4.9	1	1.1	1	11.4	1	61.8	0.1	24.2	0.2	0.0	5.5	7.4	1.0	0.0	0.0	100.3	27	67	6
1.0	1	5.8	1	0.6	1	11.4	1	61.8	0.1	24.1	0.2	0.0	5.5	7.8	1.0	0.1	0.0	100.6	26	68	6
0.6	0	5.3	1	0.3	0	12.6	2	61.7	0.1	24.1	0.2	0.0	5.5	7.6	1.1	0.0	0.0	100.2	27	67	6
0.5	0	5.9	1	0.8	1	11.3	1	61.6	0.1	24.3	0.2	0.0	5.6	7.6	1.0	0.1	0.0	100.5	27	67	6
0.5	0	4.6	1	0.4	0	12.4	1	61.9	0.1	24.2	0.2	0.0	5.5	7.5	1.0	0.0	0.0	100.5	27	67	6
0.4	0	4.9	1	0.5	0	12.7	1	62.1	0.1	24.0	0.2	0.0	5.5	7.5	1.1	0.1	0.0	100.7	27	67	6
0.7	0	4.6	1	0.7	1	12.5	2	62.0	0.1	24.1	0.2	0.0	5.2	7.7	1.1	0.0	0.0	100.4	26	68	6
1.0	1	5.3	1	0.5	1	12.1	1	62.0	0.1	23.7	0.2	0.0	5.2	7.6	1.1	0.0	0.0	100.0	26	68	7

Table B7: continued

core	322	23.5	2	23.9	2	53348	2855	24.0	6	123533	4680	8720	373	34180	2129	97.0	16	1430	120	2.3	1	205	10	559	39	32.0	2	35.5	2	2.7	0	8.2	2	0.9	0	4.8	1	0.2	0	11.2	1	62.4	0.1	23.9	0.2	0.0	5.2	7.7	1.1	0.1	0.0	100.8	26	68	6
core	327	25.4	3	24.0	2	54269	2588	25.4	7	129706	5816	9308	585	33735	2595	94.7	13	1510	138	2.6	1	208	13	578	35	30.8	2	37.4	3	2.3	0	7.4	1	1.1	0	4.5	1	0.6	0	11.5	1	62.3	0.1	23.6	0.2	0.0	5.3	7.7	1.1	0.0	0.0	100.3	26	68	6
core	332	24.1	2	22.8	1	52843	2356	35.0	7	125018	5559	8977	456	32994	1825	97.6	16	1482	148	1.9	1	203	9	530	29	34.0	3	36.2	2	2.3	1	6.2	2	0.9	1	5.1	1	0.0	0	11.3	1	62.7	0.1	23.7	0.2	0.0	5.1	7.7	1.1	0.1	0.0	100.8	25	68	7
core	337	24.6	3	22.4	2	52736	2210	25.8	6	124170	4726	9028	435	34609	2355	110.6	22	1338	117	1.9	1	197	12	544	34	32.9	2	37.1	3	1.9	0	6.0	1	0.6	0	4.7	1	0.3	0	11.7	1	62.6	0.1	23.7	0.2	0.0	5.2	7.8	1.2	0.1	0.0	100.8	25	68	7
core	342	22.3	3	22.6	2	54616	3183	27.6	7	131566	8091	9468	609	36067	2236	87.2	15	1624	172	2.6	1	202	13	579	40	34.7	3	38.8	2	2.8	1	8.7	2	1.0	1	6.6	1	0.5	0	11.7	1	62.3	0.1	23.7	0.2	0.0	5.1	7.8	1.1	0.0	0.0	100.4	25	69	7
core	347	23.8	3	22.5	2	55229	2243	29.8	5	132962	6929	9646	478	34830	2245	96.3	16	1448	188	2.5	1	203	9	562	35	34.2	2	36.5	3	2.3	0	6.5	2	0.6	0	5.1	1	0.3	0	11.9	1	62.6	0.1	23.8	0.2	0.0	5.0	7.8	1.2	0.1	0.0	100.7	24	69	7
core	352	19.2	3	20.4	1	55509	2439	26.0	8	129767	5516	9684	405	35377	2628	82.0	9	1453	141	2.8	1	195	10	524	32	33.0	3	35.2	4	2.7	0	6.6	2	0.6	0	4.8	1	0.6	1	12.6	1	62.4	0.1	23.6	0.2	0.0	5.0	7.7	1.2	0.2	0.0	100.3	25	68	7
core	357	20.1	3	19.5	2	56619	2042	23.6	6	128690	5222	10257	428	31753	1845	80.0	15	1534	170	2.2	1	198	10	547	34	30.9	2	33.0	2	2.1	0	6.1	2	0.6	0	5.2	1	1.3	1	12.5	1	62.6	0.1	23.6	0.2	0.0	5.0	7.7	1.2	0.1	0.0	100.4	24	69	7
core	362	18.5	3	17.6	1	53995	2639	25.6	6	123688	5909	10331	461	28080	2310	58.8	11	1395	151	3.0	0	177	11	500	24	26.4	2	28.0	2	2.1	0	5.0	1	0.4	0	5.4	1	0.7	1	11.6	1	63.0	0.1	23.1	0.2	0.0	4.5	8.0	1.3	0.1	0.0	100.2	22	70	8
core	367	19.8	3	16.6	1	54286	2614	16.3	5	120483	5822	10667	563	27406	2313	64.4	13	1394	122	2.7	1	169	9	514	36	26.1	3	26.3	2	1.9	0	5.0	2	0.0	0	4.4	1	0.2	0	10.7	1	63.1	0.1	23.3	0.2	0.0	4.5	8.0	1.3	0.0	0.0	100.6	22	71	8
rim	372	16.0	2	14.6	1	53802	2228	16.8	5	118694	5369	10843	456	26990	2118	54.8	10	1456	128	3.5	1	171	11	498	34	21.8	2	24.4	2	1.7	0	4.1	1	0.5	0	4.5	1	0.2	0	11.7	1	63.2	0.1	23.1	0.2	0.0	4.4	8.1	1.4	0.0	0.0	100.4	21	71	8
rim	377	13.9	2	15.1	1	56194	2380	21.4	7	121416	5737	11155	594	29260	2249	47.0	9	1367	98	3.6	1	166	10	502	36	22.5	2	24.1	2	1.6	0	3.4	1	0.7	0	4.5	1	0.3	0	11.3	1	63.2	0.1	23.0	0.2	0.0	4.4	8.0	1.4	0.1	0.0	100.3	21	71	8
rim	382	13.3	2	13.9	1	54517	2174	23.7	7	120528	4093	11355	491	26796	1528	57.8	13	1343	90	3.3	1	166	8	470	24	20.0	2	22.5	2	1.6	0	5.2	2	0.5	0	4.4	1	0.4	0	11.6	1	63.5	0.1	23.2	0.2	0.0	4.3	8.0	1.4	0.1	0.0	100.6	21	71	8
rim	387	14.1	2	13.0	1	57469	2309	21.9	7	125704	4770	12001	489	27057	1771	60.6	14	1326	139	3.4	1	173	9	505	34	20.4	2	23.2	1	1.9	0	4.0	1	0.6	0	4.6	1	0.2	0	12.7	1	63.1	0.1	23.2	0.2	0.0	4.2	8.0	1.4	0.0	0.0	100.2	20	71	8
rim	392	14.4	2	12.2	1	55684	2214	17.9	6	121337	5346	11953	479	25801	2313	47.1	9	1320	123	3.7	1	163	10	475	28	20.7	2	21.5	2	1.7	0	4.2	1	0.2	0	4.3	1	0.4	0	11.5	1	63.3	0.1	23.2	0.2	0.0	4.4	7.9	1.4	0.1	0.0	100.5	21	70	8
rim	397	12.6	2	11.6	1	55538	3191	22.2	7	122540	6792	12129	645	27028	1956	53.9	12	1322	147	3.7	1	157	11	475	29	20.5	2	21.8	2	1.4	0	3.5	1	0.5	0	4.3	1	0.3	0	12.0	2	63.5	0.1	23.0	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.6	20	71	9
rim	402	12.8	3	13.3	5	54677	3377	20.9	4	119448	5344	12056	586	27552	2319	56.7	12	1368	135	3.5	1	155	10	443	28	22.5	2	22.1	2	1.6	0	5.0	2	0.4	0	4.0	1	0.6	0	12.5	1	63.5	0.1	22.9	0.2	0.0	4.1	8.0	1.5	0.1	0.0	100.4	20	71	9
rim	407	10.8	2	11.0	1	56616	2140	24.8	7	122484	4572	12068	521	27776	1815	53.0	14	1346	108	4.4	1	156	9	435	31	22.4	2	23.9	2	1.5	0	3.2	1	0.5	0	3.8	1	0.3	0	12.2	1	63.4	0.1	23.1	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.6	21	71	8
rim	412	11.2	3	11.9	4	56620	2819	17.6	6	123757	5447	12212	646	27762	2083	63.8	14	1416	123	4.1	1	158	11	416	27	22.4	2	23.0	2	1.4	0	4.6	1	0.2	0	4.2	1	0.5	0	12.9	1	63.5	0.1	23.1	0.2	0.0	4.4	8.0	1.4	0.1	0.0	100.8	21	70	8
rim	417	10.6	3	9.9	1	55440	2686	26.1	7	119290	5471	11959	434	26577	1947	50.6	9	1341	146	4.0	1	147	9	404	33	21.0	2	23.2	2	1.3	0	5.0	1	0.2	0	3.9	1	0.4	0	12.7	1	63.6	0.0	23.0	0.2	0.0	4.2	8.0	1.5	0.1	0.1	100.5	20	71	8
rim	422	9.6	3	7.5	1	53654	2852	23.2	6	112221	5626	11662	578	24342	1842	41.5	11	1284	128	3.5	1	137	10	359	32	19.7	2	22.0	2	1.5	0	3.0	1	0.6	0	3.2	1	0.1	0	13.0	1	63.5	0.0	23.0	0.2	0.0	4.2	8.2	1.5	0.0	0.0	100.7	20	71	8
rim	427	6.9	1	7.0	1	53579	1813	23.6	8	119043	4828	11846	356	27164	2248	62.0	11	1366	206	4.5	1	145	9	387	29	22.6	2	23.2	2	1.6	0	4.4	1	0.2	0	4.0	1	0.6	1	12.2	1	63.3	0.1	22.9	0.2	0.0	4.2	8.1	1.6	0.1	0.1	100.5	20	71	9
rim	432	6.4	3	6.7	1	61177	9060	21.1	6	121367	7662	12403	828	27089	2322	42.7	10	1326	173	3.8	1	146	10	326	22	23.2	2	22.7	2	1.5	0	4.1	1	0.2	0	3.2	1	0.1	0	14.6	2	63.5	0.1	22.7	0.2	0.0	3.9	8.2	1.6	0.0	0.0	100.0	19	72	9
rim	436	5.5	2	5.0	2	54011	1907	19.1	6	115009	4250	12327	922	24620	1759	41.9	10	1184	130	2.6	1	131	6	278	23	19.6	2	20.0	2	1.5	0	3.7	2	0.4	0	3.6	1	0.1	0	13.0	1	63.5	0.1	22.7	0.2	0.0	3.9	8.3	1.6	0.0	0.1	100.3	19	72	9

Table B8: Plagioclase grain 13 - Line 1.2

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm
core	2	29.9	3	29.6	3	57504	3639	26.5	8	121828	6678	9861	645	31212	1801	68.4	10	1712	138	2.6	1	263	22	732	60	31.4	3	37.8	3	2.6	1	7.3
core	7	35.3	4	31.5	2	66414	15130	28.5	7	127749	5757	10367	521	32999	2529	77.8	13	1793	172	2.7	1	275	17	815	42	34.3	2	37.9	2	2.8	0	8.6
core	12	31.3	3	29.6	3	55090	2830	31.7	9	124472	7485	9956	454	32069	2719	78.1	16	1703	218	3.1	1	255	15	752	57	31.9	3	35.9	3	2.6	1	6.8
core	17	30.8	5	30.1	2	54640	2675	27.5	10	123590	5943	9998	501	31358	1997	84.4	13	1677	302	1.9	0	257	16	764	37	32.4	3	34.7	2	2.6	0	5.7
core	22	27.2	2	27.7	1	55158	2470	31.1	9	128613	6222	9949	546	33031	2331	83.9	17	1709	208	3.6	1	273	18	794	48	32.5	3	35.3	3	2.6	0	4.9
core	27	28.0	5	28.3	2	52969	2132	26.7	7	121445	3968	9655	356	30563	1816	73.8	18	1642	150	2.9	1	253	15	751	44	28.6	2	35.4	3	2.3	0	6.3
core	32	26.9	3	28.7	4	57074	3440	28.4	6	126052	6320	9978	519	32612	2257	71.1	12	1774	165	2.7	0	271	16	770	45	31.4	2	35.5	3	2.5	0	6.8
core	37	29.8	4	26.3	2	55061	3259	27.1	10	125633	5743	9900	395	32869	1650	71.8	13	1951	461	3.1	1	268	14	809	58	32.8	3	35.2	2	2.7	0	7.5
core	42	26.1	3	25.2	2	53897	2050	32.6	9	123995	6239	9658	451	32371	1738	72.3	13	1647	125	2.2	1	267	11	795	50	29.4	1	35.2	3	2.6	0	6.4
core	47	24.7	4	23.4	1	56631	2968	25.6	9	128109	5165	9905	412	31862	2158	76.5	16	1801	175	2.7	1	272	10	851	59	31.9	3	37.1	3	2.4	0	7.1
core	52	23.3	4	20.4	2	53482	2673	31.8	6	126156	7360	9488	432	33646	2237	78.7	14	1767	165	3.0	1	265	19	801	47	30.5	3	34.9	3	2.5	0	6.8
core	57	23.3	4	20.8	1	57454	4895	31.9	7	129008	4455	10147	466	32792	2405	81.1	17	1700	186	3.0	1	273	16	825	46	32.2	2	37.1	3	2.6	0	7.8
core	62	21.5	3	22.2	3	54797	2862	25.8	6	125679	6209	10713	1356	33227	2410	70.1	15	1637	132	3.5	1	266	16	820	39	32.4	2	34.8	3	2.6	0	6.1
core	67	15.4	3	17.4	2	55992	2308	24.8	6	128642	4177	10173	499	32470	2590	83.8	13	1738	110	2.7	1	273	15	787	45	32.9	2	38.9	3	2.6	1	7.5
crack	72	15.8	3	14.8	1	55475	3013	28.2	7	126872	6218	10009	540	30858	1962	61.4	11	1476	126	2.9	1	272	15	803	43	32.4	2	35.7	2	2.9	1	6.3
crack	77	13.0	4	11.5	1	56888	2500	26.5	6	135233	6851	10663	709	34862	2721	79.2	11	1708	124	2.4	1	279	16	841	63	36.1	2	38.3	3	2.4	0	6.6
crack	82	10.1	2	13.8	4	59188	3570	32.3	7	126759	5318	9993	421	33459	2225	87.8	18	1644	113	3.1	1	273	14	810	38	34.2	3	36.3	2	2.9	0	6.0
crack	87	8.2	2	9.0	1	54361	3405	24.5	6	129951	8856	9593	513	32635	2699	72.8	13	1585	138	2.3	1	257	15	774	43	33.6	3	34.0	3	2.5	0	8.5
crack	92	6.8	2	7.1	1	58128	8297	38.5	10	126861	6860	10053	660	33413	2227	85.5	18	1699	222	2.2	1	262	19	752	42	30.5	3	36.0	3	2.6	0	6.7
crack	97	7.1	2	6.2	1	55114	3920	30.5	7	125998	6856	9816	669	31585	2566	77.7	18	1657	202	3.2	1	258	16	786	51	32.4	3	36.1	3	2.6	0	7.3
crack	102	8.9	2	5.6	1	55198	2713	27.3	7	130663	6552	9705	356	34042	2976	70.1	13	1617	136	2.6	1	270	14	808	54	35.0	2	39.5	3	2.5	0	6.4
crack	107	9.5	3	7.0	1	53947	2994	30.9	7	127894	7097	9563	601	32544	2335	74.0	16	1665	174	3.5	1	259	15	775	45	33.2	3	37.5	2	2.8	0	8.4
crack	112	8.6	2	8.5	1	54097	3124	21.2	6	124450	6133	9202	396	31450	2326	71.9	17	1572	130	2.2	1	239	17	761	34	32.0	2	34.8	2	2.8	0	6.9
crack	117	9.8	2	10.5	1	56106	3260	30.2	8	132892	6917	10060	741	34658	2403	87.0	16	1752	178	2.3	1	274	20	812	57	35.0	3	39.0	4	3.0	1	6.9
crack	122	13.5	1	12.4	1	52915	2987	19.4	5	124191	6491	9434	495	34114	2144	59.7	14	1548	155	2.5	1	257	13	719	42	32.3	2	37.0	2	2.6	0	7.0
crack	127	16.6	2	15.9	2	54966	3878	23.4	7	129074	5292	9331	356	32650	2420	76.1	14	1674	139	2.6	1	261	15	769	44	35.2	3	38.8	3	2.7	0	7.1
core	132	19.4	3	20.8	6	52869	3260	28.6	8	129070	8443	9466	650	34570	3299	82.4	17	1690	204	2.6	1	260	18	756	59	34.3	3	39.4	3	2.4	0	8.2
core	137	19.3	2	21.0	3	52756	2904	26.2	6	130070	6126	9072	479	33675	2466	86.4	12	1553	142	2.1	1	259	12	706	40	33.6	2	38.4	2	2.3	0	7.6
core	142	23.1	3	23.4	3	54012	2691	32.3	8	122976	6501	9219	567	34285	1853	88.8	21	1826	148	2.1	1	257	14	745	61	33.0	3	38.5	2	2.1	0	6.9
core	147	28.5	4	27.4	4	57466	6181	31.8	6	125408	7682	9211	606	34517	2126	71.0	14	1522	142	2.5	1	254	17	746	53	33.8	3	37.9	3	2.3	0	6.8
core	152	29.2	5	28.7	3	55357	2444	27.0	8	126850	4431	9314	436	33553	1374	70.1	15	1667	146	1.7	1	260	12	747	58	35.4	2	38.9	3	3.0	0	7.9
core	157	28.2	3	28.9	3	57629	4265	25.1	7	129148	5695	9536	634	34685	2214	85.4	13	1650	138	2.4	1	259	13	765	60	34.6	2	39.5	3	2.6	1	10.0
core	162	32.2	3	27.3	2	56619	5959	25.0	7	128821	6032	9485	647	33740	2405	75.2	13	1615	167	2.6	1	256	16	732	42	34.2	2	39.5	3	3.2	0	8.2
core	167	29.0	4	30.3	2	58498	2896	35.8	9	139429	9548	9733	310	36881	2660	86.5	16	1758	141	2.3	1	275	15	756	46	38.2	2	43.2	3	3.0	0	8.1
core	172	33.5	4	30.5	4	57162	8089	31.1	9	127615	8315	9219	550	34685	2859	77.5	17	1643	146	2.4	1	246	14	736	65	33.9	2	38.8	3	2.8	0	7.3
core	177	32.1	3	30.5	3	57356	5852	30.9	7	126446	6812	9028	596	32344	2106	75.6	11	1582	185	2.7	1	248	17	693	44	32.0	3	40.5	3	2.8	0	7.3

Table B8: continued

core	182	27.6	3	27.3	3	52433	3478	36.6	9	121020	8592	8944	552	32443	2801	77.1	19	1579	187	3.1	1	247	17	707	52	33.3	2	39.4	4	2.7	0	7.8
core	187	25.6	3	27.0	2	53886	2083	33.5	6	126323	5405	9278	420	34511	2493	89.9	13	1632	120	2.5	1	246	10	750	48	33.2	2	38.3	2	2.6	1	7.4
core	192	28.4	4	27.0	2	54211	2938	27.7	6	129598	6940	9587	527	34281	2600	96.6	17	1632	165	2.3	1	253	16	778	65	34.9	3	39.6	3	2.4	0	7.7
core	197	30.1	7	24.7	2	52461	3510	29.8	8	123982	7916	8885	622	34360	3532	79.5	20	1632	230	1.8	1	249	20	722	61	33.5	4	39.2	4	2.7	0	6.9
core	202	26.0	4	29.6	7	54783	4002	27.4	7	124011	7895	9052	624	32893	2511	89.0	12	1543	185	2.9	1	254	16	729	51	36.2	2	38.8	2	2.7	1	7.5
core	207	26.1	4	25.9	2	52542	2922	27.9	9	121192	7547	9188	575	33510	2041	88.3	21	1494	147	2.3	0	241	15	664	51	34.3	3	38.6	3	3.3	0	8.4
core	212	29.9	4	27.8	3	54086	3805	26.4	7	125705	7613	8891	582	35448	3784	71.1	16	1631	163	2.1	1	236	17	692	45	33.0	3	38.7	3	2.9	1	7.0
core	217	35.9	12	30.0	3	54454	3362	24.7	7	133696	8038	9277	555	36673	2949	88.5	15	1674	199	2.6	1	265	15	730	65	36.0	3	39.5	3	2.5	1	7.0
core	222	29.5	5	32.5	5	58631	4681	33.0	10	132090	9722	9397	664	34790	2244	92.6	19	1656	153	2.4	1	252	19	717	69	37.6	3	39.3	4	2.3	0	4.9
core	227	25.7	3	31.0	2	54780	3319	19.6	6	127942	7312	9048	465	34554	2436	85.2	18	1694	178	2.9	1	241	14	694	45	32.9	3	38.4	3	2.8	0	7.1
core	232	27.1	4	26.3	2	50133	4129	24.8	7	115598	9315	8599	813	31505	2982	70.9	18	1408	150	2.0	1	231	22	627	60	32.9	3	35.5	4	2.5	0	7.2
core	237	34.3	4	28.6	2	54994	3199	26.8	6	126943	6837	9145	591	33434	1874	85.3	17	1548	169	2.3	1	231	12	651	44	33.9	3	41.0	3	2.7	0	7.3
core	242	29.2	4	27.2	1	54465	2642	25.1	7	123216	5508	8704	410	32188	2356	83.2	17	1633	179	1.6	1	227	13	662	45	33.9	3	37.8	2	2.3	0	6.7
core	247	32.2	4	29.3	2	54212	1165	28.9	7	128636	4082	9237	405	34793	2203	96.4	18	1554	120	2.0	1	240	15	669	32	34.4	2	37.8	3	2.5	0	8.0
core	252	30.0	3	30.7	2	57398	3744	30.9	8	130203	4549	9500	557	35900	2066	84.5	14	1537	147	2.5	1	246	16	647	32	33.4	2	38.1	3	2.7	1	6.3
core	257	32.3	3	28.8	2	52542	2153	22.9	7	120982	5771	8948	895	33970	2665	92.5	16	1456	185	1.9	1	224	14	589	32	29.9	3	35.2	2	2.8	1	7.2
core	262	32.1	3	31.7	3	53921	6186	26.5	6	122173	7256	8251	489	32936	2321	103.6	15	1438	146	1.6	0	222	15	614	43	32.2	2	36.9	3	2.3	0	8.1
core	267	32.9	4	31.7	2	52826	3949	26.0	8	131290	7599	8238	435	39860	3734	108.3	17	1492	156	2.3	1	241	18	620	48	34.7	3	39.1	3	2.9	1	7.7
core	272	31.5	4	31.2	3	53762	2515	29.0	8	131839	5976	7771	541	39559	2334	108.4	18	1637	121	2.3	1	220	9	563	36	35.1	2	40.6	3	2.8	1	8.4
core	276	32.5	5	31.2	2	54438	4559	21.8	6	132205	4581	7632	373	39664	3044	113.2	19	1503	148	1.7	1	229	9	562	30	36.2	3	42.0	2	3.4	0	9.3
core	281	34.9	4	33.2	4	56601	3919	27.5	7	135896	6662	7850	496	42141	2914	120.6	19	1577	126	2.1	1	233	16	548	39	35.4	2	41.7	2	3.6	1	9.1
core	286	35.0	5	29.9	3	54005	3181	29.3	6	136293	8507	8187	533	37705	2850	128.2	22	1585	139	1.9	1	230	14	583	29	34.8	2	40.8	4	2.8	1	7.3
core	291	31.7	6	32.1	3	55850	4059	29.2	9	135390	7758	8944	1101	37532	1968	116.1	17	1569	183	1.7	1	233	18	581	57	36.4	3	44.2	4	3.5	1	10.3
core	296	29.9	4	30.4	3	54860	4288	22.2	5	133071	9017	8415	593	36745	2934	129.2	20	1499	154	2.1	1	225	17	567	39	33.2	2	37.3	4	2.6	1	7.6
core	301	34.2	7	26.4	2	53237	7681	24.7	6	124109	6890	7859	358	34630	1817	103.9	17	1485	148	2.3	1	207	15	558	48	28.0	2	34.3	3	2.6	1	8.1
core	306	29.2	2	30.0	3	60027	8278	30.7	9	133828	7280	8613	374	36638	2505	102.9	14	1391	158	2.8	1	211	13	554	26	33.6	2	39.6	4	2.5	0	7.1
core	311	30.9	3	30.1	3	56960	4788	26.5	7	128310	6547	9012	596	35150	2545	86.6	20	1642	158	2.0	1	215	11	586	39	32.9	3	40.4	3	2.8	1	7.0
core	316	31.9	3	29.9	3	56173	4660	27.4	8	129915	7034	8787	540	34824	2738	88.1	13	1537	118	3.2	1	210	16	576	42	34.5	3	39.6	3	2.3	0	8.1
core	321	32.4	7	31.0	5	55591	2687	28.9	8	134931	7353	9103	491	35038	2431	114.2	14	1581	145	2.4	1	216	13	572	34	34.6	3	37.7	3	2.4	0	8.3
core	326	30.6	7	29.1	4	52942	2775	30.7	7	131123	6945	9440	494	34347	2407	87.3	23	1453	159	2.3	0	210	13	574	56	35.0	3	37.4	3	3.0	1	8.3
core	331	26.0	2	26.4	3	53730	2494	27.1	9	131265	5842	9299	968	34363	1534	92.0	18	1533	154	2.2	0	205	13	576	33	35.6	3	37.9	3	2.8	0	7.3
core	336	26.7	5	27.0	4	56468	3600	26.5	8	132974	6753	9326	655	34894	2482	108.7	25	1564	146	2.0	0	211	12	558	44	33.6	3	39.5	3	2.7	1	6.4
core	341	32.1	6	25.4	3	55962	3811	26.4	5	131555	7748	9464	558	33601	2875	80.0	14	1528	106	3.1	1	205	17	545	50	34.9	3	39.8	4	2.6	1	6.5
core	346	19.8	3	24.2	4	54634	5877	19.9	7	124565	11975	9016	858	31557	2883	84.8	16	1448	154	1.8	1	183	18	535	55	33.4	4	35.7	4	2.4	1	7.0
core	351	22.7	4	24.9	4	54036	2766	30.8	7	126713	5311	9342	575	33196	2643	88.0	15	1573	88	2.1	0	192	10	516	34	31.8	2	34.5	2	3.0	1	6.0
core	356	22.9	4	20.6	2	52511	2533	24.8	7	124900	5828	10258	1697	33422	2360	87.0	12	1451	143	2.5	1	182	10	527	31	31.8	3	34.2	2	2.4	0	6.9
core	361	21.5	2	22.3	3	56255	2986	21.6	8	127909	6155	10176	651	31735	2699	85.9	15	1385	111	2.7	1	186	11	513	34	30.8	2	34.6	3	2.5	1	7.1
core	366	23.7	4	19.5	2	57282	3007	24.5	5	128557	6941	10785	548	32437	2521	67.8	12	1445	129	3.6	1	183	12	508	29	27.8	3	30.0	2	2.2	0	6.0
core	371	17.7	3	17.1	1	55409	2730	22.9	6	124714	6198	10594	569	29754	2435	59.8	12	1323	116	2.4	0	180	12	492	35	24.2	2	27.3	2	1.6	0	5.0
core	376	18.6	3	16.5	2	54496	2761	18.1	4	119011	5800	10574	661	28607	2565	42.8	10	1366	163	3.3	1	167	11	468	32	23.3	2	25.8	2	1.9	1	4.9
rim	381	17.6	2	16.6	2	54287	3194	18.2	5	122139	6295	10947	503	28120	2858	49.7	10	1424	147	3.3	1	165	9	475	27	21.4	2	23.2	2	1.7	0	4.8
rim	386	15.6	2	14.9	1	55521	3059	22.3	5	122427	5923	11504	901	26636	2061	57.2	18	1328	97	3.0	1	164	9	468	28	22.2	2	24.5	2	1.8	0	5.6
rim	391	12.3	2	14.2	2	55426	4056	21.8	9	119454	6116	11042	622	27081	1827	43.1	12	1413	122	2.7	1	165	11	460	37	19.6	2	22.5	2	1.7	0	3.9
rim	396	13.1	2	12.5	1	56031	6209	22.6	7	115008	6357	11648	1273	25604	2411	54.4	13	1260	120	3.5	1	155	11	419	32	19.4	2	22.7	2	1.2	0	3.7
rim	401	11.9	3	12.5	2	59159	5845	18.2	5	121975	5854	11450	590	25504	2127	52.8	12	1369	184	3.6	1	154	13	430	35	22.2	3	21.5	2	1.5	0	4.9
rim	406	15.4	4	12.7	2	56424	2632	21.6	6	123014	5015	12235	668	27349	2462	69.3	15	1457	161	3.9	1	162	8	436	26	21.7	2	23.4	2	1.4	0	3.9
rim	411	9.0	3	11.0	2	57016	3838	23.0	5	127155	7373	12428	675	28743	2927	64.1	18	1473	176	3.3	1	164	12	430	26	21.7	2	24.4	2	1.7	0	6.6
rim	416	12.1	4	10.3	3	52817	1674	20.0	6	115584	4825	11725	387	25350	1387	61.4	17	1242	91	3.4	1	144	8	390	33	21.3	1	20.3	2	1.5	0	4.1
rim	421	10.7	2	9.3	1	55773	2958	33.5	10	118658	5239	12368	811	26273	2655	52.0	13	1285	119	4.2	1	144	10	358	36	21.9	2	22.2	2	1.7	0	4.9
rim	426	9.9	3	9.5	1	53364	3349	23.2	7	120855	9894	12131	823	26202	2112	44.4	12	1222	133	3.9	1	143	10	364	31	21.1	2	23.1	2	1.6	0	3.9
rim	431	8.7	2	8.7	3	56320	3620	25.4	10	121269	5454	12441	644	27348	2060	49.2	14	1337	127	4.3	1	148	9	323	28	22.1	2	23.6	2	1.7	0	4.1
rim	436	3.8	2	6.8	2	53873	2056	17.4	4	114583	4471	12127	494	25581	2247	44.5	12	1206	124	2.8	1	129	8	267	22	18.9	2	19.8	2	1.2	0	3.7

Table B8: continued

2SD	Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO$_2$	TiO$_2$	Al$_2$O$_3$	FeO	MgO	CaO	Na$_2$O	K$_2$O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
1	0.5	0	4.6	1	0.3	0	14.1	2	61.6	0.1	22.5	0.2	0.0	4.1	8.0	1.5	0.0	0.0	98.1	20	71	9
1	0.6	1	4.3	1	0.3	0	14.1	1														
2	0.3	0	4.4	1	0.3	0	14.1	2	61.7	0.1	22.7	0.2	0.0	4.2	7.8	1.5	0.0	0.0	98.1	21	70	9
2	0.3	0	5.0	1	0.3	0	13.6	1														
1	0.4	0	4.4	1	0.6	0	17.1	6	61.8	0.1	22.4	0.2	0.0	4.2	7.9	1.5	0.1	0.0	98.1	21	71	9
1	0.7	0	4.6	1	0.3	0	13.8	1														
1	0.3	0	5.3	1	0.4	0	14.2	1	61.4	0.1	22.8	0.2	0.0	4.4	7.8	1.4	0.1	0.0	98.0	22	70	8
2	0.5	0	4.5	1	0.2	0	12.6	1														
2	1.0	1	4.8	1	0.3	0	12.9	1	60.7	0.1	23.4	0.3	0.0	5.0	7.6	1.2	0.1	0.0	98.3	25	68	7
2	0.7	1	5.0	1	0.3	0	13.7	1														
2	0.7	1	4.5	1	0.4	0	12.0	1	60.3	0.1	23.4	0.2	0.0	5.3	7.5	1.1	0.0	0.0	98.0	26	67	7
2	0.8	1	5.0	1	0.1	0	13.7	1														
1	0.8	1	5.3	1	0.7	1	14.4	2	60.6	0.1	23.6	0.2	0.0	5.3	7.6	1.1	0.1	0.0	98.5	26	68	6
2	0.4	0	4.8	1	0.5	0	13.7	1														
2	0.8	0	4.4	0	1.1	1	12.5	1	60.3	0.1	23.4	0.2	0.0	5.3	7.4	1.1	0.1	0.0	98.0	26	67	6
2	0.6	1	5.0	1	0.5	0	13.5	2														
2	0.7	1	4.3	1	0.3	1	12.5	1	60.0	0.1	23.7	0.2	0.0	5.5	7.5	1.0	0.1	0.0	98.0	27	67	6
2	0.7	1	4.9	1	0.4	0	13.5	1														
2	0.5	0	4.8	1	0.9	1	11.9	1	59.9	0.1	24.0	0.2	0.0	5.8	7.3	1.0	0.1	0.0	98.4	29	65	6
2	0.7	0	5.4	1	0.3	0	11.9	1														
2	0.4	0	5.0	1	0.6	1	13.7	1	59.2	0.1	24.4	0.2	0.0	6.2	7.2	0.9	0.1	0.0	98.3	31	64	5
2	0.6	0	4.6	1	0.3	0	12.5	1														
2	0.7	1	4.5	1	0.6	1	12.3	1	60.1	0.1	23.8	0.2	0.0	5.5	7.4	1.0	0.1	0.0	98.2	27	67	6
2	0.5	0	5.4	1	0.4	0	12.2	1														
2	0.6	0	4.8	0	0.6	1	11.7	1	60.3	0.1	23.8	0.2	0.0	5.5	7.4	1.0	0.1	0.0	98.4	27	67	6
1	0.8	0	4.5	1	0.2	0	11.7	1														
2	1.1	1	4.3	1	0.5	0	12.0	1	60.5	0.1	23.6	0.2	0.0	5.4	7.5	1.1	0.1	0.0	98.4	27	67	6
2	0.7	0	4.6	1	0.1	0	11.7	1														
2	0.7	1	5.0	1	0.6	0	12.0	1	60.5	0.1	23.6	0.3	0.0	5.3	7.4	1.1	0.1	0.0	98.3	26	67	7
2	0.8	1	5.4	1	0.2	0	12.9	1														
2	0.6	0	4.8	0	0.2	0	12.9	1	60.4	0.1	23.5	0.2	0.0	5.2	7.5	1.1	0.1	0.0	98.1	26	67	6
2	0.8	0	5.1	1	0.7	0	12.3	1														
1	0.8	0	4.8	1	0.6	0	12.9	1	60.3	0.1	23.6	0.2	0.0	5.3	7.5	1.2	0.2	0.0	98.2	26	67	6
1	0.6	0	4.7	1	0.2	0	11.9	1														
2	0.5	0	4.2	1	0.8	1	13.2	1	60.7	0.1	23.4	0.3	0.0	5.4	7.4	1.1	0.1	0.0	98.3	27	67	6
2	0.9	1	5.5	1	0.7	0	12.3	1														
2	0.6	1	4.4	1	0.5	0	11.9	1														
2	0.6	0	4.8	1	0.2	0	11.8	1	60.1	0.1	23.6	0.2	0.0	5.4	7.5	1.1	0.1	0.0	98.1	27	67	7
2	0.5	0	4.7	1	0.1	0	12.7	1														
2	0.4	0	5.6	1	0.4	0	12.1	1	60.1	0.1	23.7	0.3	0.0	5.4	7.5	1.1	0.2	0.0	98.4	27	67	6
2	0.6	0	4.3	1	0.5	0	12.3	2														
2	0.9	0	5.1	1	0.5	1	12.5	2	60.3	0.0	23.6	0.2	0.0	5.2	7.5	1.1	0.1	0.0	98.1	26	67	7
2	0.6	0	4.4	1	0.1	0	12.5	1														
2	0.8	1	5.0	1	0.4	0	13.1	2	60.7	0.1	23.7	0.2	0.0	5.4	7.6	1.1	0.1	0.0	98.7	26	67	6
2	0.4	0	4.6	1	0.3	0	13.3	2														
1	0.7	1	5.0	1	0.0	0	14.7	2	60.6	0.1	23.5	0.2	0.0	5.3	7.5	1.1	0.0	0.0	98.4	26	67	7
2	0.5	1	5.5	1	0.1	0	12.5	1														
1	0.6	0	5.3	1	0.6	0	11.0	1	60.7	0.1	23.6	0.2	0.0	5.2	7.6	1.1	0.1	0.0	98.7	26	67	7
2	0.9	0	5.6	1	0.4	0	13.3	1														
2	0.4	0	4.6	1	0.4	0	12.1	1	60.6	0.1	23.5	0.2	0.0	5.2	7.5	1.1	0.0	0.0	98.3	26	67	7
1	1.1	1	5.5	1	0.6	1	12.4	1														
2	0.5	1	5.5	1	0.5	0	13.6	1	60.6	0.1	23.6	0.2	0.0	5.2	7.6	1.1	0.1	0.0	98.5	26	68	7
2	0.7	1	4.9	1	0.8	1	12.4	1														
2	0.8	1	4.2	1	0.4	0	11.3	1	60.6	0.1	23.6	0.2	0.0	5.1	7.5	1.2	0.1	0.0	98.3	26	67	7
2	1.0	1	5.3	1	0.8	0	11.9	1														
2	0.6	0	4.8	1	0.8	0	12.6	1	60.5	0.1	23.2	0.2	0.0	5.1	7.5	1.2	0.2	0.0	98.0	25	68	7
2	1.0	1	5.7	1	0.2	0	12.1	1														
2	0.8	1	5.3	1	0.8	0	11.8	1	60.7	0.1	23.5	0.2	0.0	5.2	7.5	1.1	0.1	0.0	98.4	26	67	7
2	0.4	0	5.3	1	0.3	0	13.2	1														
2	1.2	1	5.6	1	0.1	0	13.1	1	60.9	0.0	23.6	0.3	0.0	5.1	7.6	1.1	0.1	0.0	98.8	25	68	7
2	0.6	0	4.9	1	0.3	1	13.2	1														
2	0.6	1	5.1	1	0.2	0	10.9	1	60.7	0.1	23.3	0.2	0.0	5.2	7.6	1.1	0.1	0.0	98.3	26	68	7
1	0.4	0	4.9	1	0.3	0	13.1	1														
2	0.5	0	4.9	1	0.2	0	12.4	1	60.5	0.1	23.8	0.3	0.0	5.3	7.7	1.1	0.1	0.0	99.0	26	68	6
2	0.5	0	5.7	1	1.0	1	12.8	1														

Table B8: continued

2	1.0	1	5.3	1	0.6	1	12.9	1	60.2	0.1	23.6	0.2	0.0	5.2	7.6	1.1	0.0	0.0	98.0	26	68	7
2	0.6	0	5.3	1	0.8	1	13.0	2														
2	0.4	0	4.5	1	0.5	1	11.9	1	60.1	0.1	23.5	0.2	0.0	5.3	7.5	1.1	0.1	0.0	98.0	26	67	7
1	0.7	1	5.6	1	0.6	0	12.5	1														
2	0.5	0	5.2	1	0.7	1	12.7	2	60.5	0.1	23.5	0.2	0.0	5.3	7.5	1.1	0.1	0.0	98.4	26	67	7
2	0.9	1	4.4	1	0.3	0	12.6	2														
1	0.4	0	5.0	1	0.2	0	11.7	1	60.6	0.0	23.8	0.2	0.0	5.2	7.7	1.1	0.1	0.0	98.9	26	68	7
2	0.7	1	4.9	1	0.7	0	13.2	1														
2	0.7	0	4.2	1	0.2	0	12.6	2	60.6	0.1	23.7	0.2	0.0	5.3	7.5	1.1	0.1	0.0	98.7	26	67	7
1	0.5	0	4.8	1	0.3	0	12.5	1														
2	0.5	1	3.8	1	0.4	0	12.9	1	60.5	0.1	23.7	0.2	0.0	5.2	7.6	1.1	0.1	0.0	98.5	26	68	7
1	0.6	0	4.4	1	0.7	0	12.4	1														
1	0.3	0	4.6	1	0.7	1	11.5	1	60.6	0.1	23.7	0.2	0.0	5.2	7.5	1.1	0.1	0.0	98.5	26	67	7
2	0.4	0	4.5	1	0.3	0	12.1	1														
1	0.3	0	3.8	1	0.5	0	12.0	1	60.7	0.1	23.6	0.2	0.0	5.2	7.6	1.1	0.1	0.0	98.7	26	67	7
1	0.6	1	4.0	1	0.5	0	11.9	1														
2	0.4	0	4.2	1	0.3	0	12.7	1	60.5	0.1	23.5	0.2	0.0	5.3	7.5	1.1	0.1	0.0	98.3	26	67	7
1	0.7	1	3.9	1	0.1	0	13.3	2														
2	0.6	1	3.4	1	0.4	0	12.6	1	60.5	0.1	23.8	0.3	0.0	5.2	7.5	1.2	0.1	0.0	98.6	26	67	7
1	0.7	1	4.2	1	0.6	0	13.9	1														
2	0.1	0	4.1	1	0.0	0	12.2	2	61.3	0.0	23.6	0.2	0.0	5.2	7.6	1.2	0.1	0.0	99.3	26	68	7
1	0.7	1	4.0	1	0.2	0	11.1	2														
2	0.5	0	4.0	1	0.1	0	12.6	1														
1	0.4	0	3.9	1	0.4	0	12.8	1														

Table B9: Plagioclase grain 13 - Line 2

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm
core	2	32.0	3	28.7	2	54912	2901	30.6	5	127409	6362	8128	398	34479	2135	63.2	14	1539	200	1.8	0	257	16	573	45	37.2	3	39.3	2	2.6	0	8.4
core	6	32.0	3	29.6	2	56452	2759	23.9	5	131749	6066	8335	416	36600	2560	80.6	10	1523	168	1.6	1	258	12	575	29	33.7	2	41.2	3	3.0	1	7.8
core	11	30.2	3	28.9	1	55381	2760	22.2	5	126467	4825	8322	379	34417	2533	66.2	12	1545	153	2.4	1	253	12	591	37	34.2	3	38.9	2	2.6	0	7.2
core	16	29.1	3	28.3	2	54594	2390	26.4	6	127096	4744	8381	482	36417	1987	81.5	15	1501	147	1.7	1	257	14	597	29	32.6	2	38.9	3	3.2	0	6.2
core	21	29.9	3	29.1	2	55157	2718	27.5	7	129413	6118	8224	358	35428	2389	82.9	20	1566	185	2.5	1	258	12	602	32	34.5	2	39.7	2	3.3	1	9.1
core	26	30.7	3	28.8	1	52173	2257	22.6	6	126888	3795	8017	302	34761	2153	74.5	14	1416	183	2.0	1	248	11	591	36	36.2	2	38.6	3	2.3	0	7.9
core	31	30.0	4	27.8	1	54901	2437	29.5	5	131734	5364	8606	433	36895	2144	84.9	16	1375	141	2.6	0	260	14	621	33	35.0	2	41.6	3	2.5	0	7.6
core	36	29.9	2	30.4	2	54851	2870	32.1	8	129342	6640	9080	584	35065	2410	83.5	20	1625	205	2.8	1	259	16	634	31	34.9	3	40.5	3	2.9	1	7.4
core	41	28.4	4	29.0	2	54016	2195	26.9	8	133754	9736	9042	408	34953	1769	79.9	18	1522	120	2.9	1	266	14	644	41	35.9	3	39.8	2	3.0	0	8.4
core	46	32.9	4	30.1	2	55608	2328	24.4	9	133616	5746	9060	449	36492	2126	75.9	14	1477	133	2.0	1	263	15	668	53	35.4	2	40.6	3	2.5	0	8.5
core	51	29.7	3	29.7	2	53845	2706	29.4	6	129184	6508	8774	412	33740	1678	81.5	11	1516	203	2.4	1	252	14	632	51	34.2	2	38.6	2	3.0	0	9.0
core	56	28.6	4	28.6	2	54065	2453	24.6	8	127727	6842	8683	416	34889	2498	78.0	22	1483	138	2.2	1	243	15	641	47	34.8	3	36.7	2	3.0	1	7.6
core	61	31.8	4	28.6	2	53752	2869	30.7	7	127658	6173	8880	434	34261	2343	74.1	15	1408	165	2.5	1	256	13	650	53	34.5	2	39.6	3	2.7	1	6.6
core	66	31.5	4	29.0	2	53681	1856	32.1	8	126146	4609	9007	348	33996	2282	79.1	18	1438	130	2.1	1	255	15	630	38	34.9	3	38.2	3	2.2	0	7.1
core	71	29.7	3	29.0	1	56423	3298	27.9	8	129988	4952	9398	366	35195	1876	93.1	15	1448	141	2.5	1	256	10	659	25	35.9	2	38.5	2	2.8	1	6.4
core	76	30.7	4	29.4	2	54397	3372	19.7	8	127841	6933	9402	484	33524	2709	87.0	18	1525	155	2.3	1	248	13	631	35	33.3	2	39.4	2	2.6	0	7.3
core	81	30.4	3	27.3	2	53116	3164	22.2	7	122360	5765	8982	455	32672	1891	74.3	14	1438	132	2.9	1	241	12	632	36	32.5	3	36.5	3	2.7	0	6.7
core	86	28.4	3	29.0	2	54951	3184	31.3	8	129349	5620	9450	461	34739	2790	66.5	11	1555	136	2.5	1	252	14	639	46	34.5	3	38.0	3	2.3	0	8.0
core	91	27.2	2	28.3	3	56502	3203	26.3	9	132702	6672	9778	488	35227	2381	77.8	14	1489	164	2.5	1	255	14	675	46	34.9	3	37.3	3	2.5	0	6.4
core	96	25.2	3	26.1	1	53308	2069	21.2	6	124297	4410	9170	354	31752	1820	75.4	15	1498	160	2.5	1	249	11	612	34	33.3	2	38.4	2	2.1	0	5.8
core	101	27.7	3	26.8	2	53861	2624	34.2	9	128684	5200	9943	462	32884	1990	92.1	19	1657	215	4.6	1	246	13	612	48	35.4	2	40.2	2	2.8	1	8.9
core	106	27.9	3	25.5	2	53443	2782	22.8	5	124506	5546	9194	477	34801	2619	95.9	11	1454	114	3.4	1	230	11	588	34	34.3	3	39.3	3	2.8	0	9.6
core	111	25.8	3	22.4	1	55212	2770	24.9	7	131773	6610	9559	495	35122	2350	81.8	21	1481	96	2.4	1	243	13	618	37	34.8	2	40.2	3	2.9	1	7.8
core	116	24.5	3	20.4	1	53886	3359	25.0	7	129574	8563	9222	561	34110	2014	75.4	12	1438	154	2.7	1	248	19	606	51	34.2	3	39.6	3	2.9	1	7.7
crack	121	18.5	2	18.5	1	55537	2699	25.2	9	133265	5175	9476	433	36743	2854	74.0	12	1632	150	2.2	1	253	12	587	41	36.7	2	39.3	2	3.2	1	8.9
crack	126	18.0	2	16.1	1	54234	2148	27.6	8	132241	7194	8950	395	36166	1939	71.1	20	1387	144	1.9	1	244	12	553	34	34.7	3	40.3	3	2.8	1	8.2
crack	131	15.2	3	13.1	1	56199	3767	33.8	11	133096	9255	8847	562	37479	3114	94.0	23	1637	156	1.8	1	255	19	577	43	37.1	3	44.5	4	3.1	0	8.4
crack	136	11.9	2	12.1	2	52201	2555	26.7	10	126721	5881	8280	353	33351	2389	59.4	14	1381	132	2.2	1	233	16	510	33	36.0	3	41.6	3	2.8	0	7.5
crack	141	11.4	3	9.9	2	53865	2439	38.8	7	131053	5161	8307	347	38604	2127	96.1	20	1457	143	1.7	1	244	13	546	33	39.0	3	40.7	3	2.6	0	7.9
crack	146	7.4	2	9.7	2	54343	2748	44.6	11	132835	7175	8139	402	37333	2575	71.5	15	1519	195	2.1	1	251	17	502	25	38.4	3	46.0	3	3.1	1	8.5
crack	151	10.2	3	9.0	2	55142	2625	41.3	8	133206	4988	8323	337	38242	2491	92.1	22	1401	129	2.0	1	237	16	509	36	39.3	3	43.8	3	2.8	0	10.1
crack	156	10.9	2	10.6	1	52382	1708	33.3	7	128716	4374	8203	277	36815	1889	86.4	15	1520	142	1.7	1	240	12	485	27	38.8	2	43.2	3	2.8	0	7.4
crack	161	12.6	2	12.8	2	54923	2302	31.4	9	132362	5550	8349	327	38784	1900	99.7	20	1479	147	2.2	1	240	17	480	34	38.0	2	43.2	3	3.5	1	9.7
crack	166	14.0	3	12.6	1	54959	2013	24.4	8	134999	4558	8547	264	36110	2543	79.2	14	1538	197	1.7	1	238	11	489	33	39.6	2	45.9	3	3.0	1	10.0
crack	171	14.7	2	13.7	1	53692	3544	25.7	6	130669	8278	8402	544	37135	3074	84.2	18	1408	102	1.9	1	233	14	451	36	37.3	3	42.6	3	2.8	0	8.2
crack	176	14.4	2	15.5	3	52310	1756	27.6	8	126213	5420	8238	382	35494	2329	83.4	14	1453	115	2.1	0	228	11	439	28	35.1	3	41.1	2	3.2	0	7.1
core	181	19.3	3	17.3	2	54629	3155	34.4	6	133436	7836	9185	548	36212	2145	85.6	18	1572	143	2.8	1	247	15	481	45	39.2	3	40.9	4	2.9	1	9.5
core	186	20.6	3	17.3	1	54065	2604	31.7	8	128355	6430	9200	466	34748	2178	86.3	18	1438	168	2.3	1	217	14	469	29	33.9	3	37.6	3	2.6	0	7.4
core	191	23.0	10	19.3	1	54265	2606	23.4	8	125070	5437	9390	472	33858	2714	67.4	8	1511	153	2.8	1	228	12	463	31	34.7	3	37.9	2	2.7	0	7.0
core	196	19.5	2	20.4	1	55984	3292	24.8	6	129241	7767	9955	593	34551	2680	72.3	12	1455	133	2.1	1	229	19	490	37	33.8	2	35.6	3	2.5	0	5.4
core	201	17.6	3	20.0	2	53522	3328	20.7	5	123427	6720	9518	469	31670	2053	72.1	14	1439	148	2.3	0	211	12	467	37	31.2	3	35.8	2	2.5	0	6.5
core	206	19.5	3	20.7	1	54944	2822	23.7	8	126045	6776	9671	556	32535	2253	67.3	19	1438	168	2.5	1	219	12	470	35	32.0	2	35.6	2	2.5	0	8.5
core	211	23.6	4	22.0	1	55066	2567	23.8	7	127045	5259	9955	370	32996	2578	60.2	11	1438	127	3.1	1	227	15	456	25	30.7	2	33.7	3	2.4	0	6.3
core	216	23.7	3	22.2	1	54258	2658	27.3	7	126524	5304	9704	452	33007	2123	61.5	16	1350	110	2.7	1	222	10	429	33	30.5	2	32.8	1	2.3	0	7.0
core	221	22.8	3	22.6	1	55427	3188	23.9	6	128122	7605	9481	605	35109	3104	70.4	15	1561	176	2.9	1	229	15	438	34	31.9	3	33.9	3	2.3	0	6.6
core	226	24.8	4	22.7	2	53934	2349	20.8	5	125366	5747	9411	516	32156	1973	62.7	11	1288	137	2.1	0	214	12	436	31	31.4	3	35.2	2	2.0	0	8.1
core	231	26.8	3	22.9	2	56318	2739	27.1	7	131934	6503	9623	476	35397	1981	68.7	17	1455	124	2.3	1	225	13	436	33	31.7	2	37.6	3	2.6	0	7.6
core	236	25.2	4	22.6	1	54876	3270	27.1	6	127594	6763	9256	507	34228	2403	61.6	14	1561	189	2.2	1	224	14	418	24	30.0	2	36.8	3	2.6	1	7.0
core	241	24.7	3	22.1	1	53244	2118	20.6	5	124484	5376	9300	419	30264	2574	60.5	11	1375	146	2.7	1	208	9	435	26	28.2	2	33.7	3	2.0	0	7.1
core	246	23.0	3	21.5	1	56240	2264	22.7	7	128691	5039	9491	422	33394	3224	48.4	11	1444	162	2.8	1	232	15	426	27	30.2	2	33.2	2	2.2	0	6.8
core	251	21.2	3	21.8	2	54107	2344	24.8	7	126132	4832	9622	420	32477	2237	55.0	15	1404	168	2.6	1	219	14	451	31	27.3	2	34.2	2	2.7	0	7.1
core	256	22.6	2	19.9	1	52348	1472	20.6	6	122423	3493	10351	1430	31501	1852	57.1	13	1417	137	2.6	1	205	8	445	25	28.3	2	31.8	2	2.0	0	6.3
core	261	22.0	4	22.7	5	55822	2340	19.8	6	126687	4658	10197	417	33000	1851	46.9	13	1508	150	3.5	1	219	10	443	28	27.3	2	31.9	2	2.5	1	6.6
core	266	21.1	3	20.0	2	55309	2546	28.0	8	126412	5483	10875	1088	30383	2528	66.1	17	1327	158	2.3	1	217	13	465	28	27.6	2	31.6	3	2.6	0	6.2
core	271	20.2	3	18.5	1	54347	3912	19.0	5	124408	7890	10298	685	32568	2693	58.3	16	1358	106	2.2	1	209	11	449	40	30.1	3	31.8	2	2.3	1	7.6
rim	275	14.0	2	16.3	1	55920	2134	24.6	7	125922	4881	10185	416	30882	2285	58.9	9	1473	152	3.1	1	217	10	462	27	29.1	2	31.7	2	2.2	0	6.4
rim	280	16.0	3	15.3	1	54251	3057	19.2	5	123602	6044	10121	504	32946	2204	50.6	13	1425	131	2.5	1	207	13	438	22	27.7	3	30.8	3	2.0	0	5.2
rim	285	14.1	3	14.1	1	54305	3019	26.0	7	127049	6378	10045	528	33251	2725	62.0	13	1356	113	3.1	1	205	14	421	39	28.4	3	29.4	3	2.0	0	5.5
rim	290	14.5	2	12.6	1	55758	2190	21.6	7	128882	6079	10265	433	30807	1965	60.5	13	1439	121	3.3	1	215	10	412	29	28.5	2	31.6	1	2.5	1	7.5
rim	295	12.5	3	10.8	1	53787	2275	23.2	6	125431	6035	10073	455	31463	1870	61.4	17	1386	107	2.8	1	210	12	368	29	26.3	2	32.0	2	2.3	1	7.3
rim	300	8.3	2	8.0	1	54559	3996	20.9	7	122374	7224	9828	599	31952	2845	43.4	13	1437	140	3.1	1	198	12	320	31	25.9	3	27.1	2	2.5	0	5.2

Table B9: continued

Nd ppm	2SD	Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO$_2$	TiO$_2$	Al$_2$O$_3$	FeO	MgO	CaO	Na$_2$O	K$_2$O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
8.4	2	0.5	0	4.2	1	0.1	0	13.7	1														
7.8	1	0.6	0	4.3	1	0.8	1	13.4	1														
7.2	2	0.3	0	4.8	1	0.3	0	13.7	1														
6.2	2	0.4	0	4.3	1	0.2	0	12.2	1														
9.1	1	0.8	0	4.3	1	0.5	0	13.1	1														
7.9	2	0.7	1	4.4	1	0.6	0	12.7	1														
7.6	2	0.7	0	4.2	1	0.8	1	13.4	1	62.1	0.1	23.0	0.2	0.0	3.8	8.2	1.6	0.1	0.0	99.0	19	72	9
7.4	1	0.5	0	4.7	1	0.7	1	12.3	1														
8.4	2	0.6	0	5.2	1	0.6	0	13.6	1	61.7	0.1	23.1	0.2	0.0	4.0	8.0	1.6	0.1	0.0	98.7	20	71	9
8.5	2	0.8	1	4.3	1	0.2	0	13.1	1														
9.0	2	1.0	1	4.7	1	0.5	0	13.0	1	61.8	0.0	23.2	0.2	0.0	4.3	8.1	1.5	0.1	0.0	99.1	21	71	9
7.6	1	0.8	1	4.4	1	0.5	0	11.9	1														
6.6	2	0.6	1	5.4	1	0.4	0	12.4	1	61.6	0.1	23.2	0.2	0.0	4.2	8.1	1.5	0.1	0.0	98.9	20	71	9
7.1	1	0.5	0	4.4	1	0.3	0	11.7	1														
6.4	2	0.6	0	4.7	1	0.5	0	12.1	1	62.4	0.1	22.7	0.2	0.0	3.7	8.0	1.8	0.1	0.0	98.9	18	71	10
7.3	2	0.7	0	4.9	1	0.2	0	11.5	1														
6.7	1	0.6	0	4.5	1	1.0	1	12.4	2	62.0	0.1	22.8	0.2	0.0	4.0	8.0	1.6	0.0	0.0	98.7	19	71	9
8.0	1	0.8	0	4.7	1	0.3	0	11.8	1														
6.4	1	0.6	0	4.2	1	0.8	1	12.4	1	61.9	0.1	23.2	0.2	0.0	4.2	8.0	1.5	0.1	0.0	99.2	20	71	9
5.8	2	0.5	0	4.6	1	0.9	1	11.8	1														
8.9	2	0.4	1	4.3	1	0.9	1	12.5	1	61.8	0.1	23.1	0.2	0.0	4.2	8.1	1.6	0.1	0.0	99.1	20	71	9
9.6	2	0.7	1	4.6	1	0.3	0	12.1	1														
7.8	2	0.8	0	5.4	1	1.4	1	12.5	1	62.1	0.1	23.0	0.2	0.0	4.0	8.1	1.6	0.0	0.0	99.0	19	71	9
7.7	2	0.4	0	5.1	1	0.8	1	12.2	1														
8.9	2	0.8	0	5.4	1	0.1	0	13.0	1	62.1	0.1	23.1	0.2	0.0	4.1	8.2	1.6	0.1	0.0	99.3	20	71	9
8.2	2	0.6	0	5.5	1	0.5	0	13.2	1														
8.4	2	0.8	0	4.8	1	0.4	1	12.0	1	62.0	0.1	23.0	0.2	0.0	4.0	8.1	1.6	0.0	0.0	98.9	20	71	9
7.5	2	1.0	1	4.9	1	0.8	1	12.0	1														
7.9	2	1.4	1	5.5	1	0.8	1	11.6	1	61.7	0.1	23.3	0.2	0.0	4.2	8.2	1.6	0.0	0.0	99.2	20	71	9
8.5	2	0.7	1	5.2	1	0.1	0	12.0	1														
10.1	2	1.2	1	5.4	1	0.5	0	12.5	1	61.9	0.0	23.1	0.2	0.0	4.1	8.1	1.6	0.1	0.0	99.2	20	71	9
7.4	2	1.3	1	5.4	1	0.6	0	10.6	1														
9.7	2	0.5	0	5.3	1	0.5	0	12.3	1	62.3	0.1	22.7	0.2	0.0	3.7	8.1	1.7	0.1	0.0	98.9	18	72	10
10.0	2	1.0	1	5.1	1	0.9	1	12.0	1														
8.2	1	0.5	0	5.0	1	1.3	1	12.4	1	62.5	0.1	22.5	0.2	0.0	3.7	8.2	1.8	0.1	0.0	99.1	18	72	10
7.1	2	0.4	0	5.0	1	0.3	0	11.4	1														
9.5	2	0.6	1	5.5	1	0.6	0	11.7	2	61.9	0.1	23.1	0.2	0.0	4.1	8.2	1.5	0.0	0.0	99.1	20	72	9
7.4	2	0.3	0	5.4	1	0.6	1	10.8	1														
7.0	1	0.4	0	4.9	1	0.4	0	11.3	1	62.1	0.1	23.1	0.2	0.0	4.1	8.0	1.5	0.0	0.0	99.1	20	71	9
5.4	2	0.6	0	4.9	1	0.3	0	12.0	1														
6.5	1	0.5	0	5.2	1	0.1	0	11.0	1	61.9	0.1	23.1	0.2	0.0	4.1	8.0	1.5	0.0	0.0	99.0	20	71	9
8.5	2	0.5	1	4.7	1	0.3	0	11.8	1														
6.3	2	0.7	1	5.4	1	0.6	1	11.4	1	61.8	0.1	23.2	0.2	0.0	4.1	8.2	1.5	0.0	0.0	99.1	20	71	9
7.0	2	0.4	0	5.2	1	0.1	0	10.7	1														
6.6	1	0.5	0	5.2	1	0.4	0	11.9	2	61.9	0.1	23.3	0.2	0.0	4.2	8.0	1.4	0.1	0.0	99.2	21	71	8
8.1	2	0.6	0	5.5	1	0.4	0	11.0	1														
7.6	1	1.0	1	5.5	1	0.1	0	11.5	1	62.1	0.0	23.0	0.2	0.0	4.1	8.2	1.6	0.1	0.0	99.2	20	71	9
7.0	2	0.3	0	5.4	1	0.4	0	12.1	1														
7.1	1	0.2	0	5.2	1	0.3	0	11.2	1	61.8	0.1	23.1	0.2	0.0	4.1	8.1	1.6	0.0	0.0	99.0	20	71	9
6.8	1	0.6	1	5.7	1	0.5	0	10.7	1														
7.1	2	0.6	1	5.2	1	0.2	0	12.0	2	62.1	0.1	23.1	0.2	0.0	4.1	8.0	1.5	0.1	0.0	99.1	20	71	9
6.3	1	0.5	0	5.7	1	0.5	1	12.0															
6.6	1	0.5	0	5.8	1	0.6	0	12.1	1	61.8	0.1	23.3	0.2	0.0	4.2	8.0	1.5	0.0	0.0	99.1	20	71	9
6.2	1	1.1	1	6.1	1	0.1	0	11.7	1														
7.6	1	0.5	0	5.0	1	0.0	0	12.1	1	62.3	0.0	22.8	0.2	0.0	4.1	8.2	1.6	0.0	0.0	99.1	20	71	9
6.4	1	1.3	1	5.8	1	0.4	0	12.4	1														
5.2	2	0.6	0	5.9	1	0.3	0	11.5	1	62.1	0.1	22.9	0.2	0.0	4.0	8.1	1.6	0.0	0.0	98.9	19	72	9
5.5	1	0.5	0	5.1	0	0.1	0	12.2	1														
7.5	2	0.6	0	5.7	1	0.2	0	12.8	1	62.3	0.0	23.0	0.2	0.0	4.0	8.2	1.6	0.0	0.0	99.3	19	72	9
7.3	1	0.7	1	4.7	1	0.1	0	12.3	1														
5.2	1	0.2	0	5.3	1	0.3	0	13.1	1	62.1	0.1	22.6	0.2	0.0	3.9	8.1	1.6	0.0	0.0	98.6	19	72	9

Table B10: Plagioclase grain 13 - Lithium isotopes

	MEASURED			background		Results (BLK + tau corr.)								
	^{7}Li (V)	^{6}Li (cps)	^{6}Li (V)	^{7}Li (V)	^{6}Li (cps)	^{7}Li/^{6}Li	SE	SD	1 RSD	n	D time (min)	std drift ^{7}Li/^{6}Li	δ^{7}Li (‰) rel GOR132-G	2 σ
1	0.00642	31117	0.00050	0.0001205	667	12.8516	0.0125	0.1059	971	75	10.4	-0.6	-10.1	2.4
2	0.01637	79349	0.00127	0.0001166	645	12.7974	0.0102	0.0928	796	85	5.8	0.2	-14.4	2.1
3	0.01647	80354	0.00129	0.0001127	610	12.7721	0.0086	0.0942	673	119	4.2	-0.9	-16.7	2.1
4	0.01781	87223	0.00140	0.0001081	597	12.7495	0.0071	0.0775	555	119	4.4	1.6	-18.1	2.0
5	0.01630	80029	0.00128	0.0001054	583	12.7514	0.0083	0.0911	652	119	7.0	-0.3	-17.3	1.8
6	0.01428	69995	0.00112	0.0001038	565	12.7544	0.0077	0.0827	602	119	4.5	-0.1	-17.2	1.7
7	0.00978	47666	0.00076	0.0001025	557	12.8101	0.0113	0.1176	884	107	5.3	-1.5	-13.7	2.2
8	0.01443	70559	0.00113	0.0001019	557	12.7849	0.0074	0.0804	579	119	4.2	0.1	-16.4	1.8
9	0.00767	36573	0.00059	0.0000958	531	12.8782	0.0162	0.1362	1255	70	4.5	-1.6	-8.4	2.9
10	0.01594	77444	0.00124	0.0000895	485	12.8455	0.0155	0.1630	1204	110	5.3	0.3	-11.2	2.8
11	0.00916	44999	0.00072	0.0000908	465	12.8102	0.0228	0.1780	1779	60	4.4	-0.1	-13.8	3.8
12	0.01779	87268	0.00140	0.0000851	456	12.7306	0.0126	0.1203	990	90	4.6	1.7	-19.1	2.4
13	0.01696	83486	0.00134	0.0000820	433	12.7119	0.0078	0.0857	615	119	4.4	-0.5	-20.0	1.8

δ^{7}Li (‰) rel IRMM-016	Rep	Rate Hz	integr.time (s)		distance	Li	2 σ	d^{7}Li	2 σ
-1.2	50	1.049		rim	35	11.0	1	-1.2	2.4
-5.5	28	1.049		core	81	19.5	2	-5.5	2.1
-7.8	20	1.049		core	137	26.9	1	-7.8	2.1
-9.2	17	1.049		core	193	28.3	1	-9.2	2.0
-8.4	16	1.049		core	275	25.7	1	-8.4	1.8
-8.3	16	1.049		core	305	20.6	2	-8.3	1.7
-4.8	14	1.049		core	399	25.0	2	-4.8	2.2
-7.5	14	1.049		core	437	26.6	1	-7.5	1.8
0.5	50	1.049		rim	37	20.0	2	0.5	2.9
-2.3	33	1.049		core	100	20.0	2	-2.3	2.8
-4.9	25	1.049		crack	157	9.7	2	-4.9	3.8
-10.2	25	1.049		core	225	29.4	2	-10.2	2.4
-11.1	17	1.049		core	297	29.6	2	-11.1	1.8

grain 13 - Isotopes

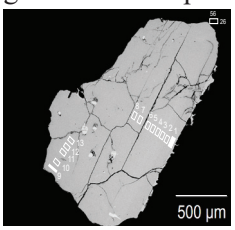


Fig. B9. BSE image of plagioclase grain 13 with Fs-LA-MC-ICP-MS lines indicated.

Table B11: Plagioclase grain 15 - Line 1.1

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	2	25.2	2	23.9	1	57325	2749	21.1	5	119835	4662	12407	607	25577	1524	66.2	11	1380	124	4.6	1	226	12	1196	56	20.2	2	22.0	2	1.6	0	4.3	1
core	7	23.7	3	24.4	1	57068	2342	21.5	9	121375	5167	12266	549	26841	1800	68.4	15	1422	109	4.1	1	221	16	1216	55	20.0	2	23.0	2	1.7	0	4.1	1
core	12	26.8	3	23.8	2	57202	2204	19.8	5	123584	4896	12425	430	27139	2215	67.0	14	1433	101	4.3	1	222	11	1276	71	22.1	1	22.2	2	1.6	0	4.0	1
core	17	25.8	3	23.5	1	56549	2808	29.3	9	122030	5629	12340	568	27666	2282	71.2	16	1370	134	3.8	1	214	13	1160	81	21.9	2	23.1	2	1.9	0	4.4	1
core	22	24.7	4	24.0	1	55947	2509	17.4	6	121541	4803	12007	458	27967	1416	65.1	14	1428	151	4.8	1	224	11	1196	60	20.3	2	22.3	2	1.5	0	3.9	1
core	27	25.8	2	23.6	1	57537	5368	22.6	7	123344	6805	12109	603	27815	1922	50.4	16	1523	133	4.2	1	222	14	1160	74	23.4	1	21.9	2	1.4	0	4.2	1
core	32	24.1	3	24.2	1	58034	2799	18.0	6	125578	4959	12466	649	29138	2766	52.0	12	1608	112	4.8	1	228	11	1205	60	24.8	2	24.3	1	1.7	0	3.4	1
core	37	24.0	4	21.4	1	54352	1864	21.0	7	117690	3786	11948	379	27369	1361	63.2	13	1414	119	4.7	1	213	10	1099	46	21.6	2	22.1	1	1.8	1	5.0	1
core	41	25.7	4	24.3	1	57649	3192	25.1	9	124594	6856	12643	705	30142	2784	61.0	16	1395	122	4.1	1	234	15	1183	70	24.7	3	24.0	2	1.7	0	4.5	1
core	46	22.8	4	22.7	2	57356	3365	20.6	7	123603	7236	12635	729	28419	2603	66.0	11	1442	116	3.8	1	217	15	1124	85	21.0	2	22.7	1	1.4	0	4.2	1
core	51	23.0	3	22.0	1	56812	2931	18.1	6	122971	5353	12733	553	26812	2010	69.3	17	1435	134	4.3	1	214	13	1116	59	22.8	2	23.7	2	1.7	0	5.0	1
core	56	24.5	4	20.3	1	55966	3468	21.0	8	121289	6927	12223	712	26648	2470	51.8	12	1395	146	3.9	1	213	14	1114	77	21.2	2	23.8	2	1.6	0	4.4	1
core	61	21.9	2	21.3	1	56056	2299	19.1	6	126433	4777	12675	483	27428	2173	51.7	15	1444	146	3.4	1	214	13	1067	56	22.7	2	23.9	1	1.8	0	4.4	1
core	66	20.1	2	20.7	2	54734	2086	22.3	7	121171	4807	12281	529	26757	1801	64.3	13	1380	154	3.7	1	205	10	1056	56	23.7	1	24.9	1	1.3	0	5.3	1
core	71	23.5	3	22.2	2	57493	3545	28.0	10	128347	8536	12732	800	28482	1563	76.1	16	1588	174	4.3	1	213	13	1034	83	23.1	3	26.5	3	1.9	0	5.2	1
core	76	21.0	3	19.0	1	53315	2386	24.5	7	117803	4560	11938	523	27431	2051	60.1	11	1242	107	4.1	1	196	11	1002	48	22.9	2	23.1	1	1.7	0	4.6	1
core	81	18.3	2	19.2	1	54199	3596	26.4	6	121217	7407	12315	702	28529	2871	45.5	14	1547	177	4.4	1	207	12	988	64	23.2	2	24.2	2	1.7	1	4.6	1
core	86	19.7	3	17.4	1	54077	2059	24.2	6	117672	5192	12131	487	28337	1801	58.2	12	1418	88	3.7	1	204	12	926	56	22.5	2	23.3	2	1.9	0	4.1	1
core	91	16.0	2	17.6	1	55684	2978	22.8	6	122803	5325	12218	634	27244	2264	53.4	9	1390	153	4.3	1	210	12	950	55	21.9	2	26.3	2	1.8	1	5.8	2
core	96	16.4	2	16.7	1	55400	2648	23.4	6	122306	6005	12340	732	27910	2059	53.3	14	1506	146	4.0	1	205	10	928	83	23.6	2	23.4	2	1.5	0	4.7	1
core	101	16.2	2	15.7	1	52750	2108	23.1	6	116035	3284	11777	353	26359	1883	53.6	12	1391	116	3.6	1	191	9	863	50	23.0	2	23.2	2	1.5	0	5.4	2
core	106	15.7	3	14.9	1	54004	2357	20.1	6	118191	5305	12293	624	26672	2313	51.3	13	1491	162	4.4	1	189	14	828	50	22.5	2	24.8	2	1.8	0	4.5	1
core	111	16.7	4	14.4	1	55955	2580	22.0	5	122517	5292	12378	671	26742	2011	50.1	10	1433	205	3.8	1	192	12	840	45	23.2	2	24.9	2	1.9	0	4.9	2
core	116	16.4	2	15.7	2	58099	2940	20.9	5	123876	5993	12920	564	28566	2825	58.9	11	1530	150	3.6	1	201	10	864	53	25.4	2	27.0	2	2.0	1	3.7	1
core	121	13.0	3	12.3	1	55117	2182	23.1	6	120644	4582	12302	377	26903	1667	54.3	13	1427	139	4.6	1	184	10	788	31	22.9	1	23.2	2	1.5	0	4.4	1
crack	126	14.8	3	12.0	1	58307	2555	27.7	8	125874	6242	12968	512	27989	2030	63.5	15	1459	136	4.4	1	188	11	760	47	23.8	2	25.3	2	1.6	0	4.4	1
crack	131	10.8	2	12.4	1	52289	2565	18.2	5	116638	5698	12246	585	26467	2161	62.0	14	1405	94	3.6	1	183	11	715	44	21.3	2	23.3	2	1.4	0	3.9	1
crack	136	12.3	2	10.2	1	55477	2536	18.5	5	121183	6215	12297	662	25558	1721	63.6	14	1467	157	3.6	1	193	11	699	33	21.9	2	24.5	2	1.7	0	5.3	1
crack	141	9.3	2	11.4	2	55246	1970	19.7	7	120333	3976	12184	425	25911	1708	54.5	11	1469	165	2.6	1	181	9	663	38	21.7	2	23.4	1	1.6	0	3.3	2
crack	146	11.2	2	9.2	1	53714	2542	17.4	5	119923	4823	11336	568	28045	1896	49.6	11	1323	167	3.7	1	176	10	586	31	21.6	1	23.8	2	1.5	0	5.0	1
crack	151	7.4	2	8.6	1	55987	3258	20.4	6	123813	7361	11521	695	28751	2206	59.7	15	1436	154	3.4	1	185	14	602	61	21.7	3	25.2	3	1.8	0	6.0	1
crack	156	7.4	2	7.4	1	54884	2376	22.5	5	122709	4266	11290	644	28765	1448	56.2	14	1447	164	2.4	1	173	9	563	39	23.7	2	25.6	2	1.8	0	5.2	1
crack	161	5.8	2	7.2	1	54701	2947	28.4	8	122729	6192	10988	581	27778	2752	54.2	13	1500	112	2.9	1	167	11	493	33	22.6	2	22.6	2	1.6	0	5.4	2
crack	166	6.6	2	7.2	1	56843	2770	18.5	4	125198	5549	11236	618	30724	2291	52.3	12	1588	110	2.8	1	169	9	489	31	23.9	2	26.0	2	2.0	0	5.0	2
crack	171	6.7	3	5.8	1	54066	2499	25.0	6	121620	5440	10808	502	29302	1950	47.5	11	1408	141	3.4	1	164	11	435	31	22.5	2	25.5	2	1.9	0	4.9	1

Table B12: Plagioclase grain 15 - Line 3.1

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	2	27.9	3	25.6	3	55569	3239	13.6	5	111744	6963	12647	680	24206	1992	47.7	12	1368	167	4.3	1	179	13	470	41	18.6	2	20.7	2	1.1	0	5.2	1
core	6	27.7	4	27.6	4	57001	3537	19.1	8	112500	5009	12895	823	23263	1625	42.0	11	1536	200	3.5	1	181	9	441	26	18.2	1	21.8	2	1.4	0	2.8	1
core	11	25.6	4	25.3	2	57178	3792	20.5	5	116611	6649	13396	1371	24794	1873	47.7	14	1665	181	5.0	1	174	14	411	46	17.7	3	22.4	2	1.3	0	3.7	1
core	16	25.3	3	24.1	2	55152	4167	19.1	6	117912	8656	12588	900	25179	2585	54.2	9	1328	143	4.4	1	169	11	382	40	17.6	2	22.3	1	1.4	0	3.3	1
core	21	25.9	6	23.9	1	56865	3116	20.2	5	119345	6174	12794	702	24015	1951	53.2	15	1374	161	4.6	1	173	10	355	18	18.6	2	21.6	2	1.5	0	4.0	1
core	26	23.2	2	22.6	2	54570	2384	16.0	4	113097	5007	11923	484	24775	1514	41.5	13	1307	150	3.8	1	155	8	347	27	19.5	2	19.4	2	1.2	0	3.1	1
core	31	23.7	4	24.9	4	57708	2808	14.4	5	120867	7517	13532	939	25591	2430	51.7	13	1439	118	4.2	1	171	11	348	23	18.5	3	20.7	2	1.4	0	4.9	2
core	36	21.3	4	23.2	3	55443	2347	13.6	6	113427	4756	12643	696	27673	1987	46.2	11	1374	117	3.4	1	168	11	316	19	18.2	2	20.9	2	1.5	0	3.0	1
core	41	22.7	4	20.6	2	55572	2797	17.1	4	119550	3974	12592	636	26741	2009	50.5	11	1304	114	3.7	1	160	9	313	25	19.4	1	19.4	2	1.3	0	3.3	1
core	46	21.9	4	20.4	1	58761	3540	26.3	7	123330	5973	12759	586	27320	1899	44.0	12	1467	157	4.1	1	159	8	309	23	19.4	2	22.6	2	1.5	0	4.5	1
core	51	18.4	3	20.2	2	55261	3984	19.8	6	117024	7739	12506	821	26331	1963	47.3	13	1443	200	4.1	1	155	11	287	21	17.9	2	19.4	2	1.6	0	3.7	1
core	56	19.9	3	17.1	1	55148	2753	15.3	5	114782	5178	12300	597	26750	2221	46.6	10	1309	140	3.4	1	157	8	261	21	17.5	2	22.0	2	1.1	0	4.3	1
core	61	17.8	4	17.3	2	53056	2011	21.6	7	113017	4537	11871	531	25755	1803	37.2	6	1319	120	3.7	1	148	10	267	19	18.2	1	21.0	2	1.5	0	2.5	1
core	66	18.6	5	17.5	2	59043	3481	25.8	7	123388	5542	13049	541	29561	2833	52.0	12	1381	135	3.9	1	153	11	286	21	19.0	2	23.4	3	1.5	0	3.9	1
rim	71	15.7	3	15.2	1	55634	2090	21.7	8	119097	4963	12780	946	26471	2481	35.5	9	1252	91	3.6	1	152	7	255	19	19.0	2	21.3	2	1.7	0	4.2	1
rim	76	14.4	2	14.6	1	57418	2983	19.4	7	123980	6345	12895	636	29985	2749	46.2	10	1464	124	4.3	1	161	18	276	23	20.2	2	24.0	3	1.9	0	3.1	1
rim	81	13.0	3	11.8	1	53810	1931	25.5	10	115676	5114	11829	527	25628	1644	40.3	11	1468	161	3.9	1	145	8	232	18	18.8	1	21.6	2	1.3	0	2.9	1
rim	86	10.8	2	10.8	1	55963	2709	27.0	7	119407	5638	12653	726	25573	2128	51.6	15	1485	153	4.5	1	144	10	243	18	20.0	3	22.6	1	1.4	0	5.4	2
rim	91	11.2	2	10.6	2	55001	3548	21.8	6	115891	7453	12440	766	25317	1611	47.8	13	1425	153	3.4	1	135	10	241	22	17.6	2	20.3	2	1.3	0	4.9	1
rim	96	9.3	2	8.7	1	58401	3815	20.6	7	121319	8296	13285	734	27326	2571	50.3	13	1391	177	4.0	1	139	12	251	25	19.4	2	22.7	2	1.8	0	4.0	1
rim	101	8.2	3	6.6	1	52288	2837	18.0	4	105239	5307	12093	460	21800	1506	53.3	13	1243	152	3.4	1	121	10	218	21	15.9	1	19.1	1	1.5	0	3.6	1
rim	106	3.9	2	6.0	2	54764	3189	19.1	6	112994	6451	12742	736	23682	1763	47.7	11	1360	129	4.1	1	121	9	230	19	19.2	2	19.8	2	1.7	0	2.6	1
rim	111	6.4	2	4.9	2	56000	3150	19.8	7	115439	5196	12938	590	26352	1841	45.7	12	1254	151	4.5	1	128	7	225	21	19.6	2	22.6	2	1.5	0	3.4	1

grain 15 - Line 1.1

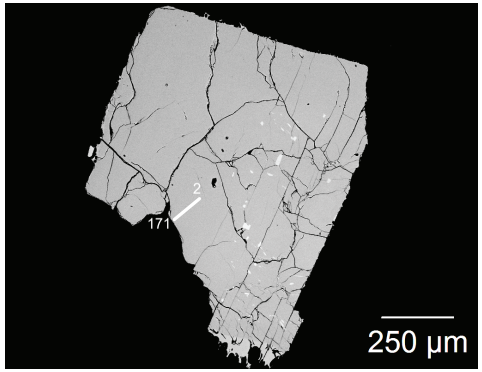


Fig. B10. BSE image of plagioclase grain 15 with trace element line 1.1 (by LA-ICP-MS) indicated.

grain 15 - Line 3.1

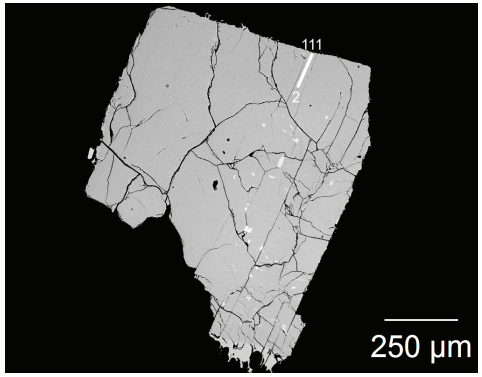


Fig. B11. BSE image of plagioclase grain 15 with trace element line 3.1 (by LA-ICP-MS) indicated.

Table B11: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.8	1	6.4	1	0.0	0	13.7	1														
0.5	0	7.1	1	0.5	0	13.7	1														
0.5	0	6.8	1	0.2	0	13.7	1														
0.3	0	7.0	1	0.1	0	13.3	1														
0.1	0	6.8	1	0.2	0	12.8	2														
0.0	0	6.7	1	0.5	0	13.4	1	61.4	0.1	23.4	0.2	0.0	4.3	7.9	1.5	0.1	0.0	98.8	21	70	9
0.6	0	5.5	1	0.4	0	13.6	1	61.4	0.1	23.3	0.2	0.0	4.2	8.1	1.5	0.0	0.0	98.7	20	71	9
0.5	0	6.2	1	0.2	0	12.1	1	61.3	0.0	23.2	0.2	0.0	4.1	8.1	1.5	0.0	0.0	98.6	20	71	9
0.2	0	6.9	1	0.0	0	13.0	1	61.6	0.1	23.3	0.2	0.0	4.2	8.0	1.5	0.1	0.0	99.0	20	71	9
0.5	0	5.9	1	0.5	0	13.0	2	61.1	0.1	23.4	0.2	0.0	4.4	8.0	1.5	0.1	0.0	98.7	21	70	8
0.8	1	7.4	1	0.3	0	12.5	1	61.3	0.0	23.4	0.2	0.0	4.3	8.0	1.5	0.1	0.0	98.8	21	71	9
0.2	0	6.3	1	0.1	0	12.9	1	61.5	0.0	23.2	0.2	0.0	4.2	8.0	1.5	0.1	0.0	98.7	21	71	9
0.5	0	6.7	1	0.3	0	12.8	1	61.5	0.0	23.1	0.2	0.0	4.2	8.0	1.5	0.0	0.0	98.6	20	71	9
0.1	0	5.7	1	0.6	1	12.6	1	61.6	0.1	23.2	0.2	0.0	4.2	8.1	1.5	0.0	0.0	98.9	21	71	9
0.9	1	6.3	1	0.2	0	13.6	1	61.8	0.1	23.5	0.2	0.0	4.1	8.0	1.5	0.1	0.0	99.2	20	71	9
0.6	0	6.1	1	0.8	1	11.7	1	61.6	0.1	23.0	0.3	0.0	4.2	8.0	1.6	0.0	0.0	98.6	20	71	9
0.9	0	6.2	1	0.0	0	12.1	1	61.7	0.1	23.0	0.2	0.0	4.0	8.1	1.6	0.0	0.0	98.8	20	71	9
0.8	1	5.6	1	0.5	0	12.2	1	62.0	0.1	23.1	0.2	0.0	4.0	8.1	1.6	0.0	0.0	99.0	19	71	9
0.6	1	6.1	1	0.5	0	11.8	1	62.3	0.1	22.7	0.2	0.0	3.7	8.1	1.7	0.0	0.0	98.8	18	72	10
0.1	0	6.0	1	0.1	0	12.3	1	62.2	0.0	22.5	0.2	0.0	3.5	8.1	1.9	0.1	0.0	98.5	17	72	11
0.3	0	5.6	1	0.1	0	11.3	1	62.3	0.1	22.5	0.2	0.0	3.7	8.2	1.8	0.0	0.0	98.7	18	72	10
0.0	0	5.5	1	0.4	1	12.1	1	62.2	0.1	22.5	0.2	0.0	3.6	8.1	1.8	0.0	0.0	98.4	18	72	10
0.3	0	5.0	1	0.2	0	12.0	1	62.2	0.1	22.7	0.2	0.0	3.8	8.1	1.7	0.0	0.0	98.8	19	72	10
0.2	0	5.5	1	0.1	0	13.1	1	61.5	0.1	23.1	0.2	0.0	4.2	8.0	1.6	0.1	0.0	98.8	20	70	9
0.5	0	5.8	1	0.3	0	12.4	1	61.6	0.1	23.1	0.2	0.0	4.1	8.1	1.6	0.1	0.0	98.8	20	71	9
0.5	0	5.8	1	0.5	0	12.6	1	62.0	0.1	23.1	0.2	0.0	4.0	8.1	1.6	0.1	0.0	99.0	20	71	9
0.6	0	5.0	1	0.5	1	12.1	1	61.9	0.1	22.9	0.2	0.0	4.1	8.1	1.6	0.1	0.0	99.0	20	71	9
0.6	0	5.4	1	0.2	0	13.3	1	62.2	0.1	23.1	0.2	0.0	4.0	8.0	1.6	0.1	0.0	99.3	19	71	9
0.7	1	5.2	1	0.2	0	12.4	1	61.9	0.1	22.9	0.2	0.0	4.1	8.0	1.6	0.1	0.0	98.9	20	71	9
0.6	0	5.7	1	0.3	0	11.6	1	62.0	0.1	23.1	0.2	0.0	4.1	8.0	1.6	0.0	0.0	99.1	20	71	9
0.9	1	5.4	1	0.5	1	12.9	1	62.3	0.1	22.8	0.2	0.0	3.8	8.2	1.6	0.1	0.0	99.0	19	72	10
0.2	0	5.1	0	0.2	0	18.2	3	62.3	0.1	22.6	0.2	0.0	3.8	8.1	1.7	0.1	0.0	98.7	19	72	10
0.2	0	5.1	1	0.1	0	13.6	1	62.0	0.1	22.8	0.2	0.0	4.1	7.9	1.6	0.0	0.0	98.7	20	70	9
0.4	0	5.2	1	0.2	0	11.8	1	61.8	0.1	22.8	0.2	0.0	4.0	7.9	1.6	0.1	0.0	98.5	20	71	9
0.6	1	5.2	1	0.4	0	12.9	2	62.1	0.0	23.0	0.2	0.0	4.1	7.9	1.5	0.1	0.0	99.0	20	71	9

Table B12: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.4	0	4.2	1	0.3	0	12.5	2														
0.6	0	4.4	1	0.4	1	13.5	1	63.2	0.1	22.9	0.2	0.0	4.0	8.0	1.6	0.1	0.1	100.2	20	71	9
0.4	0	4.3	1	0.2	0	13.6	2	63.3	0.1	23.2	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.5	21	71	9
0.3	0	4.1	1	0.3	0	12.9	2	63.1	0.1	23.2	0.2	0.0	4.2	8.1	1.5	0.1	0.0	100.5	20	71	9
0.3	0	5.0	1	0.1	0	11.9	1	63.4	0.1	23.1	0.1	0.0	4.1	8.0	1.6	0.1	0.0	100.5	20	71	9
0.4	0	4.6	1	0.5	0	12.7	1	63.2	0.1	23.3	0.2	0.0	4.3	8.0	1.5	0.1	0.0	100.6	21	70	9
0.6	0	4.7	1	0.7	1	12.5	1	63.2	0.1	22.9	0.2	0.0	4.1	8.0	1.6	0.0	0.0	100.1	20	71	9
0.7	1	4.5	1	0.3	0	13.2	2	63.2	0.1	23.0	0.2	0.0	4.2	8.0	1.6	0.0	0.0	100.3	20	70	9
0.3	0	4.0	1	0.4	0	13.2	1	63.3	0.1	23.2	0.2	0.0	4.1	8.0	1.6	0.1	0.0	100.5	20	71	9
0.2	0	4.9	1	0.1	0	13.3	1	63.2	0.0	23.1	0.2	0.0	4.1	8.1	1.5	0.0	0.0	100.3	20	71	9
0.5	0	4.3	1	0.4	0	12.7	2	63.4	0.1	23.1	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.5	20	71	9
0.5	0	3.9	1	0.1	0	11.5	1	63.7	0.0	22.7	0.2	0.0	3.8	8.2	1.8	0.1	0.0	100.4	18	71	10
0.1	0	3.9	0	0.2	0	11.3	1	63.5	0.1	23.1	0.2	0.0	4.0	8.0	1.6	0.0	0.0	100.6	19	71	9
0.4	0	4.8	1	0.6	1	14.1	1	63.2	0.0	23.1	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.3	20	71	9
0.4	0	3.9	1	0.1	0	13.4	2	63.3	0.1	23.0	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.5	21	71	9
0.3	0	5.0	1	0.0	0	14.8	1	63.2	0.1	23.1	0.2	0.0	4.3	8.1	1.5	0.1	0.0	100.6	21	71	9
0.3	0	4.1	1	0.2	0	11.2	1	63.0	0.1	23.1	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.2	21	70	9
0.8	1	3.8	1	0.4	0	12.9	1	63.4	0.1	23.1	0.2	0.0	4.1	8.2	1.5	0.1	0.0	100.7	20	71	9
0.3	0	3.8	1	0.1	0	12.2	1	63.2	0.0	22.9	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.2	21	70	9
0.1	0	4.0	1	0.3	0	14.3	1	63.1	0.1	23.1	0.2	0.0	4.3	8.1	1.5	0.1	0.0	100.4	21	70	9
0.6	0	3.0	1	0.2	0	11.9	1	63.5	0.0	22.8	0.2	0.0	4.2	8.1	1.5	0.1	0.0	100.4	20	71	9
0.6	1	3.1	1	0.0	0	13.9	1	63.4	0.1	22.9	0.2	0.0	4.1	8.1	1.6	0.0	0.0	100.3	20	71	9
0.3	0	3.5	1	0.2	0	14.5	2	63.4	0.1	23.0	0.2	0.0	4.1	8.1	1.6	0.0	0.0	100.4	20	71	9

Table B13: Plagioclase grain 15 - Line 1.2

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	2	32.0	5	31.1	2	59230	6758	19.9	6	120974	7737	11086	830	30375	2558	108.6	15	1440	185	2.5	1	268	15	1453	110	14.4	2	14.7	1	1.0	0	2.4	1
core	7	28.6	4	31.0	2	56210	2054	26.7	7	124288	3988	10420	394	32210	2144	90.0	15	1513	112	3.5	1	274	9	1414	62	13.4	1	15.9	1	1.3	0	3.9	1
core	12	26.5	4	28.0	2	56503	3246	25.6	7	124769	6051	10886	856	31947	2165	85.5	20	1468	154	3.9	1	282	18	1426	89	14.0	2	16.4	1	1.2	0	4.7	2
core	17	30.5	3	27.7	2	57925	3915	28.8	10	128410	6676	11075	450	32173	2788	103.5	18	1603	155	3.6	1	288	17	1450	92	14.7	2	16.9	2	1.2	0	3.7	1
core	22	27.7	4	26.4	2	56922	3813	20.3	6	122748	6536	10897	760	29947	1987	95.0	13	1424	142	3.5	1	271	15	1345	85	13.9	1	17.8	2	1.1	0	3.0	1
core	27	28.1	5	28.5	3	57003	2320	19.5	5	127645	6114	11093	642	31259	2310	112.8	18	1516	131	2.9	1	271	15	1367	55	14.5	1	17.7	2	0.9	0	2.8	2
core	32	23.5	4	27.8	3	54614	2489	20.7	7	120488	5171	11103	551	29851	2138	102.0	17	1463	176	3.2	1	265	15	1299	56	14.4	1	16.7	1	1.2	0	3.5	1
core	37	27.2	4	25.6	3	54931	2618	25.0	7	124419	6340	11183	606	29816	2083	83.6	17	1472	132	3.7	1	275	17	1388	75	13.8	1	16.3	2	1.4	0	3.7	1
core	41	25.7	4	25.2	2	56390	3413	26.0	7	126190	6399	11810	632	30186	2659	82.7	19	1364	151	3.4	1	276	18	1359	71	14.5	1	17.7	2	1.6	0	3.4	1
core	46	25.6	3	25.4	2	59297	4990	26.7	7	124945	5950	11995	676	31396	2788	101.3	16	1527	119	3.6	1	264	15	1368	73	14.3	1	16.6	2	1.0	0	4.1	1
core	51	23.9	3	25.5	3	54961	2601	19.6	6	121235	5591	12033	837	27584	1904	90.4	20	1544	145	3.1	1	264	14	1297	76	15.0	1	16.0	1	1.2	0	3.2	1
core	56	25.9	3	22.8	1	68032	25030	22.4	7	123887	3705	12643	393	27483	1787	77.9	18	1440	111	4.0	1	267	12	1355	77	16.2	1	18.2	1	1.5	0	3.5	1
core	61	24.2	3	23.6	3	57522	4865	26.3	8	122928	7151	12824	734	27136	2254	104.6	20	1338	182	5.1	1	260	19	1339	78	17.4	2	17.4	1	1.1	0	3.4	1
core	66	22.4	4	21.6	2	56151	2828	24.3	7	121734	5685	12581	609	27808	1725	81.2	14	1308	129	3.8	1	261	14	1276	85	17.6	2	18.5	1	1.5	0	3.4	1
core	71	21.4	3	20.7	1	54571	2211	21.4	6	116948	4348	12358	457	25800	2202	60.9	16	1399	123	3.9	1	242	15	1267	71	17.7	1	20.6	2	1.5	0	3.2	1
core	76	22.3	3	20.7	1	54977	2340	20.0	6	119708	5453	12379	563	27505	1760	67.2	11	1383	131	3.9	1	246	15	1232	65	20.1	2	20.5	2	1.6	0	4.0	1
core	81	24.3	5	21.5	2	54739	2690	24.6	8	121254	6798	12636	511	28108	2158	58.9	15	1366	128	4.3	1	247	17	1265	84	20.1	1	21.8	2	1.7	0	4.2	1
core	86	18.6	3	20.2	2	54452	3432	17.6	6	115065	4269	11829	479	28710	2018	51.8	11	1438	102	3.5	1	236	14	1128	82	20.6	2	21.4	2	1.5	0	4.7	1
core	91	20.4	2	19.6	2	52599	1990	23.2	8	118159	4662	12124	503	24781	1870	54.6	9	1377	108	3.4	1	248	18	1065	47	21.9	2	22.0	2	1.7	0	3.8	1
core	96	19.8	4	18.8	1	53912	2398	16.3	6	120435	3186	12209	430	27931	1706	49.3	13	1317	142	3.4	1	239	10	1053	50	22.2	2	24.4	2	1.3	0	4.4	1
core	101	15.5	2	20.7	2	56760	3415	21.2	6	123633	5559	12639	584	28114	1913	57.8	14	1378	139	3.4	1	242	15	1035	77	23.3	2	24.9	2	1.6	0	4.4	1
core	106	14.9	2	19.2	2	55345	2560	19.8	7	119991	6384	12632	935	27843	2198	56.0	12	1464	157	4.0	1	238	14	978	58	23.5	2	26.0	2	1.5	0	5.1	1
core	111	18.7	3	18.4	1	58729	4029	20.6	6	124485	5208	12638	538	27908	2292	59.8	11	1386	118	4.5	1	240	14	995	51	25.3	2	26.6	2	1.6	0	3.6	1
core	116	16.2	3	17.7	2	57101	3442	26.5	9	122520	5356	13319	906	28520	2352	62.0	17	1506	167	3.9	1	230	8	951	44	23.2	2	26.4	2	1.6	0	4.7	1
core	121	14.9	3	15.8	1	53868	2755	24.8	7	118957	6578	12497	561	28446	2590	52.6	13	1385	151	4.3	1	231	12	860	46	23.4	2	23.2	1	1.6	0	4.3	1
core	126	13.3	2	15.5	2	54142	2143	17.8	5	123261	5803	12804	898	28279	2030	59.9	13	1384	136	4.2	1	229	14	855	52	21.7	2	23.8	2	1.5	0	5.8	2
core	131	13.5	2	15.2	3	54381	2315	24.0	7	120285	4799	12908	481	27577	1631	58.0	13	1305	154	3.8	1	222	12	834	44	21.8	2	25.4	1	1.6	0	4.4	2
crack	136	14.6	3	14.1	2	54102	2636	16.1	4	120501	5073	12845	686	28657	1824	44.1	12	1388	108	4.1	1	218	14	810	36	23.3	2	24.5	2	1.5	0	4.9	1
crack	141	11.5	2	12.6	1	55932	3148	15.2	5	119738	4834	12414	584	27743	1622	53.2	9	1435	177	4.2	1	221	12	765	53	20.7	2	23.0	2	1.7	0	5.5	1
crack	146	11.7	3	13.2	3	55998	4700	23.3	6	122535	7859	11763	694	28029	1359	48.3	13	1368	176	3.5	1	214	15	690	49	22.2	2	24.2	2	1.5	0	4.9	2
crack	151	10.1	2	13.6	4	56907	3520	21.7	7	124095	6242	12002	551	28710	2387	52.3	13	1351	122	3.8	1	212	11	662	47	22.3	2	23.2	2	1.4	0	4.6	1
crack	156	10.2	2	11.2	1	55078	3757	18.0	8	120266	6848	11773	791	28040	1971	53.2	11	1294	128	3.3	1	200	14	598	38	21.6	2	23.3	2	1.5	0	4.3	1
crack	161	11.4	4	10.5	1	55491	3469	19.7	6	123811	6327	11685	799	28303	1993	44.2	10	1186	130	2.7	1	201	13	621	44	22.7	2	23.6	2	1.7	0	5.9	1
crack	166	10.9	3	8.6	1	53323	2745	18.8	6	116869	6470	11515	881	27262	2244	56.6	14	1305	150	3.0	1	187	13	580	48	21.8	2	21.8	2	1.7	0	4.3	2
crack	171	6.4	2	7.5	1	57923	3420	25.8	6	126537	7285	12846	978	29844	2514	52.1	11	1307	126	3.8	1	205	13	613	46	23.2	2	26.5	2	1.6	0	5.1	1

Table B14: Plagioclase grain 15 - Line 3.2

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	2	20.8	5	21.1	2	62772	2	17.1	6	114834	7091	12797	673	25373	2077	53.3	10	1364	82	4.1	1	197	40	452	26	18.9	3	21.6	2	1.3	0	3.5	1
core	6	22.2	3	24.6	4	58842	4	23.4	7	115311	5159	13995	843	26066	2821	61.8	13	1330	107	5.2	1	184	9	442	21	20.2	1	21.9	2	1.5	0	2.6	1
core	11	21.2	2	20.1	2	58634	2	15.1	4	109740	4909	13087	1188	24285	1857	42.5	12	1267	104	4.2	1	177	11	402	26	19.9	2	19.6	2	1.2	0	3.8	1
core	16	22.5	4	17.5	2	53592	2	20.7	7	119191	16353	12344	795	23899	2256	48.8	11	1280	167	4.4	1	167	13	387	33	17.5	2	19.6	2	1.4	0	2.8	1
core	21	21.1	3	18.6	2	59888	2	18.8	8	118526	7864	13654	860	24803	2472	54.7	15	1439	129	3.9	1	172	12	387	31	20.6	2	23.4	2	1.3	0	3.8	1
core	26	17.2	4	16.0	2	55215	2	20.6	7	110874	5947	12925	682	25267	2361	47.9	14	1306	138	4.2	1	169	14	373	22	19.3	2	21.3	2	1.3	0	3.2	1
core	31	16.8	4	18.2	2	58406	2	19.5	7	120657	10339	13730	1167	25776	3065	40.7	11	1389	181	4.2	1	182	17	432	104	18.8	2	21.1	3	1.3	0	3.6	1
core	36	14.9	2	14.5	1	53696	1	20.7	5	111157	5284	12978	659	22815	1723	46.8	10	1242	136	4.4	1	162	9	348	24	17.9	2	20.7	2	1.1	0	4.1	1
core	41	14.5	3	15.1	1	55616	1	16.5	6	112846	5286	12636	535	24637	2148	52.8	14	1242	153	3.5	1	160	8	299	22	19.1	2	20.4	2	1.5	0	4.2	2
core	46	16.5	2	15.6	2	57579	2	15.2	6	119134	5449	13343	747	25381	2616	42.2	10	1365	88	5.1	3	166	10	325	30	18.1	1	20.4	2	1.3	0	3.9	1
core	51	15.6	5	13.8	1	56827	1	13.7	5	120627	7334	13076	1007	26613	2233	50.1	14	1359	146	4.2	1	158	14	291	29	17.8	2	21.8	3	1.7	0	3.7	2
core	56	13.7	3	12.6	1	56694	1	24.3	8	117754	4671	12771	574	26118	2221	48.4	14	1469	132	4.6	1	163	7	289	22	18.6	2	22.2	2	1.7	0	4.4	1
rim	61	13.0	2	11.7	1	55245	1	19.4	5	117868	7371	12393	821	25247	2764	56.7	11	1290	149	3.4	1	159	11	281	34	18.6	1	22.9	2	1.7	1	3.9	1
rim	66	11.9	3	11.3	1	55351	1	21.3	7	117660	5285	12346	484	25410	1710	50.4	14	1402	147	3.2	1	151	11	260	17	18.9	1	21.6	2	1.5	0	4.4	1
rim	71	10.1	3	10.0	1	55268	1	20.0	8	116716	5735	12274	505	25715	1749	43.6	12	1414	142	3.8	1	152	10	251	21	19.3	2	20.5	2	1.6	0	4.2	2
rim	76	10.8	2	10.1	2	55020	2	20.6	5	115883	5080	12245	552	25641	1883	29.6	11	1331	161	3.9	1	147	10	251	22	18.0	2	21.1	2	1.4	0	4.1	2
rim	81	7.3	2	8.4	1	57001	1	20.3	5	122655	4144	12595	460	28071	2184	43.6	11	1410	142	4.1	1	155	10	252	22	20.1	1	23.7	2	1.8	0	4.7	1
rim	86	7.0	2	7.3	1	55461	1	19.7	8	118226	4411	12347	338	26600	1926	44.3	7	1237	130	3.8	1	147	7	245	25	19.1	2	21.4	2	1.4	0	4.0	1
rim	91	9.0	3	6.5	0	57340	0	42.2	11	115877	5587	12260	741	26062	1938	49.4	13	1399	134	4.5	1	139	8	237	21	18.1	1	20.7	2	1.5	0	3.8	1
rim	96	8.5	2	6.7	1	52331	1	24.0	7	110246	9121	12282	1648	25210	2380	49.2	13	1181	114	3.7	1	126	10	216	20	16.8	2	19.6	3	1.1	0	3.1	1
rim	101	9.3	3	6.0	1	55233	1	19.1	6	117329	7190	12676	890	25824	2366	49.0	12	1326	172	3.3	1	133	10	242	28	17.7	1	19.6	2	1.4	0	4.0	2
rim	106	5.9	2	5.1	1	54408	1	26.6	6	117995	5484	12558	701	25768	2128	47.0	12	1169	123	4.2	1	129	7	229	18	19.2	2	21.5	2	1.3	0	5.5	2
rim	111	4.6	2	5.2	2	53842	2	30.6	9	115791	6125	12421	714	24326	2177	62.4	14	1354	153	4.3	1	131	11	234	22	17.9	2	20.5	2	1.5	0	3.6	1
rim	116	4.7	2	4.7	1	58233	1	23.1	5	121961	6213	13406	859	27319	2402	49.5	17	1448	101	4.2	1	130	7	220	23	21.9	2	23.6	2	1.7	0	3.1	1

grain 15 - Line 1.2

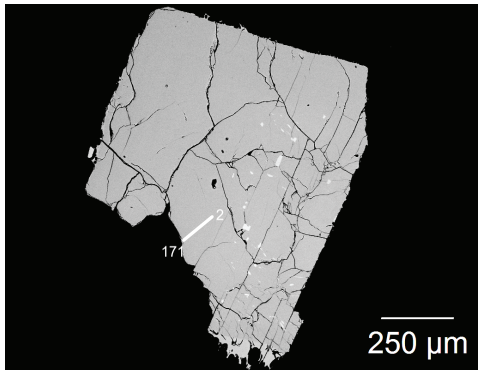


Fig. B12. BSE image of plagioclase grain 15 with trace element line 1.2 (by LA-ICP-MS) indicated.

grain 15 - Line 3.2

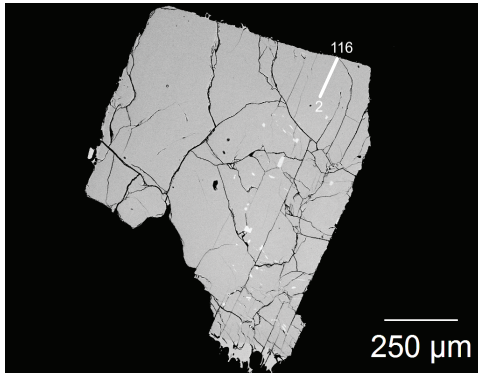


Fig. B13. BSE image of plagioclase grain 15 with trace element line 3.2 (by LA-ICP-MS) indicated.

Table B13: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.2	0	7.8	1	0.5	1	12.7	1	63.3	0.1	22.9	0.2	0.0	4.3	8.0	1.5	0.3	0.0	100.6	21	70	9
0.3	0	9.0	1	0.1	0	12.5	1	63.6	0.1	23.1	0.2	0.0	4.3	7.8	1.5	0.3	0.0	100.9	21	70	9
0.5	0	8.1	1	0.1	0	13.4	1	63.1	0.1	23.1	0.2	0.0	4.4	7.8	1.4	0.3	0.0	100.5	22	70	8
0.0	0	7.9	1	0.2	0	14.0	2	62.6	0.1	23.6	0.2	0.0	4.9	7.7	1.3	0.3	0.0	100.7	24	68	7
0.3	0	8.5	1	0.1	0	12.6	2	62.8	0.1	23.4	0.2	0.0	4.7	7.8	1.3	0.2	0.0	100.4	23	69	8
0.1	0	8.0	1	0.3	0	13.2	1	63.0	0.1	23.2	0.2	0.0	4.5	7.9	1.4	0.2	0.1	100.6	22	70	8
0.2	0	7.6	1	0.3	0	12.1	1	63.1	0.1	23.4	0.2	0.0	4.5	7.8	1.4	0.2	0.0	100.8	22	69	8
0.2	0	7.9	1	0.4	0	13.9	1	63.1	0.1	23.1	0.2	0.0	4.5	7.7	1.4	0.2	0.0	100.3	22	69	8
0.5	0	7.6	1	0.5	0	13.2	1	62.9	0.1	23.3	0.2	0.0	4.7	7.8	1.3	0.2	0.1	100.6	23	69	8
0.2	0	7.8	1	0.1	0	12.4	1	62.9	0.1	23.4	0.2	0.0	4.8	7.7	1.3	0.2	0.0	100.6	24	69	8
0.4	0	7.3	1	0.4	0	11.8	1	63.0	0.1	23.3	0.2	0.0	4.7	7.7	1.3	0.2	0.0	100.6	23	69	8
0.7	1	7.1	1	0.7	0	11.4	1	63.0	0.1	23.4	0.2	0.0	4.6	7.8	1.3	0.2	0.0	100.6	23	69	8
0.3	0	6.5	1	0.1	0	12.1	1	62.8	0.1	23.0	0.2	0.0	4.5	7.7	1.4	0.2	0.0	99.8	23	69	8
0.5	0	6.9	1	0.5	0	12.8	1	62.7	0.1	23.1	0.2	0.0	4.5	7.8	1.4	0.2	0.0	100.0	22	70	8
0.4	0	6.9	1	0.5	1	12.2	1	63.2	0.1	23.1	0.2	0.0	4.5	7.8	1.4	0.2	0.0	100.7	22	69	8
0.0	0	7.2	1	0.4	1	11.3	1	63.3	0.1	23.4	0.2	0.0	4.5	7.9	1.4	0.2	0.0	100.9	22	70	8
0.7	0	6.6	1	0.1	0	12.6	1	63.3	0.1	22.9	0.2	0.0	4.3	7.9	1.5	0.2	0.0	100.4	21	70	9
0.7	1	7.0	1	0.2	0	11.8	1	63.5	0.1	23.0	0.2	0.0	4.2	8.0	1.6	0.2	0.0	100.7	20	71	9
0.5	0	7.4	1	0.4	0	11.8	1	63.6	0.1	22.9	0.2	0.0	4.3	7.9	1.5	0.2	0.0	100.7	21	70	9
0.4	0	7.3	1	0.2	0	12.2	1	63.3	0.1	22.9	0.2	0.0	4.2	8.0	1.5	0.2	0.0	100.5	21	70	9
0.7	1	6.7	1	0.3	0	12.2	1	63.5	0.1	22.5	0.2	0.0	4.2	7.8	1.6	0.2	0.0	100.0	21	70	9
0.6	1	6.7	1	0.5	1	11.9	1	63.5	0.1	22.7	0.2	0.0	4.1	7.9	1.6	0.1	0.0	100.2	20	71	9
0.2	0	7.0	1	0.6	0	12.7	1	63.4	0.1	22.7	0.2	0.0	4.2	7.8	1.6	0.2	0.1	100.2	21	70	9
0.6	0	6.1	1	0.1	0	12.6	1	63.3	0.1	22.8	0.2	0.0	4.3	7.9	1.6	0.2	0.0	100.3	21	70	9
0.5	0	6.2	1	0.3	0	14.0	1	63.5	0.1	22.8	0.2	0.0	4.2	7.9	1.5	0.1	0.1	100.6	21	70	9
0.4	0	7.2	1	0.1	0	12.8	1	63.6	0.1	22.7	0.2	0.0	4.2	7.8	1.5	0.2	0.0	100.4	21	70	9
0.1	0	6.6	1	0.3	0	12.9	1	63.6	0.1	23.0	0.2	0.0	4.2	7.9	1.5	0.1	0.0	100.7	21	70	9
0.5	0	5.9	1	0.6	0	13.0	1	63.3	0.1	22.8	0.2	0.0	4.2	7.9	1.5	0.1	0.0	100.2	21	70	9
0.4	0	6.3	1	0.3	0	12.1	1	63.5	0.1	23.0	0.2	0.0	4.4	8.0	1.5	0.2	0.0	100.8	21	70	9
0.1	0	6.0	1	0.0	0	12.8	1	63.2	0.1	22.8	0.2	0.0	4.4	7.7	1.5	0.1	0.0	100.0	22	69	9
0.8	1	5.6	1	0.4	0	11.8	1	63.6	0.1	22.9	0.2	0.0	4.3	7.8	1.5	0.1	0.0	100.5	21	70	9
0.4	0	5.9	1	0.1	0	12.5	2	63.6	0.1	22.6	0.2	0.0	4.3	7.9	1.5	0.2	0.0	100.4	21	70	9
0.7	0	5.7	1	0.2	0	12.0	1	63.8	0.1	22.8	0.2	0.0	4.2	7.9	1.5	0.1	0.0	100.6	21	70	9
0.3	0	5.1	1	0.4	0	12.2	1	63.7	0.1	22.9	0.2	0.0	4.3	7.9	1.5	0.2	0.0	100.7	21	70	9
0.4	0	5.5	1	0.3	0	12.9	1	63.7	0.1	22.9	0.2	0.0	4.2	8.0	1.5	0.2	0.0	100.6	20	71	9

Table B14: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.6	0	4.6	1	0.0	0	14.1	2	63.3	0.1	23.0	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.4	20	71	9
0.5	0	5.1	1	0.2	0	14.5	2	63.4	0.1	22.9	0.2	0.0	4.2	8.0	1.5	0.1	0.0	100.5	20	71	9
0.3	0	4.7	1	0.3	0	12.5	1	63.3	0.1	22.7	0.2	0.0	4.1	8.1	1.6	0.0	0.1	100.1	20	71	9
0.4	0	4.6	1	0.3	0	12.9	2	63.4	0.1	22.7	0.2	0.0	4.0	8.0	1.6	0.1	0.0	100.1	20	71	9
0.5	0	5.4	1	0.2	0	13.7	2	63.8	0.1	22.7	0.2	0.0	4.0	8.0	1.7	0.1	0.0	100.5	20	71	10
0.5	0	4.8	1	0.0	0	12.9	1	63.4	0.1	22.7	0.2	0.0	4.0	8.0	1.6	0.0	0.0	100.0	20	71	9
0.6	1	5.2	1	0.2	0	13.6	2	63.4	0.1	22.9	0.2	0.0	4.1	8.0	1.6	0.0	0.0	100.2	20	71	9
0.5	1	4.7	1	0.4	0	12.8	1	63.4	0.1	23.0	0.2	0.0	4.1	8.2	1.6	0.0	0.0	100.7	20	71	9
0.5	0	4.1	1	0.5	1	12.1	1	63.9	0.1	22.7	0.2	0.0	3.7	8.1	1.7	0.0	0.0	100.4	18	72	10
0.6	0	4.3	1	0.8	1	13.8	2	63.9	0.1	22.5	0.2	0.0	3.8	8.0	1.8	0.0	0.0	100.3	19	71	10
0.1	0	4.1	1	0.4	1	12.3	1	63.7	0.1	22.9	0.2	0.0	4.1	8.0	1.6	0.0	0.0	100.6	20	71	9
0.1	0	4.7	1	0.1	0	12.5	1	64.3	0.1	22.2	0.2	0.0	3.7	7.8	1.8	0.0	0.0	100.1	18	71	11
0.5	0	4.6	1	0.4	0	13.4	1	64.2	0.1	22.6	0.2	0.0	3.7	8.1	1.8	0.0	0.0	100.6	18	72	10
0.4	0	3.8	1	0.6	1	12.0	1	63.4	0.1	22.9	0.2	0.0	4.2	8.1	1.5	0.1	0.0	100.4	20	71	9
0.9	1	4.6	1	0.2	0	13.2	2	63.2	0.1	22.9	0.2	0.0	4.1	8.0	1.5	0.0	0.0	100.1	20	71	9
0.5	0	3.4	1	0.3	0	12.2	1	63.5	0.1	23.0	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.4	20	71	9
0.4	0	4.2	1	0.2	0	13.0	1	63.3	0.1	23.2	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.6	21	71	9
0.5	0	3.8	1	0.3	0	12.9	2	63.3	0.1	23.0	0.2	0.0	4.2	7.9	1.5	0.0	0.0	100.3	21	70	9
0.3	0	3.7	1	0.5	0	13.5	2	63.4	0.1	23.0	0.2	0.0	4.2	8.0	1.6	0.1	0.0	100.6	20	70	9
0.3	0	3.4	1	0.1	0	12.6	2	63.0	0.1	23.2	0.2	0.0	4.3	7.9	1.5	0.0	0.0	100.2	21	70	9
0.2	0	3.4	1	0.2	0	15.0	3	63.4	0.1	23.2	0.2	0.0	4.2	7.9	1.5	0.0	0.0	100.4	21	71	9
0.5	0	3.3	1	0.0	0	13.0	1	63.5	0.1	22.7	0.2	0.0	4.0	8.1	1.6	0.0	0.0	100.2	19	71	10
0.5	1	3.1	1	0.3	0	12.8	1	63.3	0.1	22.9	0.2	0.0	4.2	8.0	1.6	0.0	0.0	100.3	20	71	9
0.6	0	3.2	1	0.5	0	13.4	2	63.6	0.1	22.7	0.2	0.0	3.9	8.2	1.7	0.1	0.0	100.5	19	72	9

Table B14: Plagioclase grain 15 - Line2.1

	Distance	Li ppm	2SD	Li' ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	1	26.9	3	23.9	2	57629	4163	16.9	3	11633	3	12407	998	25275	1098	42.9	10	493	37	2.9	1	205	11	721	83	24.0	2	26.0	3	1.3	0	2.9	1
core	4	24.6	3	25.2	2	55450	2613	22.6	8	11457	8	11974	401	26787	1966	49.5	12	486	144	4.5	1	212	10	707	44	20.0	2	23.0	2	1.5	0	3.7	1
core	9	28.8	4	26.1	2	57509	3222	19.0	4	11891	9	12115	750	27071	1873	49.9	13	562	159	4.0	1	220	16	705	54	22.6	2	23.6	2	1.6	0	4.3	1
core	14	26.9	2	27.2	2	55958	3404	16.5	6	12192	6	11747	608	27076	2298	48.6	10	534	158	4.1	1	212	12	710	47	23.4	2	23.9	2	1.8	0	6.0	2
core	19	29.3	5	26.3	2	56128	2776	23.1	6	12180	6	12120	620	28561	1967	50.9	12	1468	143	3.1	1	208	11	686	43	22.6	3	24.9	2	2.0	0	4.5	1
core	24	28.8	3	27.5	2	57068	2304	29.2	7	12487	7	12185	569	30775	2458	48.9	13	1447	127	3.6	1	215	11	669	45	23.4	3	25.0	3	1.8	1	5.5	1
core	29	25.5	4	27.3	2	57110	3216	22.7	8	12136	8	11924	647	26504	2404	47.1	13	1418	163	3.8	1	208	14	654	35	22.2	2	24.1	2	1.6	0	4.3	1
core	34	28.2	3	27.1	1	55251	1979	15.1	5	11837	5	12015	485	25871	1373	54.5	13	1416	122	4.1	1	204	13	660	44	20.2	1	23.0	1	1.6	0	3.6	1
core	39	25.7	3	26.3	1	54935	1790	19.3	7	11836	7	12147	451	25214	1717	52.2	12	1315	121	3.7	1	194	9	636	38	21.6	1	23.3	2	1.3	0	4.6	1
core	44	28.2	3	28.1	1	57055	4210	24.5	8	12061	8	12320	382	26111	1901	51.7	13	1468	116	4.5	1	206	11	638	44	23.2	2	24.6	2	1.7	0	3.5	1
core	49	28.6	2	27.2	2	56152	2331	26.9	5	11971	3	12225	485	26996	2007	54.5	13	1460	150	3.2	1	202	11	599	45	20.4	1	24.5	2	1.7	0	4.2	1
core	54	29.2	4	27.4	1	55007	2002	22.9	5	11993	5	12217	457	26568	1551	57.3	11	1455	164	4.2	1	198	11	601	36	22.9	1	24.5	2	1.6	0	4.2	2
core	59	26.7	3	27.8	2	55117	1903	21.3	6	11956	6	11934	545	26799	1775	58.3	10	1418	101	4.7	1	196	10	557	27	22.5	2	24.2	2	1.5	0	5.5	2
core	64	28.3	3	26.8	2	54542	3380	17.1	5	11983	5	11567	692	26085	2437	54.3	16	1491	178	3.4	1	193	14	583	41	21.3	1	23.8	2	1.8	0	4.3	1
core	69	28.3	3	26.8	2	56028	2693	28.2	7	12203	7	11820	491	27019	2456	49.8	12	1409	122	3.7	1	199	11	567	36	23.0	2	24.2	2	1.7	0	4.5	1
core	74	27.9	4	25.8	2	54387	2459	17.7	7	11794	7	11779	649	27444	1653	57.8	12	1424	124	4.1	1	192	12	537	32	21.3	2	23.2	2	1.5	0	5.0	1
core	79	28.6	4	27.3	2	55543	2567	19.0	5	12081	5	12268	612	28444	2001	50.4	11	1493	135	4.0	1	202	12	565	38	24.2	1	25.3	2	1.7	0	4.3	1
core	84	30.4	4	29.0	2	56256	1885	22.4	8	12427	8	12366	339	27345	1481	52.1	7	1408	109	3.6	1	188	7	532	29	23.4	2	25.0	2	1.7	0	4.1	2
core	89	30.2	3	27.7	2	57854	6064	19.3	7	12087	7	12318	533	28161	2831	46.0	11	1489	128	3.5	1	190	11	543	38	22.9	2	22.5	2	1.9	0	5.0	2
core	94	26.1	3	27.4	3	55109	2416	22.5	6	12026	8	12033	510	27260	1453	48.7	14	1325	114	4.2	1	187	14	497	32	22.7	2	22.7	2	1.5	0	4.0	2
core	99	29.5	5	28.0	3	55311	1996	20.9	5	11737	5	11970	586	26625	1632	49.9	10	1374	137	3.8	1	183	10	472	30	21.2	2	22.5	2	1.6	0	4.4	1
core	104	26.8	2	27.5	1	55371	1857	22.7	6	12068	6	12111	333	28003	2158	48.7	13	1465	116	4.9	1	189	8	481	27	22.1	2	22.5	2	1.5	0	4.1	1
core	109	26.8	3	27.4	2	56681	3243	19.2	7	12135	7	12456	637	28832	2272	48.3	11	1409	136	4.1	1	188	11	483	36	23.8	2	25.0	2	1.5	0	4.1	2
core	114	29.8	4	27.7	2	55972	3206	19.2	5	12182	5	12461	741	28481	2190	46.6	10	1408	147	4.9	1	185	14	475	31	22.1	2	23.3	2	1.4	0	4.4	2
core	118	26.9	3	25.7	1	54330	2684	21.0	7	11765	7	12115	614	28111	2210	55.7	13	1399	140	4.3	1	176	10	449	36	20.6	1	21.2	2	1.4	0	4.9	1
core	123	30.3	3	28.3	3	56438	2678	15.6	5	12204	5	12631	501	27307	2277	57.2	13	1350	172	3.6	1	186	9	466	31	21.6	2	23.5	2	1.5	0	4.5	2
core	128	27.7	4	26.1	1	53685	2568	22.8	5	11735	5	12406	485	25869	2015	43.8	13	1274	139	4.3	1	173	11	427	28	20.6	1	24.0	2	1.8	0	4.2	2
core	133	26.3	3	26.2	1	53739	2756	21.4	8	11871	8	12446	611	26282	2319	38.3	12	1371	101	4.1	1	174	11	429	34	20.9	2	22.0	2	1.6	0	3.6	1
core	138	29.6	3	25.3	2	53028	2085	21.4	6	11744	6	12386	515	24664	1784	43.9	11	1327	173	3.8	1	170	8	399	26	21.2	2	20.8	2	1.3	0	3.1	1
core	143	28.2	3	28.1	2	56824	2366	21.2	8	12332	8	13451	696	27024	2213	59.0	14	1410	128	3.6	1	170	9	431	29	22.1	2	22.8	1	1.4	0	4.1	1
core	148	27.8	3	27.0	3	53170	3343	18.6	5	11540	5	13289	787	23213	2111	42.8	10	1225	172	4.5	1	167	9	384	23	21.3	2	24.2	3	1.4	0	3.5	1
core	153	26.7	3	27.6	2	56834	2645	21.5	7	12087	6	13831	606	23703	1715	51.4	10	1252	129	5.3	1	165	12	384	26	22.8	3	22.0	2	1.7	0	4.4	1
core	158	27.8	3	26.0	2	55700	2970	13.9	5	11607	5	14296	770	24969	2331	53.3	12	1289	152	4.5	1	157	8	376	35	22.7	3	22.8	3	1.5	0	3.3	1
core	163	26.5	4	26.1	1	55722	2921	12.9	4	11815	4	14216	727	24710	1494	69.0	13	1235	90	5.0	1	169	10	384	25	22.5	2	23.0	2	1.6	0	3.9	1
core	168	26.9	3	24.5	1	55440	2382	19.3	5	11700	5	13872	568	23371	1398	72.7	19	1266	135	5.5	1	162	10	410	32	22.9	2	23.0	2	1.8	0	3.2	1
core	173	26.0	3	25.9	2	58431	2424	18.8	7	12167	7	14386	633	25301	2405	63.3	14	1391	150	4.8	1	176	11	398	30	22.4	2	25.0	2	1.8	0	4.4	2
core	178	23.9	3	25.0	1	55200	3480	14.5	5	12034	5	14463	989	25870	1988	66.5	17	1355	158	4.8	1	169	11	396	31	23.4	2	24.3	2	1.7	0	3.5	1
core	183	25.2	3	25.1	1	55863	2459	15.5	6	12208	6	14000	611	25183	2093	58.0	15	1239	123	5.4	1	174	8	368	27	24.0	2	24.2	2	1.7	0	4.2	1
core	188	27.4	2	26.1	2	57515	3313	19.7	6	12587	6	14682	928	25258	1399	64.5	10	1372	153	4.6	1	176	10	391	38	22.9	2	24.1	2	1.8	0	3.4	1
core	193	25.3	3	24.2	1	55601	2428	19.1	10	12106	10	13762	568	24437	2311	66.2	12	1400	158	4.7	1	166	10	355	23	22.1	2	23.3	2	1.6	0	4.7	1
core	198	21.5	3	23.3	1	52810	2167	18.3	6	11689	6	13026	474	25841	1583	59.2	12	1275	89	3.9	1	157	7	346	22	22.0	2	22.1	2	1.5	0	3.8	1
core	203	25.8	4	22.4	2	54310	2636	20.3	5	11920	5	12671	575	25270	1392	47.0	10	1354	136	4.2	1	162	11	320	27	20.8	2	22.6	2	1.4	0	4.1	2
core	208	22.1	2	22.9	2	54149	2739	17.9	5	11733	5	12542	472	26221	1999	55.9	9	1345	98	4.1	1	161	10	317	24	20.8	2	22.7	2	1.6	0	4.0	2
core	213	23.5	3	21.2	1	55260	2155	20.4	6	12058	6	12437	409	26911	1705	49.4	16	1321	97	3.7	1	163	8	320	21	22.0	1	21.5	1	1.7	0	4.1	1
core	218	23.1	3	22.0	1	55235	2173	15.2	6	12183	7	13161	612	27716	1881	46.6	9	1284	155	4.8	1	160	9	319	20	20.9	2	22.1	2	1.6	0	3.7	1
core	223	21.6	3	21.4	1	54428	2253	17.7	7	11803	7	12514	504	26862	2207	44.3	9	1394	112	4.3	1	159	9	286	21	19.6	2	21.4	2	1.6	0	5.2	2
core	228	22.6	4	20.5	2	52776	2621	19.4	5	11561	7	12480	542	24806	2356	48.1	12	1302	155	4.1	1	155	10	302	25	19.6	2	20.9	2	1.2	0	3.3	1
core	233	19.2	2	20.7	2	53704	2593	18.9	5	11794	8	12692	619	24192	2607	51.0	16	1307	176	3.6	1	153	10	291	25	19.0	1	21.0	1	1.2	0	3.8	1
core	238	22.2	3	21.4	2	56001	3051	17.0	6	12305	6	13068	714	26094	1830	39.2	13	1303	150	3.5	1	156	9	301	28	20.0	2	19.5	2	1.8	0	3.7	1
core	243	20.1	3	19.4	1	55819	2649	19.1	7	12493	7	13116	625	26279	1724	44.4	14	1440	128	3.8	1	157	11	291	29	18.8	2	20.2	2	1.4	0	4.5	2
core	248	17.2	2	18.6	1	56565	2576	19.5	6	12454	6	13060	595	26238	2039	45.6	13	1244	151	4.7	1	160	10	286	14	19.3	2	22.1	2	1.6	0	4.8	1
mm	253	17.5	2	19.1	2	55739	3279	15.9	5	12558	5	12868	768	26197	1768	41.1	12	1392	137	4.4	1	159	10	269	17	19.7	2	21.6	2	1.4	0	4.2	1
mm	258	17.7	3	18.6	2	55196	3143	68.7	21	19972	21	12980	994	25984	902	46.5	8	1436	156	4.3	1	154	8	262	21	20.2	2	21.6	2	1.5	0	3.3	2
mm	263	17.6	2	16.9	1	54991	2347	102.9	12	11835	12	12543	608	24859	1673	49.8	17	1475	147	4.6	1	145	9	245	21	19.7	1	21.3	1	1.8	0	5.2	2
mm	268	19.0	3	15.2	1	56647	3331	103.3	18	19519	18	13097	596	25349	2642	56.7	13	1372	124	4.8	1	143	8	259	20	18.6	1	20.8	2	1.5	0	3.8	1
mm	273	15.7	3	15.6	1	56698	3193	97.1	14	20337	14	13044	616	24012	1841	49.4	14	1364	119	4.6	1	144	10	261	24	19.0	2	20.2	2	1.5	0	4.9	1
mm	278	14.6	3	13.9	1	54801	2423	113.4	19	18052	19	12987	520	24717	2173	49.7	11	1209	129	4.4	1	140	10	267	23	18.5	2	22.3	2	1.4	0	4.5	1
mm	283	15.4	2	13.5	1	54880	2238	126.1	15	11567	15	13074	535	24546	1768	69.3	13	1407	143	3.5	1	136	9	251	21	19.0	2	21.5	2	2.0	0	5.3	1
mm	288	11.8	2	13.9	1	55518	2494	79.1	19	11995	19	13210	603	24959	2243	45.4	10	1468	93	4.6	1	138	7	247	26	19.0	2	22.9	2	2.1	0	4.3	1
rim	293	12.3	2	11.5	1	54192	2374	41.4	11	11788	11	12804	507	25241	2214	56.1	14	1294	108	4.5	1	138	11	263	18	17.6	2	21.1	1	1.7	0	3.2	1
rim	298	10.9	2	11.2	1	54495	3311	34.4	8	11680	8	12528	741	25058	2136	50.7	8	1261	158	4.6	1	133	12	243	21	17.7	2	20.4	2	1.3	0	3.9	1
rim	303	10.4	2	10.0	1	54335	2484	34.7	8	11528	8	12674	588	25307	2149	41.5	8	1233	145	3.4	1	129	8	234	16	17.8	2	22.5	2	1.4	0	3.7	2
rim	308	11.2	2	9.3	2	55390	3418	25.2	8	11339	8	12753	1236	24027	3056	54.4	16	1152	147	5.1	3	121	14	230	26	16.7	2	19.5	2	1.4	0	4.1	1
rim	313	9.6	2	8.1	1	55507	2704	35.2	10	12035	10	12981	737	24852	2493	35.8	11	1226	214	3.6	1	125	7	253	21	19.0	2	20.4	2	1.1	0	3.8	1
rim	318	7.4	2	7.0	1	55279	3918	23.2	6	11705	6	12769	811	23773	2599	36.7	13	1178	136	3.8	1	128	11	235	21	19.0	2	20.8	2	1.7	0	4.2	1
rim	323	5.4	2	5.6	1	53295	2473	16.0	7	11215	7	12258	609	23769	2320	41.8	10	1169	107	3.4	1	116	9	212	22	17.5	2	21.2	2	1.5	0	4.5	1
rim	328	4.8	1	5.1	1	54498	2405	18.1	4	11423	4	12718	564	24565	1987	40.7	10	1197	99	4.1	1	121	7	177	26	17.9	2	19.5	2	1.4	0	5.0	2

grain 15 - Line 2.1

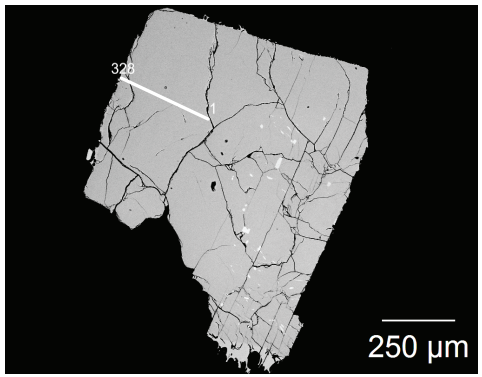


Fig. B12. BSE image of plagioclase grain 15 with trace element line 2.1 (by LA-ICP-MS) indicated.

grain 15 - Line 2.2

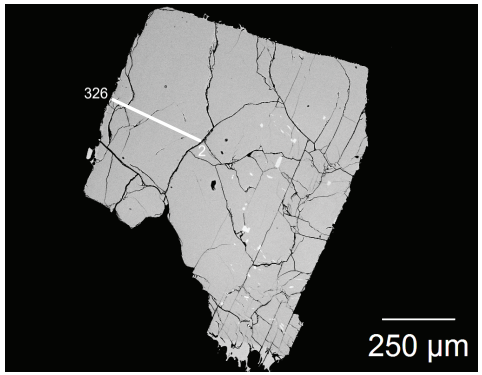


Fig. B13. BSE image of plagioclase grain 15 with trace element line 2.2 (by LA-ICP-MS) indicated.

Table B14: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.2	0	6.2	1	0.3	0	12.4	1	61.9	0.1	23.0	0.2	0.0	4.1	7.9	1.5	0.1	0.0	98.9	20	71	9
0.5	0	5.9	1	0.2	0	12.2	1														
0.3	0	6.4	1	0.5	1	13.9	1	61.6	0.1	22.8	0.2	0.0	4.1	8.0	1.5	0.1	0.0	98.3	20	71	9
0.4	0	6.4	1	0.2	0	14.6	1														
0.5	0	6.4	1	0.2	0	13.9	1	61.5	0.0	23.0	0.2	0.0	4.1	8.1	1.5	0.1	0.0	98.4	20	71	9
0.3	0	6.7	1	0.2	0	13.7	1														
0.2	0	5.8	1	0.5	0	13.4	1	61.5	0.1	23.3	0.2	0.0	4.3	8.0	1.5	0.0	0.0	98.8	21	70	9
0.4	0	6.2	1	0.5	0	12.5	1														
0.3	0	5.5	1	0.1	0	11.3	1	61.6	0.1	23.0	0.2	0.0	4.1	8.0	1.6	0.0	0.0	98.6	20	71	9
0.2	0	5.8	1	0.3	0	11.7	1														
0.3	0	5.5	1	0.3	0	12.6	1	61.6	0.1	23.3	0.2	0.0	4.3	8.0	1.5	0.0	0.0	99.0	21	70	9
0.1	0	6.3	1	0.2	0	12.3	1														
0.1	0	6.2	1	0.3	0	11.7	1	61.8	0.1	22.9	0.2	0.0	4.1	7.9	1.6	0.1	0.0	98.7	20	71	9
0.4	0	5.6	1	0.3	0	13.5	1														
0.1	0	6.6	1	0.4	0	11.2	1	61.9	0.1	22.6	0.2	0.0	3.8	8.1	1.7	0.0	0.0	98.5	19	72	10
0.3	0	5.8	1	0.4	0	12.7	1														
0.5	0	6.1	1	0.7	1	11.9	1	62.3	0.1	22.2	0.2	0.0	3.6	8.1	1.8	0.0	0.0	98.3	18	72	10
0.6	0	5.3	1	0.5	0	12.8	1														
0.7	0	5.6	1	0.4	0	12.7	1	62.1	0.1	22.3	0.2	0.0	3.7	8.2	1.8	0.1	0.0	98.4	18	72	10
0.4	1	5.0	1	0.5	0	11.3	1														
0.3	0	4.6	1	0.5	1	11.4	1	61.5	0.1	23.0	0.2	0.0	4.2	8.0	1.6	0.0	0.0	98.5	20	71	9
0.3	0	5.3	1	0.8	1	12.9	1														
0.5	0	5.1	1	0.2	0	12.9	1	61.9	0.0	23.1	0.2	0.0	4.1	8.0	1.6	0.1	0.0	99.2	20	71	9
0.4	1	4.9	1	0.1	0	13.5	1														
0.4	0	5.5	1	0.7	1	12.4	1	61.9	0.1	22.9	0.2	0.0	4.1	8.0	1.6	0.1	0.0	98.7	20	71	9
0.5	0	5.2	1	0.0	0	12.4	1														
0.4	0	4.8	1	0.2	0	12.5	1	61.7	0.1	22.9	0.2	0.0	4.0	8.1	1.6	0.1	0.1	98.7	20	71	9
0.3	0	4.3	1	0.6	1	12.2	1														
0.5	0	5.0	1	0.3	0	12.3	1	61.5	0.1	23.0	0.2	0.0	4.0	8.0	1.6	0.1	0.0	98.4	20	71	9
0.2	0	4.9	1	0.2	0	12.0	1														
0.2	0	5.5	1	0.1	0	11.5	1	61.6	0.1	22.9	0.2	0.0	4.0	8.1	1.6	0.0	0.0	98.5	19	71	9
0.5	0	4.8	1	0.1	0	12.8	2														
0.1	0	5.4	1	0.6	0	11.8	1	61.3	0.0	22.9	0.2	0.0	4.1	8.1	1.6	0.0	0.0	98.1	20	71	9
0.8	1	4.0	1	0.2	0	12.0	1														
0.4	0	4.8	1	0.1	0	11.6	1	61.5	0.1	23.0	0.2	0.0	4.1	8.0	1.6	0.0	0.0	98.5	20	71	9
0.1	0	4.4	1	0.2	0	13.1	1														
0.2	0	4.8	1	0.2	0	12.3	1	61.5	0.0	23.1	0.2	0.0	4.1	8.0	1.6	0.0	0.0	98.5	20	71	9
0.8	0	4.2	1	0.1	0	11.9	1														
0.2	0	4.7	1	0.1	0	12.5	2	61.4	0.1	23.1	0.2	0.0	4.1	8.1	1.6	0.0	0.0	98.6	20	71	9
0.2	0	5.1	1	0.2	0	13.0	1														
0.6	0	5.3	1	0.3	0	11.8	1	61.6	0.1	22.9	0.2	0.0	4.1	8.0	1.6	0.0	0.0	98.5	20	71	9
0.6	0	4.4	1	0.1	0	12.1	1														
0.6	0	4.8	1	0.1	0	10.9	1	61.5	0.1	22.9	0.2	0.0	4.0	8.2	1.6	0.0	0.1	98.5	19	72	9
0.5	0	5.1	1	0.2	0	12.5	1														
0.2	0	4.7	1	0.5	0	11.5	1	62.0	0.1	22.7	0.2	0.0	3.8	8.1	1.6	0.0	0.0	98.6	19	72	10
0.4	0	4.9	1	0.2	0	12.0	1														
0.2	0	4.6	1	0.1	0	11.5	1	62.1	0.1	22.9	0.2	0.0	3.8	8.1	1.7	0.0	0.0	98.8	19	72	10
0.5	1	4.1	1	0.0	0	11.8	1														
0.3	0	4.4	1	0.2	0	11.7	1	61.8	0.1	22.6	0.2	0.0	3.8	8.1	1.6	0.0	0.0	98.2	19	72	10
0.0	0	5.0	1	0.4	0	12.1	1														
0.4	0	4.5	1	0.0	0	12.6	1	61.7	0.1	23.0	0.2	0.0	3.9	8.1	1.6	0.0	0.0	98.5	19	72	9
0.2	0	4.3	1	0.5	0	13.0	2														
0.6	0	4.3	1	0.6	1	12.0	1	61.7	0.0	23.2	0.2	0.0	4.1	8.0	1.5	0.0	0.0	98.7	20	71	9
0.8	1	4.4	1	0.6	0	12.4	1														
0.6	0	4.6	1	0.9	1	12.7	1	61.7	0.1	22.9	0.2	0.0	4.1	8.0	1.6	0.1	0.0	98.6	20	71	9
0.2	0	3.6	1	0.4	0	13.2	1														
0.3	0	3.8	1	0.3	0	11.9	2	61.7	0.1	23.1	0.2	0.0	4.0	8.0	1.6	0.1	0.0	98.7	20	71	9
0.7	0	3.4	1	0.5	0	12.2	1														
0.7	1	3.7	1	0.2	0	12.8	1	61.7	0.0	22.9	0.2	0.0	4.0	8.0	1.5	0.0	0.0	98.4	20	71	9
0.5	0	3.5	1	0.6	1	13.6	2														
0.4	0	3.5	1	0.5	0	11.9	1	61.5	0.1	22.9	0.2	0.0	4.1	8.1	1.6	0.0	0.0	98.5	20	71	9
0.4	0	3.2	1	0.3	0	13.5	1														
0.0	0	3.3	1	0.2	0	13.3	1	61.6	0.1	23.1	0.2	0.0	4.1	8.1	1.5	0.0	0.0	98.8	20	71	9
0.4	0	3.6	1	0.4	0	11.6	1	61.7	0.0	22.9	0.2	0.0	4.1	8.0	1.5	0.0	0.0	98.4	20	71	9
0.7	1	3.1	1	0.1	0	14.1	2														
0.3	0	3.2	1	0.3	0	13.3	1														
0.6	1	2.7	1	0.4	0	13.6	1														

Table B15: Plagioclase grain 15 - Line 2.2

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	2	13.7	3	16.2	2	57724.8	2301	22.4	7	117503	4663	13701	582	25559	1944	48.3	10	1403	123	4.0	1	202	9	735	43	20.0	1	22.6	2	1.2	0	3.5	1
core	7	16.0	3	15.3	2	56146.2	4339	15.5	5	112974	8474	13099	857	24609	2217	53.7	13	1352	115	4.2	1	194	14	714	63	18.7	2	21.2	2	1.9	0	4.5	1
core	12	17.1	3	16.3	2	58252.9	2777	24.1	8	118923	4322	13185	682	25284	2023	45.5	11	1398	151	4.5	1	204	11	708	46	20.9	3	23.0	2	1.6	0	3.7	1
core	17	16.1	3	17.2	2	57364.4	2679	29.0	7	120011	5484	12936	651	27337	1526	61.4	13	1380	146	4.6	1	205	12	710	36	22.2	2	23.4	2	1.9	0	3.5	1
core	22	19.3	3	17.8	2	55582.1	3424	20.2	7	119062	6428	12945	950	26283	1622	62.7	11	1371	169	4.5	1	201	15	663	47	21.4	2	23.1	2	1.6	0	5.4	1
core	27	22.3	4	18.9	1	55056.8	3230	24.3	7	122024	6155	12644	777	26891	2135	57.8	12	1406	168	4.1	1	208	11	666	38	21.7	2	22.3	2	1.8	0	4.4	1
core	32	22.4	3	21.4	1	54384.5	2715	20.6	4	115809	5300	12083	848	27160	2409	57.7	9	1292	148	3.2	1	203	12	619	39	22.8	2	22.8	2	1.5	0	3.9	1
core	37	22.4	4	23.4	3	55526.3	3677	24.4	6	118226	6186	12277	812	25949	2082	51.1	8	1433	158	3.1	1	199	11	633	43	20.9	2	22.8	2	1.4	0	4.4	1
core	42	24.2	2	23.0	2	55707.2	2501	19.7	7	119805	5034	12524	585	25448	1643	56.5	11	1373	142	3.8	1	199	13	634	41	21.2	2	21.7	2	1.5	0	3.9	1
core	47	23.5	3	26.7	3	56960.2	3109	26.0	6	118942	7142	13149	862	27261	1834	61.0	12	1346	166	4.5	1	205	13	642	37	21.0	1	23.7	2	1.4	0	3.2	1
core	52	25.1	4	27.2	3	57940.8	3054	22.0	5	122755	9441	13723	1147	26951	2470	70.6	17	1269	152	4.3	1	216	20	626	48	19.5	2	22.4	2	1.3	0	4.4	1
core	57	22.9	2	24.3	2	54002.4	2748	20.3	6	116948	8085	12758	846	25322	2015	57.1	17	1229	116	4.2	1	201	16	609	59	21.7	3	23.3	2	1.7	0	4.4	1
core	62	23.0	3	25.1	2	52869.5	2924	18.1	6	114749	5585	12693	750	24504	2288	49.4	10	1324	128	3.4	1	192	9	610	37	20.3	2	21.9	2	1.3	0	2.6	1
core	67	28.3	3	27.2	2	57204.4	4610	19.8	6	119680	6969	13111	701	27298	2397	52.5	11	1427	146	4.5	1	197	18	597	37	22.2	2	23.5	2	1.1	0	3.7	1
core	72	27.5	3	25.0	2	54796.8	4550	20.3	8	119341	8557	12479	972	27334	2190	58.7	13	1361	151	4.1	1	201	17	577	50	24.3	3	23.7	2	1.6	0	5.5	2
core	77	28.6	3	25.8	2	56571.4	2934	22.5	9	121066	5216	12784	781	28881	2136	58.8	15	1499	186	4.0	1	200	14	605	43	24.6	2	24.0	2	1.4	0	4.6	1
core	82	27.2	4	25.5	2	54620.2	5197	18.2	6	116847	5946	11858	663	28572	2740	50.5	12	1329	94	3.9	1	186	10	529	43	22.9	2	22.9	2	1.4	0	4.6	1
core	87	27.4	3	27.3	2	54628.9	1980	19.6	7	123856	4783	12752	679	27105	1614	53.7	11	1413	111	3.7	1	208	8	562	28	22.8	2	24.3	2	1.5	0	3.8	1
core	92	26.7	4	26.3	2	52264.9	2689	22.1	6	115435	5565	11678	655	25984	1154	46.3	11	1342	165	4.0	1	183	14	495	34	22.4	2	23.5	3	1.6	0	4.7	1
core	97	29.2	4	29.4	2	57148.5	2226	25.8	6	121702	5165	12209	368	29276	1456	51.9	15	1459	123	4.6	1	196	10	525	26	23.4	2	22.8	2	1.7	0	3.6	1
core	102	27.7	5	28.0	2	54907.8	3199	20.4	5	121107	6318	12182	529	28669	2505	54.0	8	1458	176	3.4	1	186	14	497	34	22.9	2	22.0	2	1.8	0	4.7	1
core	107	27.5	4	27.2	2	56046.0	3192	22.6	6	120463	6810	12114	723	26689	2018	48.6	12	1399	131	3.6	1	188	16	461	39	20.5	2	22.4	2	1.4	0	4.0	1
core	112	29.0	3	25.2	1	55227.9	2855	18.6	6	119253	5440	12435	539	26402	1883	57.9	13	1263	116	3.9	1	178	9	464	35	20.6	1	22.3	2	1.6	0	3.4	1
core	117	31.6	5	28.6	2	55358.6	3120	22.2	6	120732	5961	12857	823	25971	1972	60.8	13	1321	146	3.4	1	183	12	485	33	21.7	2	23.6	2	1.6	0	4.7	1
core	122	27.5	4	27.1	2	56254.9	4076	20.0	8	119252	6507	12552	810	26431	2029	50.1	9	1315	132	3.1	1	188	12	467	38	22.3	2	22.0	1	2.0	0	5.1	1
core	127	28.1	3	26.3	2	53789.1	2306	21.4	8	118202	5194	12705	705	26928	1502	46.4	12	1310	110	3.6	1	177	12	441	36	19.6	2	23.3	2	1.8	0	3.9	1
core	132	27.9	4	27.0	2	53326.6	2932	22.6	7	116971	5763	12849	814	24544	1872	56.8	13	1250	164	3.6	1	175	12	410	31	19.9	2	21.3	2	1.2	0	4.2	1
core	137	28.5	3	28.8	2	57336.0	3394	22.5	8	122532	5542	13603	822	25626	1712	43.4	13	1382	133	4.7	1	188	11	453	22	20.6	2	25.2	1	1.5	0	3.4	1
core	142	28.9	4	26.5	2	54087.3	2616	23.9	6	113481	4727	13309	659	24177	1754	51.5	13	1234	136	4.1	1	174	12	421	37	19.5	2	21.3	2	1.5	0	4.4	1
core	147	28.2	3	28.5	2	57526.7	2389	25.4	8	119399	4088	14025	833	24971	1787	46.0	10	1208	109	4.3	1	179	11	438	23	21.2	2	20.8	2	1.4	0	3.7	1
core	152	27.9	3	26.3	2	54117.9	2448	24.5	5	120029	4124	13485	754	23811	2013	49.4	14	1227	143	4.2	1	165	10	381	23	18.8	1	21.2	1	1.3	0	3.5	1
core	157	28.9	4	27.8	3	56323.6	4409	15.4	6	116123	5623	13652	754	23761	2290	62.9	14	1296	168	4.5	1	164	10	418	28	21.7	2	24.3	3	1.7	0	4.1	2
core	162	28.6	4	33.4	8	54421.7	3221	21.2	6	113447	5658	13871	708	23749	2033	56.1	12	1421	278	4.0	1	171	10	395	36	21.7	2	21.3	2	1.3	0	3.9	1
core	167	28.8	4	29.1	5	52261.3	2178	21.0	7	108432	4398	13127	580	23845	1947	48.0	10	1200	138	5.6	2	164	8	363	23	19.8	2	21.9	2	1.4	0	3.9	1
core	172	29.0	3	28.3	3	72377.0	29566	19.2	6	120664	8061	13901	1173	26346	1883	58.5	17	1282	132	4.4	1	173	14	393	35	21.5	2	23.5	2	1.3	0	5.9	2
core	177	29.6	4	26.7	2	54510.4	2954	22.8	5	118314	6773	13805	1949	26759	1955	67.4	14	1314	140	4.2	1	172	12	354	30	19.6	2	23.1	3	1.6	0	4.8	1
core	182	29.6	4	25.6	2	53259.2	2180	16.8	6	117900	4233	12765	682	25662	1775	40.4	12	1294	148	4.4	1	163	11	346	30	20.5	2	22.7	2	1.4	0	5.1	1
core	187	23.4	3	25.3	2	53257.5	3286	17.9	6	116719	7377	13067	907	25951	2009	50.6	7	1367	130	4.6	1	161	12	329	30	18.3	2	22.1	2	1.4	0	4.1	1
core	192	26.4	3	25.3	2	56968.0	4101	19.5	5	120328	8847	12914	851	26022	1982	48.8	11	1191	141	3.8	1	166	11	346	39	18.6	2	20.8	2	1.4	0	3.6	1
core	196	26.2	3	24.8	1	57284.5	2740	21.0	6	122722	4312	14138	849	26292	1917	50.2	10	1547	122	5.3	1	176	8	349	24	19.9	2	22.8	2	1.6	0	4.6	1
core	201	27.5	3	27.8	2	57530.7	3433	14.9	6	124612	7713	13272	523	27796	2684	51.4	9	1283	134	4.0	1	165	9	316	22	19.8	2	20.4	1	1.4	0	4.1	1
core	206	25.5	4	25.0	3	54530.2	4260	24.5	6	115507	8064	13606	1203	25345	2460	39.8	12	1291	155	4.1	1	158	13	285	21	19.4	1	21.4	2	1.4	0	2.7	1
core	211	23.8	3	24.9	1	54135.4	2288	20.3	7	117468	4283	12697	516	25972	1841	41.0	11	1277	73	3.9	1	164	8	296	21	17.6	2	20.2	2	1.5	0	3.6	1
core	216	23.2	4	22.9	2	55856.4	2626	23.5	5	122833	7770	13517	642	25285	2655	41.5	10	1236	126	3.8	1	156	8	297	18	18.5	2	20.3	1	1.5	0	2.7	1
core	221	23.6	3	21.5	2	54148.1	4012	17.7	4	115479	8606	12825	891	23031	2188	37.3	9	1219	126	4.1	1	151	11	280	27	18.2	2	19.3	2	1.5	0	3.4	1
core	226	22.1	3	20.0	2	55159.7	6297	21.4	8	115083	8064	12609	1004	25744	2066	50.4	9	1207	122	3.7	1	156	13	276	19	19.0	2	20.6	3	1.5	0	3.7	1
core	231	19.6	3	21.5	2	53580.4	2206	22.5	6	119513	5638	13445	816	26612	2031	55.2	13	1283	115	4.0	1	152	6	302	18	18.8	1	20.5	2	1.3	0	4.7	1
core	236	22.7	6	21.0	2	56257.9	3136	23.8	6	118769	5876	13170	790	25701	2139	41.9	11	1329	153	4.7	1	151	9	286	22	19.4	1	21.9	2	1.4	0	5.1	2
core	241	21.6	5	19.3	3	57430.4	5376	23.6	8	114290	6597	12658	621	24113	1377	54.2	14	1306	160	4.0	1	141	9	251	20	18.1	2	20.1	1	1.5	0	3.2	1
core	246	21.3	4	20.0	2	55429.2	4153	23.1	7	117446	6056	13271	975	25707	2771	45.0	11	1279	123	4.5	1	146	10	262	29	18.0	1	21.1	2	1.6	0	3.8	1
core	251	19.9	3	21.3	4	53789.3	4167	20.7	7	114315	9298	12871	956	23202	2491	61.5	15	1329	134	4.9	1	143	11	278	33	17.5	2	20.9	2	1.7	0	3.9	1
core	256	18.7	3	20.3	2	55890.8	3815	24.8	7	117029	8264	13705	1080	24423	2198	39.3	7	1335	194	4.4	1	141	13	261	27	17.1	2	20.1	2	1.5	0	4.5	2
core	261	18.8	6	18.7	3	52481.5	2922	24.9	9	114259	6665	12871	945	25914	2552	36.4	9	1268	147	3.5	1	139	10	248	15	17.3	2	18.1	1	1.4	0	4.1	1
rim	266	18.0	2	15.5	1	56531.7	2313	19.5	6	116364	6773	12866	538	25961	2306	39.8	12	1205	101	4.6	1	142	8	272	25	17.4	1	20.2	1	1.2	0	3.0	1
rim	271	17.1	3	16.4	1	55819.5	3339	16.2	7	118214	6438	13607	1062	25105	2315	51.9	16	1337	144	4.3	1	141	10	269	25	20.4	2	20.1	2	1.4	0	3.2	1
rim	276	13.5	3	15.3	1	55853.4	2820	24.1	8	122321	8274	13185	730	25047	2717	54.4	13	1308	163	3.6	1	142	9	272	25	19.2	2	20.6	2	1.5	0	4.3	1
rim	281	13.3	3	14.5	1	58173.5	5344	22.0	5	117730	6082	13287	890	26263	2003	47.5	13	1313	182	5.0	1	143	12	250	28	19.0	2	21.6	2	1.4	0	3.9	1
rim	286	17.0	4	13.8	2	61234.3	11924	12.8	5	113843	4506	12471	739	24811	2010	38.3	10	1127	151	4.0	1	133	10	258	19	17.7	2	21.7	2	1.4	0	4.2	1
rim	291	15.3	3	13.3	2	57971.0	3988	22.3	6	124662	8827	13877	907	27017	2337	38.6	10	1323	178	4.0	1	136	9	256	22	18.6	2	21.9	2	1.5	0	3.9	1
rim	296	11.5	2	12.6	1	55009.0	4547	24.3	6	117213	8707	12719	942	26995	3258	41.0	10	1303	183	4.3	1	130	10	255	34	18.9	2	20.5	2	1.3	0	3.8	1
rim	301	10.4	3	11.3	1	56190.5	3116	22.6	6	120378	6235	13418	881	25756	2274	37.3	6	1353	166	3.6	1	126	8	256	23	18.7	2	22.0	2	1.4	0	5.2	1
rim	306	8.6	2	10.9	2	55319.6	3555	21.5	8	118950	7272	12838	677	25534	2228	54.7	12	1289	139	4.5	1	130	10	248	23	17.6	2	21.8	2	1.5	0	4.4	1
rim	311	6.9	2	9.5	1	52010.8	2674	18.0	6	113199	6427	12465	747	25448	2366	38.0	9	1248	146	4.3	1	119	8	227	22	18.0	2	20.2	2	1.7	0	3.8	1
rim	316	8.7	2	10.2	2	56188.9	3118	17.3	7	116577	7051	12802	637	25056	2549	40.2	8	1323	113	4.2	1	125	7	216	18	20.8	2	21.7	2	1.3	0	4.1	1
rim	321	7.4	2	6.4	1	58092.9	3303	21.2	5	122003	7099	13318	727	24872	2415	41.8	9	1216	134	4.1	1	122	9	204	16	19.8	2	22.3	2	1.5	0	4.1	1

Table B15: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO$_2$	TiO$_2$	Al$_2$O$_3$	FeO	MgO	CaO	Na$_2$O	K$_2$O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.3	0	5.8	1	0.3	0	12.7	1														
0.5	0	6.0	1	0.3	0	14.3	2	63.0	0.1	23.3	0.2	0.0	4.5	8.0	1.4	0.0	0.0	100.4	22	70	8
0.4	0	5.9	1	0.5	0	13.6	2	63.11	0.0	23.4	0.2	0.0	4.5	8.1	1.4	0.0	0.0	100.5	22	71	8
0.4	0	7.5	1	0.9	1	13.5	2	63.2	0.1	23.4	0.2	0.0	4.4	7.9	1.4	0.0	0.0	100.6	22	70	8
0.6	0	6.2	1	0.2	0	13.7	1	63.3	0.1	23.5	0.2	0.0	4.5	7.9	1.4	0.0	0.0	100.8	22	70	8
0.6	1	6.3	1	0.4	0	13.0	1	63.3	0.1	23.5	0.2	0.0	4.4	8.0	1.4	0.0	0.0	100.9	22	70	8
0.6	0	6.1	1	0.5	1	12.9	1	63.2	0.1	23.3	0.2	0.0	4.4	7.9	1.4	0.0	0.0	100.6	22	70	8
0.7	0	6.0	1	0.6	0	12.5	1	63.2	0.1	23.3	0.2	0.0	4.5	8.0	1.3	0.0	0.0	100.6	22	70	8
0.2	0	5.4	1	0.2	0	13.1	1	63.11	0.1	23.5	0.2	0.0	4.5	7.9	1.4	0.0	0.1	100.7	22	70	8
0.5	0	5.2	1	0.3	0	12.5	2	63.3	0.1	23.5	0.2	0.0	4.5	7.9	1.4	0.0	0.1	100.8	22	70	8
0.1	0	6.0	1	0.6	1	12.6	1	63.1	0.1	23.4	0.2	0.0	4.3	8.0	1.4	0.0	0.1	100.7	22	70	8
0.7	0	5.4	1	0.3	0	11.5	1	62.9	0.1	23.0	0.2	0.0	4.5	7.9	1.4	0.0	0.0	100.0	22	70	8
0.4	0	6.2	1	0.1	0	12.8	1	63.2	0.1	23.4	0.2	0.0	4.5	7.8	1.4	0.0	0.0	100.7	22	70	8
0.6	1	5.2	1	0.8	1	12.0	2	63.2	0.1	23.3	0.2	0.0	4.5	7.9	1.4	0.0	0.1	100.6	22	70	8
0.9	0	5.4	1	0.3	0	11.9	2	63.4	0.1	23.3	0.2	0.0	4.6	7.9	1.4	0.0	0.0	100.6	22	70	8
0.2	0	5.6	1	0.4	0	12.2	1	63.4	0.1	23.2	0.2	0.0	4.6	7.9	1.4	0.0	0.0	100.6	22	70	8
0.4	0	4.9	1	0.1	0	11.8	1	63.11	0.1	23.4	0.2	0.0	4.5	7.9	1.4	0.0	0.0	100.5	22	70	8
0.5	0	5.5	1	0.6	1	12.3	1	63.4	0.1	23.3	0.2	0.0	4.5	8.0	1.4	0.0	0.1	100.8	22	70	8
0.4	1	5.4	1	0.6	0	11.7	1	63.2	0.1	23.3	0.2	0.0	4.5	8.0	1.4	0.0	0.0	100.7	22	70	8
0.5	0	5.3	0	0.6	0	12.8	2	63.2	0.1	23.2	0.2	0.0	4.6	7.9	1.4	0.0	0.0	100.6	22	70	8
0.3	0	5.8	1	0.2	0	12.9	1	63.3	0.0	23.4	0.2	0.0	4.5	8.0	1.4	0.0	0.0	100.7	22	70	8
0.4	0	4.9	1	0.4	0	12.2	1	63.2	0.0	23.3	0.2	0.0	4.5	8.0	1.4	0.0	0.0	100.6	22	70	8
0.5	1	4.8	1	0.7	1	12.1	0	63.3	0.1	23.1	0.2	0.0	4.5	8.0	1.4	0.0	0.0	100.6	22	70	8
0.3	0	4.7	1	0.3	0	11.9	2	63.4	0.1	23.2	0.2	0.0	4.5	7.9	1.4	0.0	0.0	100.6	22	70	8
0.1	0	4.8	1	0.3	0	13.7	2	63.3	0.1	23.2	0.2	0.0	4.5	8.0	1.4	0.0	0.0	100.6	22	70	8
0.4	0	4.8	1	0.5	1	11.5	1	63.3	0.1	23.3	0.2	0.0	4.5	8.0	1.4	0.0	0.1	100.7	22	70	8
0.3	0	4.8	1	0.5	1	11.6	1	63.3	0.1	23.3	0.2	0.0	4.5	8.0	1.4	0.0	0.0	100.6	22	70	8
0.1	0	4.7	1	0.3	0	11.7	1	63.4	0.1	23.1	0.2	0.0	4.4	8.0	1.4	0.0	0.0	100.5	22	70	8
0.1	0	4.5	1	0.1	0	12.6	1	63.5	0.1	23.0	0.2	0.0	4.5	8.0	1.5	0.0	0.0	100.6	22	70	8
0.5	1	4.5	1	0.5	1	11.9	2	63.7	0.1	22.9	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.4	21	71	9
0.3	0	5.0	1	0.4	1	12.0	1	63.7	0.1	23.0	0.2	0.0	4.3	8.0	1.5	0.0	0.1	100.9	21	70	9
0.9	0	4.5	1	0.1	0	11.9	1	63.6	0.1	22.8	0.2	0.0	4.3	7.9	1.5	0.0	0.0	100.4	21	70	9
0.2	0	4.6	1	0.4	0	11.3	1	63.6	0.0	22.9	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.6	21	70	9
0.6	0	4.2	1	0.3	0	12.6	2	63.7	0.1	23.1	0.2	0.0	4.2	8.1	1.6	0.0	0.0	100.8	21	70	9
0.6	0	3.9	1	0.2	0	13.0	1	63.8	0.0	22.5	0.2	0.0	4.0	8.1	1.6	0.0	0.0	100.3	20	71	9
0.5	1	4.1	1	0.2	0	11.9	1	63.6	0.1	22.9	0.2	0.0	4.2	8.1	1.5	0.1	0.0	100.6	20	71	9
0.3	0	3.9	1	0.5	0	12.1	1	64.0	0.0	22.7	0.2	0.0	4.2	8.0	1.6	0.0	0.0	100.9	20	71	9
0.6	0	4.2	1	0.3	0	12.8	2	64.0	0.1	22.8	0.2	0.0	4.2	8.0	1.6	0.0	0.0	100.9	20	71	9
0.4	0	3.9	1	0.4	0	12.5	1	63.9	0.0	22.8	0.2	0.0	4.1	8.0	1.6	0.0	0.0	100.5	20	71	9
0.3	0	4.1	1	0.7	1	13.1	2	63.8	0.0	22.8	0.2	0.0	4.2	7.9	1.6	0.0	0.0	100.2	20	71	9
0.6	0	4.1	1	0.3	0	11.5	1	63.6	0.1	22.8	0.2	0.0	4.2	8.0	1.6	0.0	0.0	100.3	21	70	9
0.8	1	3.8	1	0.3	0	13.0	2	63.7	0.0	22.7	0.2	0.0	4.1	8.1	1.6	0.0	0.0	100.3	20	71	9
0.4	0	3.9	1	0.2	0	13.4	2	63.9	0.1	22.7	0.2	0.0	4.0	8.0	1.6	0.0	0.0	100.7	19	71	10
1.1	1	4.1	1	0.5	0	12.1	1	64.0	0.0	22.7	0.2	0.0	3.9	8.1	1.7	0.1	0.0	100.8	19	72	10
0.5	0	3.7	1	0.3	0	12.8	1	63.9	0.0	22.8	0.2	0.0	4.1	8.0	1.6	0.0	0.0	100.6	20	71	9
0.6	1	4.1	1	0.1	0	12.8	2	63.8	0.0	22.8	0.2	0.0	4.2	7.9	1.6	0.0	0.0	100.5	20	70	9
0.5	0	3.7	1	0.3	0	14.9	2	63.8	0.1	22.9	0.2	0.0	4.1	7.9	1.6	0.1	0.0	100.5	20	71	9
0.8	1	3.2	1	0.4	0	13.3	2	63.7	0.0	22.8	0.2	0.0	4.1	7.9	1.5	0.0	0.1	100.3	20	71	9
0.3	0	4.6	1	0.0	0	12.8	1	63.7	0.1	22.7	0.3	0.0	4.0	8.0	1.6	0.0	0.0	100.3	20	71	9
0.4	0	3.2	1	0.2	0	12.0	1	64.1	0.0	22.7	0.2	0.0	4.0	7.9	1.6	0.0	0.0	100.7	20	71	9
0.4	0	4.6	1	0.1	0	12.9	1	64.0	0.0	22.7	0.2	0.0	4.0	7.9	1.6	0.0	0.0	100.5	19	71	10
0.2	0	3.1	1	0.5	0	13.4	1	64.1	0.0	22.8	0.2	0.0	4.0	7.9	1.6	0.0	0.0	100.7	19	71	10
0.7	0	3.5	1	0.5	0	12.2	1	63.9	0.1	22.4	0.2	0.0	4.0	7.9	1.6	0.0	0.0	100.0	20	71	10
0.3	0	3.6	1	0.1	0	12.7	1	63.6	0.1	22.9	0.2	0.0	4.0	7.8	1.6	0.0	0.1	100.4	20	71	9
0.9	0	3.3	0	0.2	0	12.1	1	63.7	0.1	22.9	0.2	0.0	4.0	7.9	1.5	0.1	0.0	100.4	20	71	9
0.2	0	3.8	1	0.8	1	12.2	2	63.8	0.1	23.0	0.2	0.0	4.1	8.1	1.6	0.0	0.0	100.9	20	71	9
0.7	0	3.7	1	0.1	0	13.5	2	63.8	0.0	22.8	0.2	0.0	4.0	7.9	1.6	0.0	0.0	100.4	20	71	9
0.6	0	3.2	1	0.1	0	12.5	1	64.0	0.1	22.8	0.2	0.0	4.1	8.0	1.7	0.0	0.0	100.8	20	71	10
1.0	1	2.8	1	0.3	0	12.8	1	64.0	0.1	22.7	0.2	0.0	3.8	8.0	1.7	0.0	0.1	100.5	19	71	10
0.1	0	3.6	1	0.2	0	14.6	1	64.2	0.1	22.3	0.2	0.0	3.8	8.0	1.7	0.0	0.0	100.3	19	71	10

Table B16: Plagioclase grain 13 - Lithium isotopes

	MEASURED			background		Results (BLK + tau corr.)									
	^{7}Li (V)	^{6}Li (cps)	^{6}Li (V)	^{7}Li (V)	^{6}Li (cps)	^{7}Li/^{6}Li	SE	SD	1 RSD	n	D time (min)	std drift ^{7}Li/^{6}Li	δ^{7}Li (‰) rel GOR132-G	2 σ	δ^{7}Li (‰) rel IRMM-016
1	0.00665	31875	0.00051	0.0000873	472	12.8892	0.0115	0.1005	895	75	7.6	-0.9	-8.2	2.3	0.7
2	0.02119	102668	0.00164	0.0000895	446	12.8804	0.0119	0.0998	926	69	4.9	-0.3	-9.5	2.3	-0.6
3	0.01615	78409	0.00125	0.0000841	429	12.8787	0.0091	0.0913	705	100	4.7	1.0	-9.3	2.0	-0.4
4	0.01222	59494	0.00095	0.0000820	425	12.8580	0.0073	0.0796	570	119	4.6	0.5	-10.1	1.8	-1.2
5	0.01128	55007	0.00088	0.0000867	422	12.8441	0.0087	0.0911	679	110	4.3	-0.3	-11.1	2.0	-2.2
6	0.01097	53383	0.00085	0.0000841	423	12.8479	0.0093	0.0999	725	114	4.2	0.6	-10.6	2.0	-1.7
7	0.00823	40126	0.00064	0.0000806	433	12.8512	0.0113	0.1218	880	115	4.3	-0.5	-10.3	2.2	-1.4
8	0.00441	21223	0.00034	0.0000859	447	12.8705	0.0135	0.1170	1050	75	5.7	-1.1	-9.6	2.5	-0.7
9	0.01031	50029	0.00080	0.0000852	436	12.8890	0.0123	0.1055	951	73	4.6	-0.1	-8.7	2.4	0.2
10	0.01189	57876	0.00093	0.0000831	422	12.9066	0.0107	0.0853	826	65	5.2	-0.3	-7.6	2.2	1.3
11	0.00728	35357	0.00057	0.0000829	438	12.8601	0.0143	0.1379	1112	94	8.4	0.3	-11.1	2.7	-2.2
12	0.00715	34924	0.00056	0.0000794	407	12.8676	0.0128	0.1404	996	119	4.4	-0.3	-10.5	2.5	-1.6
13	0.00736	36079	0.00058	0.0000832	412	12.8279	0.0123	0.1210	958	96	4.5	0.3	-13.6	2.4	-4.7

grain 15 - Isotopes

RepRate Hz	integr.time (s)		distance	Li	2 σ	d^{7}Li	2 σ
50	1.049	rim	43	13.9	1	0.7	2.3
25	1.049	core	125	22.9	2	-0.6	2.3
17	1.049	core	166	26.1	1	-0.4	2.0
13	1.049	core	210	25.7	1	-1.2	1.8
13	1.049	core	245	29.0	2	-2.2	2.0
11	1.049	core	286	28.1	1	-1.7	2.0
11	1.049	core	327	25.2	2	-1.4	2.2
50	1.049	rim	44	15.2	1	-0.7	2.5
33	1.049	core	72	20.6	2	0.2	2.4
25	1.049	core	110	25.6	3	1.3	2.2
25	1.049	Cracked	44	12.4	1	-2.2	2.7
14	1.049	core	108	20.7	2	-1.6	2.5
11	1.049	core	162	23.8	2	-4.7	2.4

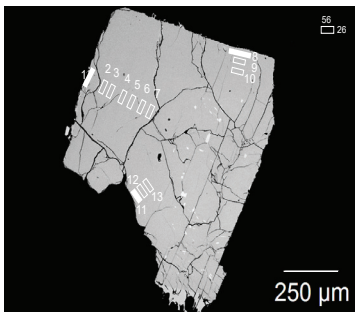


Fig. B14. BSE image of plagioclase grain 15 with Fs-LA-MC-ICP-MS lines indicated.

Table B17: Plagioclase grain 21 - Line 1.1

	Distance	Li^{6} ppm	2SD	Li^{7} ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
rim	2	10.5	3	8.9	1	57862	3336	19.0	8	124546	6724	13875	687	26995	2194	54.6	12	1318	142	3.7	1	142.0	9	281.8	23	20.5	2	21.5	2	1.4	0	3.9	1
rim	6	13.4	3	10.8	1	53909	2341	21.9	6	118772	4640	13059	460	26441	2708	54.5	8	1298	154	4.4	1	136.7	7	268.5	21	20.2	2	19.7	2	1.4	0	4.1	1
rim	11	14.5	3	13.4	1	56230	3734	23.9	7	121269	7072	13134	644	24702	1900	42.9	14	1239	126	4.3	1	150.3	11	272.3	18	20.0	3	21.9	2	1.5	0	3.8	1
rim	16	16.0	3	13.6	1	56739	4373	20.2	10	115223	5527	12782	640	24466	2498	42.5	13	1322	136	4.7	1	137.9	10	273.8	23	18.5	2	20.1	1	1.2	0	4.0	2
rim	21	13.8	3	14.7	1	58001	3323	17.6	5	120369	4222	13475	737	26911	2162	39.8	8	1278	149	5.2	1	143.1	10	277.4	22	19.9	2	21.0	2	1.6	0	4.6	1
rim	26	14.1	2	15.5	1	54734	3037	19.9	5	123727	6932	13279	677	25375	2517	48.6	17	1244	170	4.1	1	147.0	10	275.4	20	20.4	2	21.1	2	1.2	0	3.6	1
rim	31	16.2	3	15.9	1	51432	2982	22.1	6	113951	5877	12422	760	24219	1996	45.5	11	1347	178	4.4	1	137.8	10	250.3	24	17.9	2	20.4	2	1.6	0	3.7	1
rim	36	15.7	2	16.5	1	54767	2408	18.0	8	120629	5142	12958	508	25544	1616	39.3	12	1302	116	4.0	1	140.4	8	246.3	17	19.4	2	19.7	2	1.5	0	4.7	2
Core	41	21.4	3	18.1	1	55772	2438	18.5	6	123164	5050	13716	647	26147	1878	42.3	11	1287	163	4.6	1	135.3	8	232.9	20	18.8	1	21.2	2	1.5	0	3.6	1
Core	46	22.0	2	18.6	2	53334	2772	15.3	7	116279	5461	12930	581	25829	1851	36.5	13	1327	145	4.6	1	122.6	10	199.3	15	18.4	2	18.6	2	1.2	0	4.6	2
Core	51	19.5	3	18.7	1	54446	2042	28.2	10	119514	4228	13092	559	24793	1370	46.9	11	1296	145	3.4	1	116.1	7	176.4	19	18.0	2	18.0	1	1.3	0	4.6	1
Core	56	22.2	3	21.6	3	56420	3313	22.6	7	121256	6648	13814	768	25746	2798	36.0	11	1403	115	5.0	1	114.1	9	144.3	18	18.9	2	19.2	2	1.4	0	3.7	2
Core	61	21.4	2	21.1	1	56196	2103	21.4	7	121702	4482	13230	486	25071	1687	39.8	11	1216	129	4.6	1	103.2	7	115.0	10	18.3	2	18.2	2	1.5	0	2.7	1
Core	66	19.8	3	21.1	1	57489	2930	22.1	8	124507	6097	13780	732	24502	1741	34.6	15	1289	112	3.4	1	101.0	6	120.8	13	18.1	2	19.5	2	1.4	0	3.5	1
Core	71	23.0	4	20.5	1	53521	2127	22.4	7	116486	3890	12851	497	26295	1551	41.3	15	1075	64	4.0	1	87.4	6	100.3	11	17.8	2	20.3	1	1.3	0	4.2	1
Core	76	20.2	3	20.4	2	55675	4406	25.4	7	118144	8028	12927	879	25991	3104	41.3	10	1341	129	4.2	1	81.1	4	100.4	13	18.1	2	20.6	2	1.5	0	4.1	1
Core	81	21.3	3	21.4	2	56271	1893	20.5	6	123449	4153	13097	440	26273	1676	36.0	9	1191	132	4.0	1	83.1	6	100.0	12	18.7	2	21.1	1	1.0	0	4.6	2
Core	86	20.7	3	21.2	1	56934	2482	21.2	6	125755	5041	12984	591	26896	2007	50.7	12	1193	158	4.3	1	76.5	5	69.1	9	20.6	2	22.6	2	1.7	0	3.3	1
Core	91	19.2	3	20.4	2	52800	2329	17.7	7	116303	5612	12545	523	24296	1899	42.1	13	1291	133	3.7	1	72.9	6	60.6	8	19.3	1	18.0	2	1.3	0	4.1	1
Core	96	21.9	3	21.8	1	56532	3302	24.3	9	123915	7125	12957	786	24852	2057	41.6	10	1356	134	4.2	1	72.5	6	61.6	8	20.4	2	21.4	2	1.5	0	3.6	1
Core	101	23.5	4	22.3	3	56865	3349	21.7	6	124696	7562	13423	1116	25769	1437	40.2	10	1195	156	4.5	1	66.6	5	50.0	7	18.9	1	19.3	1	1.2	0	5.2	1
Core	106	22.7	3	22.7	2	54953	2174	23.8	8	122410	5101	13083	565	25275	2038	39.1	8	1283	153	4.1	1	62.5	4	43.0	5	20.0	2	19.4	2	1.5	0	3.2	1
Core	111	20.5	3	20.9	2	53334	3253	25.9	9	121414	7121	12460	634	27294	2197	40.8	9	1250	143	3.8	1	56.7	6	49.4	7	19.7	2	20.4	2	1.5	0	3.1	1
Core	116	21.4	3	21.1	2	54698	3318	25.5	6	122411	6588	12858	628	27025	1998	42.5	11	1267	116	4.5	1	57.8	5	38.9	9	19.7	2	21.6	2	1.3	0	3.4	2
Core	120	18.6	3	21.5	3	53194	1935	17.8	6	118969	4496	12164	450	25870	1965	47.5	8	1253	135	4.0	1	50.6	3	33.5	6	19.3	2	20.5	2	1.5	0	4.8	1
Core	125	20.7	2	22.7	2	57861	2477	24.9	9	128339	6585	12758	547	28938	2731	41.7	11	1429	188	4.5	1	51.9	4	36.1	8	19.6	2	22.5	1	1.4	0	4.3	2
Core	130	20.4	2	21.6	3	52338	2304	24.1	6	116819	5479	12069	515	24561	2273	37.2	11	1279	125	3.7	1	47.2	3	30.5	8	20.2	2	20.9	2	1.1	0	4.3	1
Core	135	22.7	3	21.5	2	55079	2389	20.8	6	121702	4859	12301	448	26295	1787	47.2	16	1344	108	4.2	1	44.5	3	29.5	5	19.8	2	22.0	2	1.2	0	2.7	1
Core	140	22.9	3	19.2	1	53721	1991	23.2	7	119728	4119	12563	560	25735	1394	45.7	15	1371	94	4.1	1	42.4	3	31.0	6	18.2	2	21.3	2	1.5	0	3.7	1
Core	145	19.3	2	20.4	1	56134	2675	21.7	9	122484	5998	13139	585	28805	2547	39.9	15	1338	157	4.1	1	45.8	4	20.9	6	21.2	2	19.4	1	1.5	0	3.1	1
Core	150	19.1	3	18.1	1	52829	2692	16.5	7	117164	6824	12454	797	24172	1446	39.8	9	1255	114	4.1	1	38.3	3	23.3	5	18.5	2	20.1	2	1.2	0	3.1	1
Core	155	19.3	3	19.2	1	55177	3305	22.2	7	121572	6656	12494	584	25578	1239	46.6	14	1320	144	4.3	1	39.8	3	23.2	6	19.0	2	21.1	2	1.2	0	4.5	1
Core	160	19.5	3	18.2	1	52567	2322	21.7	6	118441	5131	12353	551	25939	2218	39.6	11	1374	144	3.8	1	40.3	3	23.6	5	18.8	2	18.7	1	1.2	0	3.5	1
Core	165	18.4	2	19.6	2	54563	3118	20.1	6	121535	6212	12874	1293	25081	1810	53.7	10	1337	140	4.0	1	37.6	3	24.1	8	18.0	2	19.3	2	1.3	0	3.8	1
Core	170	20.3	3	19.4	1	55648	2520	22.8	9	123812	5304	12720	591	27416	2137	29.3	8	1323	126	4.3	1	38.8	3	21.1	5	19.8	1	20.4	2	1.7	0	3.4	1
Core	175	19.7	4	18.2	1	52783	2574	18.4	6	116294	4960	12120	526	26536	2102	32.7	9	1162	96	3.4	1	36.8	3	20.0	6	18.5	2	21.0	2	1.3	0	3.8	1
Core	180	22.9	4	19.0	1	57737	3206	21.1	6	127343	7148	13047	756	25505	2368	42.5	12	1372	152	3.4	1	37.1	3	27.9	8	20.6	2	20.4	2	1.5	0	4.5	1
Core	185	21.6	3	20.1	2	56446	4329	25.7	6	125462	7999	13018	825	27222	1819	38.8	13	1278	138	3.3	1	38.4	4	30.5	7	19.6	2	21.6	2	1.4	0	3.1	1
Core	190	18.2	2	19.9	2	55597	2621	19.8	7	121935	6270	12631	644	25466	1955	52.2	11	1267	152	4.5	1	35.9	3	20.6	4	19.5	2	20.9	2	1.5	0	3.7	1
Core	195	17.8	3	18.7	2	57720	3343	23.3	8	124124	6170	12901	744	26092	1707	43.0	12	1237	125	4.5	1	36.2	3	23.8	5	19.2	2	21.2	2	1.5	0	3.7	1
Core	200	20.8	2	18.8	1	54443	2814	23.4	6	122804	6885	12794	715	26623	1566	45.8	12	1347	133	4.2	1	33.8	3	22.2	4	20.6	2	20.0	1	1.2	0	4.2	1
Core	205	16.9	3	16.4	1	53845	2044	23.7	10	118009	4413	12304	441	25107	1700	44.3	12	1239	126	3.8	1	35.1	3	18.0	4	18.6	2	19.3	1	1.5	0	3.1	1
Core	210	20.3	3	18.6	1	56829	2424	25.3	6	124938	5871	13050	665	27846	1972	44.2	12	1487	136	4.4	1	35.3	3	20.5	5	20.1	1	23.2	2	1.2	0	4.2	1
Core	215	17.4	3	16.9	1	52850	2948	26.8	7	116864	6050	12310	624	24288	2166	45.4	10	1126	140	3.1	1	33.3	2	20.1	7	19.7	2	19.3	1	1.3	0	3.1	1
Core	220	19.6	4	18.6	1	56951	3143	24.0	8	124593	6260	13217	641	26967	1783	49.8	10	1419	179	3.6	1	34.6	3	17.5	6	19.5	2	20.4	1	1.4	0	3.5	1
Core	225	18.8	4	18.5	1	55843	3007	26.3	9	123189	6467	13382	716	25527	2083	42.2	14	1456	158	3.7	1	34.9	3	20.1	4	18.5	2	20.0	2	1.6	0	4.1	1
Core	230	20.9	3	18.3	1	57329	2831	29.3	10	126318	5675	13694	666	25832	2231	58.4	17	1323	169	4.1	1	35.3	3	15.1	5	18.9	2	21.7	3	1.5	0	3.7	1
Core	235	18.8	3	17.0	1	54023	2520	19.2	5	117549	5296	12825	561	24583	1439	44.6	9	1308	145	4.2	1	33.4	3	17.3	3	18.5	2	19.4	2	1.3	0	4.0	1
Core	240	20.3	3	17.8	2	57130	2764	20.0	9	125913	5704	13638	583	25502	1738	46.5	13	1307	142	4.5	1	36.0	3	19.6	5	19.9	2	19.9	2	1.5	0	3.2	1
Core	245	19.7	2	18.5	2	54811	2936	20.0	5	121663	6194	13259	748	25835	2119	45.9	11	1319	180	3.6	1	33.7	3	17.6	3	19.1	2	19.2	2	1.3	0	3.3	1
Core	250	17.2	3	17.0	1	53095	2431	26.4	6	116523	5458	12614	586	24125	1393	55.1	13	1315	143	4.1	1	30.5	3	21.0	6	18.2	2	19.5	1	1.6	0	3.6	1
Core	255	19.0	3	18.6	3	54389	3932	20.5	9	120107	7781	12893	975	27391	2987	55.3	8	1310	226	2.9	1	32.3	3	19.5	6	19.3	2	20.1	2	1.6	0	4.1	2
Core	260	20.3	3	19.3	3	54298	3230	25.2	8	122125	7400	12591	818	25077	2269	53.7	12	1230	121	3.7	1	32.7	3	18.6	5	19.0	2	20.5	2	1.4	0	2.7	1
Core	265	18.0	3	17.0	1	54540	2274	29.8	8	120090	6906	12235	588	25906	1815	49.7	10	1244	139	4.2	1	31.3	3	14.4	4	18.9	2	19.3	2	1.6	0	2.2	1
Core	270	16.1	3	17.0	1	54519	2417	22.4	6	121074	4381	12650	555	26726	1917	40.0	11	1423	151	3.8	1	34.1	3	21.2	5	19.4	2	21.6	2	1.4	0	3.9	1
Core	275	18.6	3	16.9	2	52791	1823	24.1	6	118307	3734	12324	424	26151	1698	50.6	10	1262	113	3.5	1	32.2	3	21.9	4	18.4	2	19.6	1	1.7	0	3.3	1
Core	280	17.5	3	17.5	1	54941	2853	25.3	8	120680	5411	12523	633	26001	2343	40.8	10	1296	149	4.0	1	34.3	3	21.2	5	17.8	2	20.6	1	1.8	0	3.8	1
Core	285	17.6	3	18.4	1	56347	3297	25.2	8	124961	7117	12972	624	27701	2026	44.1	13	1477	203	3.3	1	33.3	2	18.3	5	17.9	2	21.2	2	1.5	0	2.9	1
Core	290	20.0	3	17.5	1	53894	2984	20.4	5	120928	7846	12394	764	25734	1817	43.3	9	1383	168	4.4	1	33.5	4	22.4	5	20.1	2	20.2	2	1.5	0	4.5	1
Core	295	17.4	2	17.1	1	54145	2417	26.4	8	121098	4856	12490	552	25932	1974	71.6	12	1237	139	3.2	1	34.1	3	20.5	4	18.3	2	20.2	2	1.3	0	3.2	1
Core	300	16.7	3	17.2	1	52598	2960	20.1	7	117300	6251	12224	639	26518	2443	44.8	14	1359	127	4.5	1	33.1	3	17.5	6	18.1	1	20.3	1	1.2	0	4.2	1
Core	305	17.0	2	17.5	1	53647	3596	23.0	7	119438	6382	12541	748	25477	1810	40.7	9	1302	105	3.7	1	33.7	3	18.4	5	19.2	2	20.5	2	1.5	0	3.9	2
Core	310	19.2	3	16.9	1	54643	3518	31.2	8	121827	7338	12684	783	25006	3051	51.1	11	1404	163	4.1	1	35.6	3	26.0	6	20.1	2	20.2	2	1.4	0	3.5	1
Core	315	18.7	3	17.7	1	53051	2835	30.2	8	116510	5905	12268	644	25940	2460	52.2	13	1307	163	4.1	1	31.9	3	24.3	6	21.1	2	21.8	2	1.4	0	4.8	2
Core	320	17.6	2	18.2	1	52548	2707	32.1	11	116754	5650	11950	586	25940	1928	44.9	12	1370	110	3.6	1	30.1	3	17.9	5	17.5	1	19.2	1	1.2	0	5.1	2
Core	325	20.1	3	18.2	1	56811	2158	21.9	8	128109	6517	12974	504	27975	2331	42.6	14	1328	136	3.4	1	34.8	3	21.0	5	20.2	1	22.2	2	2.0	0	4.6	2
Core	330	18.4	3	17.9	2	56017	4186	21.0	4	126451	9714	12732	999	25915	2174	48.9	13	1374	148	3.8	1	36.5	4	21.9	5	20.2	3	21.5	2	1.6	0	4.9	2

Table B17: continured

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.5	0	3.4	1	0.7	1	14.0	2														
0.5	1	4.0	1	0.6	1	12.5	1														
0.3	0	3.4	1	0.0	0	13.1	2														
0.3	0	3.3	1	0.1	0	13.0	2														
0.4	0	4.0	1	0.4	0	14.5	2														
0.3	0	3.7	1	0.2	0	12.1	1														
0.3	0	3.9	1	0.3	0	12.3	1														
0.5	0	4.3	1	0.5	1	12.6	1														
0.4	0	3.6	1	0.1	0	12.3	1														
0.2	0	3.3	1	0.2	0	12.6	1	61.9	0.1	23.0	0.2	0.0	4.4	7.9	1.5	0.0	0.0	99.0	21	70	9
0.3	0	2.9	1	0.3	1	12.0	1	62.1	0.0	23.4	0.2	0.0	4.5	8.0	1.5	0.1	0.0	99.7	22	70	8
0.3	0	3.6	1	0.2	0	12.0	1	61.6	0.1	23.4	0.2	0.0	4.6	7.9	1.4	0.0	0.0	99.2	22	70	8
0.2	0	2.3	1	0.5	1	14.0	2	62.0	0.1	23.4	0.2	0.0	4.5	8.0	1.4	0.0	0.0	99.5	22	70	8
0.5	0	2.7	1	0.1	0	13.8	2	61.9	0.1	23.4	0.2	0.0	4.6	7.8	1.5	0.0	0.0	99.3	22	69	9
0.4	0	2.5	1	0.1	0	12.5	1	61.4	0.1	23.6	0.2	0.0	4.5	8.1	1.4	0.0	0.0	99.2	21	70	8
0.5	0	1.7	0	0.2	0	12.6	1	61.6	0.0	23.4	0.2	0.0	4.4	8.0	1.5	0.0	0.0	99.1	21	70	8
0.4	0	1.9	0	0.8	1	13.5	1	61.6	0.0	23.5	0.2	0.0	4.4	8.1	1.5	0.0	0.0	99.2	21	70	8
0.7	1	2.0	0	0.3	0	13.5	1	61.6	0.1	23.3	0.2	0.0	4.4	8.1	1.5	0.0	0.0	99.2	21	70	8
0.3	0	1.5	0	0.5	0	13.1	1	61.6	0.0	23.3	0.2	0.0	4.4	8.0	1.4	0.0	0.0	98.9	22	70	8
0.5	0	2.0	1	0.1	0	12.8	1	61.6	0.1	23.1	0.2	0.0	4.5	8.0	1.5	0.0	0.0	99.0	22	70	8
0.2	0	1.7	1	0.6	1	14.1	2	61.7	0.1	23.5	0.2	0.0	4.5	8.1	1.4	0.0	0.0	99.5	22	70	8
0.1	0	1.8	0	0.2	0	14.8	1	61.8	0.1	23.4	0.2	0.0	4.4	8.1	1.4	0.0	0.0	99.3	21	71	8
0.4	1	1.0	0	0.1	0	13.9	2	61.4	0.1	23.3	0.2	0.0	4.5	8.0	1.4	0.0	0.0	98.8	22	70	8
0.5	1	1.3	0	0.7	1	13.5	2	61.6	0.1	23.6	0.2	0.0	4.3	8.1	1.4	0.0	0.0	99.4	21	71	8
0.6	1	1.5	0	0.5	0	14.3	1	61.6	0.0	23.2	0.2	0.0	4.4	8.0	1.5	0.1	0.0	98.9	21	70	8
1.0	1	1.3	1	0.7	1	14.9	1	61.7	0.0	23.5	0.2	0.0	4.4	8.0	1.4	0.0	0.0	99.3	21	70	8
0.4	0	1.0	0	0.3	0	14.9	2	61.6	0.1	23.5	0.2	0.0	4.4	8.0	1.5	0.0	0.0	99.3	21	70	8
0.7	0	1.1	0	0.2	0	12.7	1	61.5	0.1	23.5	0.2	0.0	4.5	8.0	1.4	0.0	0.0	99.1	22	70	8
0.1	0	1.3	0	0.1	0	14.0	1	61.6	0.0	23.4	0.2	0.0	4.5	8.0	1.4	0.0	0.0	99.1	22	70	8
0.4	0	1.6	1	0.5	1	14.5	1	61.4	0.0	23.4	0.3	0.0	4.5	8.0	1.4	0.0	0.0	99.0	22	70	8
0.5	0	1.2	1	0.1	0	13.6	1	61.6	0.1	23.4	0.2	0.0	4.6	8.1	1.4	0.0	0.0	99.4	22	70	8
0.4	0	1.0	0	0.3	0	14.1	1	61.6	0.0	23.5	0.2	0.0	4.4	8.0	1.4	0.0	0.0	99.3	21	70	8
0.7	1	1.0	0	0.7	1	14.1	1	61.6	0.1	23.4	0.2	0.0	4.4	8.0	1.4	0.0	0.0	99.1	21	70	8
0.2	0	1.0	0	0.1	0	14.9	1	61.5	0.1	23.5	0.2	0.0	4.4	8.0	1.4	0.0	0.0	99.2	22	70	8
0.2	0	1.1	0	0.1	0	14.4	1	61.6	0.1	23.5	0.2	0.0	4.6	8.0	1.4	0.0	0.0	99.3	22	70	8
0.8	1	0.8	0	0.3	0	14.2	2	61.4	0.1	23.7	0.2	0.0	4.6	7.9	1.4	0.0	0.0	99.3	22	70	8
0.5	1	1.0	0	0.5	0	15.3	2	61.3	0.1	23.2	0.2	0.0	4.6	8.0	1.4	0.0	0.0	98.8	22	70	8
0.4	0	1.1	0	0.3	1	15.7	2	61.6	0.1	23.6	0.2	0.0	4.6	7.9	1.4	0.0	0.0	99.4	23	69	8
0.5	1	1.1	0	0.4	0	15.7	2	61.5	0.0	23.5	0.2	0.0	4.6	8.0	1.4	0.0	0.0	99.3	22	70	8
0.2	0	1.0	0	0.4	0	15.3	2	61.8	0.1	23.5	0.2	0.0	4.6	7.9	1.4	0.0	0.0	99.5	22	70	8
0.6	1	1.1	0	0.4	0	14.9	1	61.2	0.1	23.7	0.2	0.0	4.6	7.9	1.4	0.0	0.0	99.0	22	70	8
0.4	0	1.2	0	0.4	0	14.7	1	61.2	0.0	23.4	0.2	0.0	4.6	7.9	1.4	0.0	0.0	98.7	22	70	8
0.4	0	1.2	0	0.1	0	16.0	1	61.4	0.1	23.4	0.2	0.0	4.6	8.0	1.4	0.0	0.0	99.0	22	70	8
0.2	0	0.9	0	0.1	0	14.6	1	61.4	0.0	23.5	0.2	0.0	4.6	7.9	1.4	0.0	0.0	99.0	22	70	8
0.1	0	1.0	0	0.4	0	13.5	2	61.4	0.1	23.7	0.2	0.0	4.6	8.0	1.4	0.0	0.0	99.4	22	70	8
0.5	1	1.1	0	0.0	0	13.5	1	61.3	0.1	23.5	0.2	0.0	4.6	8.0	1.4	0.0	0.0	99.1	22	70	8
0.7	1	1.1	0	0.1	0	16.1	2	61.6	0.1	23.5	0.2	0.0	4.6	7.9	1.4	0.0	0.0	99.2	23	70	8
0.8	1	0.7	0	0.5	0	14.0	1	61.4	0.1	23.6	0.2	0.0	4.7	7.9	1.4	0.0	0.0	99.3	23	69	8
0.4	0	1.0	0	0.4	0	15.4	1	61.5	0.0	23.6	0.2	0.0	4.6	7.9	1.4	0.1	0.0	99.2	22	70	8
0.2	0	0.8	0	0.3	0	14.1	2	60.9	0.1	23.6	0.2	0.0	4.5	8.0	1.4	0.0	0.0	98.7	22	70	8
0.3	0	1.0	0	0.1	0	13.0	1	61.0	0.1	23.4	0.2	0.0	4.5	8.0	1.4	0.0	0.0	98.6	22	70	8
0.4	0	0.7	0	0.6	1	14.2	2	61.4	0.1	23.4	0.2	0.0	4.5	7.8	1.4	0.0	0.0	98.8	22	70	8
0.1	0	0.9	0	0.1	0	14.8	2	61.2	0.1	23.3	0.2	0.0	4.5	7.9	1.4	0.0	0.0	98.6	22	70	8
0.5	0	1.0	0	0.0	0	14.0	1	62.2	0.0	23.5	0.2	0.0	4.5	8.0	1.4	0.1	0.1	100.0	22	70	8
0.6	1	1.0	0	0.5	0	14.7	1	62.3	0.0	23.5	0.2	0.0	4.4	8.1	1.5	0.0	0.0	100.0	21	70	8
0.2	0	0.9	0	0.4	0	14.7	1	62.3	0.0	23.2	0.2	0.0	4.4	7.9	1.4	0.0	0.0	99.6	22	70	8
0.2	0	1.1	0	0.1	0	14.0	1	61.9	0.0	23.2	0.2	0.0	4.4	8.0	1.5	0.0	0.0	99.2	21	70	8
0.2	0	1.2	0	0.2	0	14.1	1	62.0	0.1	22.9	0.2	0.0	4.3	8.1	1.4	0.0	0.0	98.9	21	71	8
0.4	0	1.0	0	0.4	1	13.6	1	62.2	0.1	22.8	0.2	0.0	4.3	7.9	1.4	0.0	0.0	99.1	21	70	8
0.2	0	0.9	0	0.2	0	14.3	1	62.1	0.1	22.7	0.2	0.0	4.4	8.0	1.4	0.1	0.0	99.0	21	70	8
0.5	0	1.1	0	0.8	1	13.2	1	62.1	0.0	22.8	0.2	0.0	4.4	8.0	1.4	0.0	0.0	98.9	22	70	8
0.3	0	1.2	0	0.5	0	14.4	1	62.0	0.1	22.9	0.2	0.0	4.5	7.9	1.4	0.0	0.0	99.1	22	70	8
0.3	0	1.0	0	0.2	0	14.7	1	62.1	0.1	23.1	0.2	0.0	4.5	8.0	1.4	0.0	0.0	99.3	22	70	8
0.2	0	1.0	0	0.2	0	14.5	2	62.1	0.0	23.0	0.2	0.0	4.4	8.0	1.4	0.0	0.0	99.1	21	70	8
0.3	0	0.6	0	0.1	0	14.0	2	61.9	0.1	23.1	0.2	0.0	4.4	7.8	1.5	0.0	0.0	99.0	22	70	8
0.3	0	0.9	0	0.5	1	14.5	1	62.1	0.1	22.8	0.2	0.0	4.4	7.9	1.5	0.0	0.0	98.9	22	70	8
0.3	0	1.5	0	0.2	0	14.8	1	61.7	0.1	23.0	0.2	0.0	4.4	7.9	1.4	0.0	0.0	98.8	22	70	8

grain 21 - Line 1.1

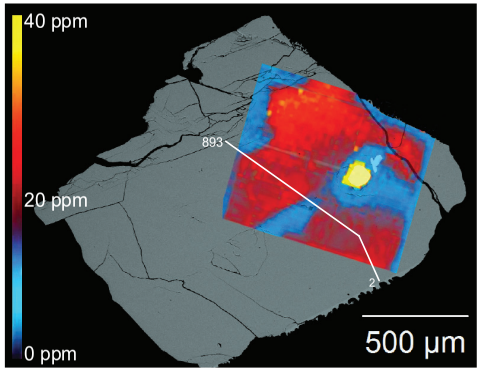


Fig. B15. BSE image of plagioclase grain 21 with trace element line 1.1 (by LA-ICP-MS) indicated.

grain 21 - Line 1.2

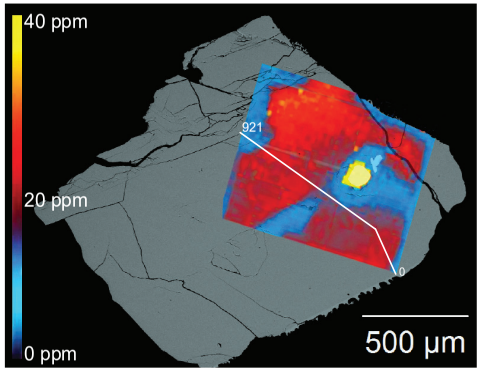


Fig. B16. BSE image of plagioclase grain 21 with trace element line 1.2 (by LA-ICP-MS) indicated.

Table B17: continured

Core	335	17.0	4	18.0	1	56083	3096	24.5	8	124461	7723	12571	774	27195	3102	48.1	9	1335	122	3.7	1	33.0	3	26.6	5	19.0	2	22.6	2	1.7	0	3.9	2	0.2	0	1.1	0	0.2	0	14.0	2	61.8	0.1	23.0	0.2	0.0	4.5	8.0	1.4	0.0	0.0	99.0	22	70	8
Core	340	19.0	3	18.8	2	57236	2661	28.5	6	127835	5270	12894	575	27059	2097	47.2	12	1362	143	4.5	1	34.5	3	26.7	6	21.4	2	23.2	2	1.6	0	4.9	2	0.5	0	1.1	0	0.0	0	15.9	1	61.9	0.1	23.3	0.2	0.0	4.6	7.9	1.4	0.0	0.0	99.3	22	70	8
Core	345	18.5	3	17.1	1	54520	2606	26.4	6	120115	5918	12506	560	27008	1733	46.4	12	1278	134	3.4	1	34.8	3	25.8	5	19.5	2	21.1	2	1.3	0	3.5	1	0.1	0	0.8	0	0.2	0	15.4	1	62.0	0.1	23.1	0.2	0.0	4.5	7.9	1.4	0.0	0.0	99.2	22	70	8
Core	350	20.5	3	17.2	1	54519	1908	26.3	7	121542	4057	12500	497	26595	1848	37.9	5	1284	100	3.2	1	33.8	2	30.5	5	19.8	1	22.0	1	1.4	0	3.9	1	0.4	0	1.0	0	0.1	0	13.9	1	61.9	0.1	23.1	0.2	0.0	4.5	7.9	1.4	0.0	0.0	99.2	22	70	8
Core	355	17.6	3	17.9	3	53032	1988	25.3	8	116925	4574	12240	436	25132	1888	43.5	10	1367	171	3.3	1	34.8	3	29.7	5	20.6	1	20.7	2	1.5	0	3.4	1	0.5	0	1.0	0	0.7	1	14.9	1	62.1	0.1	23.0	0.2	0.0	4.5	7.9	1.4	0.0	0.0	99.2	22	70	8
Core	360	17.8	2	17.0	1	54193	2556	28.0	9	120078	6678	12523	636	27861	2800	52.4	10	1369	157	4.3	1	33.4	3	23.8	5	19.7	2	21.3	2	1.4	0	3.3	1	0.3	0	1.0	0	0.4	0	14.1	2	62.1	0.1	23.2	0.2	0.0	4.5	8.0	1.4	0.0	0.0	99.5	22	70	8
Core	365	19.6	3	17.5	1	54953	2609	31.7	8	122380	5343	12292	501	28050	2178	54.6	14	1423	144	4.2	1	38.2	3	32.5	7	21.1	2	21.0	1	2.0	0	4.1	1	0.5	0	1.1	0	0.2	0	14.3	1	61.8	0.0	23.1	0.2	0.0	4.4	8.0	1.4	0.0	0.0	99.1	22	70	8
Core	370	18.1	2	18.3	1	56109	2096	29.5	8	124342	5586	12368	564	26777	1721	49.0	8	1241	117	3.9	1	34.0	3	33.6	6	20.4	1	24.7	2	1.3	0	2.9	1	0.3	0	1.0	0	0.1	0	15.1	1	61.8	0.1	23.2	0.2	0.0	4.5	8.1	1.4	0.1	0.0	99.2	22	70	8
Core	375	21.0	4	18.4	1	56459	3192	20.4	8	126806	8100	12410	772	27827	2392	46.9	15	1511	193	4.1	1	36.5	4	24.1	5	22.1	2	24.1	2	1.4	0	3.6	2	0.5	0	1.0	0	0.4	0	15.6	1	62.3	0.1	22.9	0.2	0.0	4.5	8.0	1.4	0.0	0.0	99.3	22	70	8
Core	380	19.1	4	19.8	2	58084	2935	31.3	6	127233	5813	12759	551	26726	2474	41.6	10	1467	111	3.5	1	36.4	2	31.0	7	21.5	1	27.0	2	1.8	0	4.7	1	0.6	0	0.9	0	0.0	0	14.1	1	62.0	0.1	23.3	0.2	0.0	4.6	7.9	1.4	0.0	0.0	99.4	22	70	8
Core	385	20.3	4	18.7	1	56144	3121	30.0	8	122380	6314	11927	604	25883	2544	54.2	12	1318	133	3.4	1	36.0	4	34.7	6	19.9	2	23.7	1	1.4	0	4.9	1	0.5	0	1.2	0	0.4	0	15.0	1	62.0	0.1	23.4	0.2	0.0	4.7	8.0	1.4	0.0	0.0	99.8	22	70	8
Core	390	18.1	3	18.4	1	55954	2388	21.3	6	124180	3830	11953	375	28656	1967	47.8	10	1413	96	3.5	1	37.5	3	32.3	6	21.7	2	23.1	2	1.6	0	3.5	1	0.0	0	1.1	0	0.5	1	15.1	1	62.0	0.1	23.3	0.2	0.0	4.6	7.9	1.4	0.1	0.0	99.4	22	70	8
Core	395	17.3	3	17.4	1	52996	2020	25.8	6	119197	3625	11561	428	28764	1677	48.3	11	1413	133	3.7	1	38.2	3	33.6	5	20.0	2	23.4	2	1.6	0	3.8	1	0.8	1	0.9	0	0.3	0	14.5	1	62.1	0.1	23.4	0.2	0.0	4.6	7.9	1.4	0.1	0.0	99.8	22	70	8
Core	400	17.9	3	17.6	1	53948	2584	21.2	5	122305	5453	11980	548	27391	1823	48.7	12	1369	115	3.1	1	36.5	4	29.9	8	22.1	2	24.9	2	1.6	0	3.3	1	0.1	0	1.2	0	0.5	0	14.0	1	62.0	0.1	23.3	0.2	0.0	4.6	7.9	1.4	0.0	0.0	99.5	22	70	8
Core	405	18.0	2	17.8	1	55748	2344	28.5	10	124103	6391	12244	610	27996	1698	48.7	10	1289	147	3.8	1	35.9	3	27.5	7	21.1	2	22.5	2	1.6	0	4.2	1	0.5	0	1.2	0	0.4	0	15.5	2	61.9	0.1	23.1	0.2	0.0	4.5	8.0	1.4	0.0	0.0	99.2	22	70	8
Core	410	18.6	2	17.7	1	54788	2910	30.0	10	121810	5807	12014	532	27951	2051	46.4	10	1384	172	2.8	1	34.4	3	38.4	7	22.8	2	23.1	1	1.6	0	3.2	1	0.4	0	1.3	0	0.4	0	14.7	1	62.1	0.1	23.3	0.2	0.0	4.5	8.0	1.4	0.0	0.0	99.5	22	70	8
Core	415	17.7	3	17.5	1	54349	2524	22.8	5	121263	4991	11883	511	26541	1819	56.7	12	1377	176	3.5	1	37.0	3	28.5	7	20.3	2	23.8	2	1.5	0	4.1	1	0.2	0	1.1	0	0.2	0	13.1	1	62.0	0.0	23.5	0.2	0.0	4.5	8.0	1.4	0.0	0.0	99.6	22	70	8
Core	420	21.3	3	16.8	1	54054	2653	24.1	8	122251	5431	11769	476	26272	1731	50.8	15	1255	154	3.8	1	33.6	3	29.6	5	20.2	2	23.4	2	1.5	0	4.3	2	0.4	0	1.2	0	0.4	1	14.0	2	61.9	0.1	23.2	0.2	0.0	4.5	8.0	1.4	0.0	0.0	99.4	22	70	8
Core	425	18.7	3	16.4	1	53280	2745	23.3	7	119937	5849	11602	588	25534	1785	43.5	11	1292	114	3.9	1	37.0	4	28.9	5	20.5	2	22.6	2	1.3	0	4.0	1	0.4	0	1.2	1	0.6	1	15.3	2	62.2	0.1	23.4	0.2	0.0	4.5	7.9	1.4	0.1	0.0	99.6	22	70	8
Core	430	16.1	3	16.5	1	53097	2221	32.0	7	119669	3938	11593	477	27606	2260	48.0	10	1356	127	3.5	1	35.3	3	31.7	8	17.7	1	20.9	2	1.5	0	3.7	1	0.5	0	1.0	0	0.4	0	14.2	1	62.0	0.1	23.1	0.2	0.0	4.4	8.0	1.4	0.0	0.0	99.2	22	70	8
Core	434	16.9	2	15.8	1	53986	2637	26.5	7	122672	6275	11714	504	26578	2125	47.7	12	1405	142	3.6	1	39.4	3	23.8	7	19.7	2	21.7	1	1.6	0	4.8	2	0.4	0	0.9	0	0.4	0	13.0	1	62.4	0.1	23.1	0.2	0.0	4.3	8.1	1.5	0.0	0.0	99.6	21	71	9
crack	439	19.4	3	13.9	2	54326	2598	27.7	6	122230	5190	11920	502	27537	1663	51.6	8	1389	185	2.6	1	35.6	3	28.4	7	20.6	2	21.1	1	1.3	0	4.2	1	0.4	0	1.0	0	0.2	0	13.6	1	62.5	0.1	22.8	0.2	0.0	4.1	8.0	1.6	0.0	0.0	99.2	20	71	9
crack	444	12.2	2	11.9	1	51376	2718	31.9	10	116224	5157	11240	545	27185	2106	36.7	8	1283	144	3.2	0	33.3	4	28.3	5	19.3	1	20.6	2	1.6	0	3.1	0	0.5	0	1.2	0	0.1	0	14.0	1	63.0	0.1	22.7	0.2	0.0	4.0	8.0	1.7	0.1	0.0	99.7	19	71	10
crack	449	12.8	2	11.8	1	54783	2935	25.9	6	124707	6705	12381	847	27646	2805	39.0	10	1326	125	3.9	1	39.0	4	29.3	6	20.5	1	22.4	2	1.8	0	3.3	1	0.3	0	1.1	0	0.7	1	16.2	2	62.8	0.1	22.8	0.2	0.0	3.9	8.2	1.7	0.0	0.0	99.6	19	71	10
crack	454	10.9	2	9.7	1	55063	3356	31.7	8	124534	7421	11856	771	27625	1984	48.5	11	1440	184	3.6	1	36.4	4	31.1	7	20.4	2	22.9	2	1.3	0	5.1	1	0.6	1	1.6	0	0.2	0	15.2	1	62.6	0.0	22.9	0.2	0.0	4.0	8.2	1.6	0.0	0.0	99.5	19	71	9
crack	459	8.5	3	7.9	1	55115	3554	28.6	8	121402	5381	11767	617	26651	2012	58.4	12	1342	158	3.6	1	34.2	3	31.7	7	19.9	2	22.9	2	1.6	0	4.8	2	0.9	1	1.7	1	0.0	0	14.0	1	63.0	0.1	22.7	0.2	0.0	4.0	8.1	1.7	0.1	0.0	99.8	19	71	10
crack	464	8.8	2	6.8	1	52983	3638	34.6	8	121596	8826	11212	769	26750	2115	54.8	15	1383	169	3.3	1	36.0	4	29.1	6	20.5	2	22.8	2	1.7	0	4.4	2	1.0	1	0.7	0	0.2	0	14.7	1	62.3	0.1	23.2	0.2	0.0	4.4	8.0	1.5	0.0	0.0	99.6	21	70	8
crack	469	5.6	2	7.1	1	55300	2898	30.2	9	126915	6982	11566	622	27443	2574	59.7	13	1472	182	2.8	1	38.7	5	38.2	9	21.1	2	25.7	2	1.8	0	4.8	1	0.6	0	1.1	0	0.4	0	15.6	2	62.6	0.1	23.0	0.2	0.0	4.4	7.9	1.5	0.0	0.0	99.6	22	70	9
crack	474	6.8	2	6.5	1	53291	2604	34.9	9	121146	4808	11337	525	27229	3251	47.2	14	1323	184	3.6	1	40.9	4	43.7	10	21.0	2	24.0	2	1.7	0	4.9	1	0.2	0	1.2	0	0.3	0	15.1	2	62.3	0.1	23.0	0.2	0.0	4.3	8.1	1.5	0.0	0.0	99.4	21	71	9
crack	479	6.1	2	6.2	1	54945	2845	25.4	6	123100	6846	11588	539	28995	2295	55.4	16	1229	114	3.3	1	38.0	4	41.8	8	20.5	2	24.8	3	1.8	0	5.0	2	0.7	1	1.3	1	0.1	0	15.1	1	62.5	0.0	22.9	0.2	0.0	4.2	8.1	1.5	0.0	0.0	99.5	20	71	9
crack	484	6.7	2	6.0	1	54497	2747	24.7	7	120129	6349	11893	720	26956	1713	39.3	11	1313	135	4.3	1	35.4	3	41.5	9	21.3	2	22.7	2	1.5	0	4.4	1	0.1	0	0.9	0	0.2	0	14.2	1	62.2	0.1	23.0	0.2	0.0	4.5	7.9	1.5	0.0	0.0	99.3	22	70	8
crack	489	6.5	2	6.7	1	53815	2983	23.4	5	113698	9695	11045	1214	27332	2243	54.5	17	1221	120	3.3	1	33.8	2	38.0	8	20.6	2	22.2	2	1.6	0	3.0	1	0.5	0	1.2	0	0.2	0	15.5	1	62.4	0.0	23.2	0.2	0.0	4.4	8.1	1.5	0.0	0.0	99.8	21	71	8
crack	494	10.6	2	9.5	3	56269	2185	27.7	8	123969	4591	12377	427	27478	1920	41.6	12	1382	199	4.2	1	40.4	3	40.5	6	21.7	2	24.5	2	1.8	0	3.7	2	0.7	1	1.6	0	0.3	0	14.9	1	62.6	0.1	23.0	0.2	0.0	4.2	7.9	1.6	0.0	0.0	99.6	21	70	9
crack	499	11.9	2	8.6	2	57550	2626	31.3	7	124418	5863	12087	577	29008	2918	42.0	9	1401	106	3.8	1	38.7	3	42.8	6	23.0	2	24.9	2	1.2	0	4.4	2	0.5	0	0.9	0	0.0	0	14.4	1	62.6	0.1	22.9	0.2	0.0	4.2	8.1	1.5	0.0	0.0	99.7	20	71	9
crack	504	11.4	2	10.3	1	54381	4202	31.1	7	121278	7174	12317	833	26700	2918	56.7	12	1462	191	5.8	2	41.4	4	44.4	6	21.4	2	24.9	3	1.9	0	4.5	1	0.4	0	1.0	0	0.5	1	14.9	1	62.7	0.1	23.2	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.0	21	71	9
crack	509	10.9	2	9.5	1	54301	3196	30.6	6	122247	6558	12552	680	26935	2043	49.4	8	1385	162	4.1	1	39.7	3	44.6	6	21.8	3	22.8	2	1.8	0	3.6	1	0.8	1	1.1	0	0.3	0	13.6	2	62.6	0.1	23.0	0.2	0.0	4.3	8.1	1.5	0.0	0.0	99.8	21	71	9
crack	514	13.3	3	11.2	1	58210	5601	29.6	8	119205	5267	12717	533	26648	2011	45.9	10	1304	174	4.5	1	37.9	3	41.0	5	21.2	2	23.0	2	1.8	0	4.8	1	0.5	0	1.0	0	0.1	0	15.0	1	62.4	0.1	22.9	0.2	0.0	4.2	7.9	1.5	0.0	0.0	99.3	21	70	9
crack	519	11.5	2	11.6	1	56811	7431	28.1	8	118216	6721	12803	739	24289	1759	53.0	14	1201	175	4.0	1	38.7	3	40.6	7	21.2	2	21.6	2	1.5	0	4.0	1	0.3	0	0.6	0	0.1	0	14.3	1	62.4	0.1	22.9	0.2	0.0	4.2	8.0	1.5	0.0	0.0	99.2	21	71	9
crack	524	13.6	3	13.2	1	55311	2880	27.3	8	121404	5814	13463	626	24346	2366	50.0	11	1476	142	4.6	1	39.0	3	48.0	8	20.2	2	23.2	2	1.5	0	3.5	1	0.6	0	1.1	0	0.4	0	14.3	1	62.6	0.1	22.9	0.2	0.0	4.2	8.0	1.5	0.0	0.0	99.5	20	71	9
Core	529	15.0	2	15.5	1	55318	2472	23.2	6	121555	5347	13101	601	25287	1831	42.7	12	1346	128	4.8	1	40.1	4	38.7	7	19.9	1	20.8	2	1.4	0	4.5	2	0.0	0	1.1	0	0.4	0	13.1	1	62.3	0.1	22.9	0.2	0.0	4.1	8.1	1.5	0.0	0.0	99.2	20	71	9
Core	534	20.0	3	16.2	2	56497	3743	31.0	8	124007	6188	13100	709	25976	2322	42.7	10	1327	153	4.4	1	40.3	4	43.5	7	21.2	3	22.1	2	1.6	0	2.7	1	0.1	0	1.4	0	0.5	1	15.3	2	62.6	0.0	22.9	0.2	0.0	4.2	8.0	1.5	0.0	0.0	99.5	20	71	9
Core	539	21.1	5	19.2	3	56568	2602	25.7	8	128141	5315	12864	608	27839	2503	59.1	14	1514	151	4.5	1	40.2	3	42.4	9	21.8	2	27.2	2	1.9	0	4.4	2	0.3	0	1.4	0	0.1	0	14.8	2	62.3	0.1	23.0	0.2	0.0	4.2	8.0	1.5	0.0	0.0	99.3	21	71	9
Core	544	18.0	3	17.5	1	54883	2928	41.9	10	121778	6915	11754	519	27816	1931	49.3	12	1178	116	3.9	1	39.4	3	42.3	8	21.5	3	23.9	2	1.7	0	4.2	1	0.4	0	1.2	0	0.5	1	14.3	1	62.3	0.0	22.8	0.2	0.0	4.2	7.9	1.5	0.0	0.0	99.0	21	70	9
Core	549	18.7	3	18.4	1	55409	3080	24.2	7	124926	6286	11924	513	29951	2537	49.1	13	1464	138	3.2	1	40.6	4	37.1	7	22.3	2	25.0	2	1.8	0	5.1	1	0.4	0	0.9	0	0.1	0	15.2	1	62.4	0.1	23.0	0.2	0.0	4.3	8.0	1.5	0.0	0.0	99.6	21	70	9
Core	554	18.6	3	18.1	1	53761	2105	29.7	6	121724	4446	11256	437	27272	2231	52.4	8	1360	101	2.8	1	38.3	4	35.5	6	21.4	3	24.9	2	1.9	0	3.5	1	0.1	0	1.5	0	0.1	0	13.8	1	62.1	0.0	22.8	0.2	0.0	4.3	7.9	1.5	0.0	0.0	98.9	21	70	9
Core	559	20.3	2	18.3	1	54959	3703	31.1	10	122502	7576	11384	780	27717	2443	58.2	15	1256	192	3.0	1	42.3	4	37.3	7	22.6	2	24.4	3	1.8	1	4.0	1	0.5	0	1.7	0	0.3	0	14.9	2	62.8	0.0	22.6	0.2	0.0	4.0	8.1	1.6	0.0	0.0	99.3	19	71	9
Core	564	19.2	3	18.3	1	52726	1856	27.8	8	121727	4539	10868	437	30913	2728	47.5	12	1395	137	3.9	1	39.3	4	41.6	6	22.0	2	24.7	2	1.5	0	5.0	2	0.0	0	1.4	0	0.9	1	14.1	1	62.9	0.1	22.3	0.2	0.0	3.8	8.1	1.7	0.0	0.0	99.1	19	71	10
Core	569	17.7	2	19.2	1	54700	2689	28.0	11	124270	5957	11375	624	31411	2327	56.9	13	1390	127	3.7	1	40.8	4	42.3	7	21.8	3	24.2	2	1.3	0	5.0	2	0.3	0	0.9	0	0.5	0	14.1	1	63.0	0.1	22.7	0.2	0.0	3.8	8.3	1.7	0.0	0.0	99.7	18	72	10
Core	574	15.7	2	19.5	1	54260	3159	34.1	7	125719	6968	11186	616	29712	2191	47.8	13	1426	177	3.5	1	42.4	5	40.9	6	22.9	3	25.6	2	1.8	0	4.5	1	0.8	0	1.5	0	0.7	1	14.1	1	62.5	0.0	23.0	0.2	0.0	4.2	8.0	1.5	0.0	0.0	99.4	21	71	9
Core	579	20.1	3	19.2	1	54084	1879	26.0	8	121571	4216	11010	424	29248	1912	51.3	13	1358	114	3.5	1	43.2	4	38.9	6	20.9	2	22.6	2	1.7	0	4.1	1	0.3	0	1.4	0	0.5	0	14.4	1	62.4	0.0	22.7	0.2	0.0	4.2	8.0	1.5	0.0	0.0	99.1	20	71	9
Core	584	21.1	3	21.4	3	57689	2889	36.9	9	131227	6324	11874	609	31428	2468	62.4	15	1604	149	3.4	1	43.6	6	44.2	8	22.7	2	24.1	2	1.6	0	5.1	2	0.7	0	1.7	0	0.7	1	15.6	2	62.6	0.1	22.9	0.2	0.0	4.1	8.1	1.6	0.0	0.0	99.5	20	71	9
Core	589	22.8	4	21.0	2	56247	3572	31.2	12	128243	5459	11377	473	29621	2117	43.7	13	1357	132	4.2	1	46.6	3	42.9	7	22.4	2	24.1	2	1.7	0	4.7	1	0.6	0	1.2	0	0.7	1	14.7	1	62.6	0.0	22.7	0.2	0.0	4.1	8.1	1.6	0.0	0.0	99.3	20	71	9
Core	594	20.7	4	20.0	2	52158	1931	28.4	7	116975	5067	10725	432	28509	2231	54.7	11	1312	131	3.1	1	40.8	4	40.8	8	20.8	1	23.4	2	1.7	0	5.0	1	0.5	0	1.4	0	0.2	0	14.0	1	62.4	0.1	22.6	0.2	0.0	4.0	8.1	1.6	0.0	0.0	98.9	20	71	9
Core	599	18.8	4	19.4	1	52563	2070	26.9	6	118094	5294	10504	431	28585	1956	45.1	15	1477	149	3.1	1	41.1	4	41.1	7	22.8	1	25.1	2	1.6	0	5.0	1	0.2	0	1.2	0	0.1	0	13.5	1	62.6	0.1	22.6	0.2	0.0	4.1	8.0	1.6	0.0	0.0	99.1	20	71	9
Core	604	20.2	4	19.1	1	54352	2721	26.4	8	124614	6514	11157	563	29195	2175	53.8	13	1364	117	3.4	1	44.8	4	39.2	5	22.8	2	23.0	2	1.7	1	5.1	2	0.8	1	1.4	0	0.3	0	15.6	2	62.6	0.1	22.5	0.2	0.0	4.1	8.0	1.6	0.1	0.0	99.0	20	71	9
Core	609	23.5	3	20.1	1	55675	2772	31.9	7	127037	5069	11425	484	31939	2485	59.6	15	1345	136	3.4	1	47.6	4	39.7	6	23.1	2	25.3	2	1.5	0	4.0	1	0.7	1	1.6	0	0.5	0	15.2	2	62.8	0.1	22.5	0.2	0.0	3.9	8.1	1.6	0.0	0.0	99.2	19	71	9
Core	614	17.2	2	18.9	1	55410	2222	28.9	9	125582	5049	11341	506	29919	2181	46.8	10	1361	132	3.1	1	45.8	4	45.7	8	22.9	2	24.9	2	1.4	0	5.3	2	0.3	0	1.1	0	0.6	1	16.7	5	62.6	0.1	22.6	0.2	0.0	4.1	8.1	1.6	0.0	0.0	99.2	20	71	9
Core	619	21.8	4	18.6	1	55676	3304	28.3	7	131511	8132	11626	655	28832	2970	55.2	12	1418	137	3.2	1	44.9	4	45.1	7	22.3	2	24.2	2	2.0	0	5.1	1	0.1	0	1.5	0	0.4	0	15.0	1	62.7	0.1	22.8	0.2	0.0	4.0	8.1	1.6	0.0	0.0	99.5	19	71	9
Core	624	24.8	3	19.4	2	58642	3648	31.3	9	128267	4295	11866	359	29272	2723	51.9	12	1430	144	3.7	1	46.2	4	40.7	6	21.0	1	25.5	2	1.6	0	3.0	1	0.4	0	0.9	0	0.4	0	14.2	1	62.6	0.1	22.7	0.2	0.0	4.0	8.1	1.6	0.0	0.0	99.2	19	71	9
Core	629	18.1	3	19.9	3	54849	2807	28.0	10	125149	6655	11337	612	29256	2144	50.0	13	1558	141	3.9	1	43.6	3	40.3	9	21.8	2	24.2	2	1.7	0	4.4	1	0.6	1	1.4	0	0.6	0	15.3	2	62.9	0.1	22.7	0.2	0.0	4.2	8.1	1.6	0.0	0.0	99.7	20	71	9
Core	634	20.7	4	19.0	1	53916	2800	27.4	8	124051	5528	11165	619	29079	2019	51.3	16	1403	166	2.7	1	43.2	4	39.8	6	20.1	1	22.4	2	1.9	0	3.4	1	0.6	0	1.0	0	0.3	0	15.7	2	62.6	0.1	22.8	0.2	0.0	4.0	8.0	1.6	0.0	0.0	99.3	20	71	9
Core	639	20.6	2	20.2	2	55903	5633	27.1	7	123438	6003	11245	558	28484	1984	42.6	9	1469	154	2.9	1	48.2	3	51.4	8	21.6	1	23.2	2	1.6	0	4.7	1	0.5	1	1.2	0	0.9	1	13.9	1	62.4	0.1	22.7	0.2	0.0	4.0	8.0	1.6	0.0	0.0	98.9	20	71	9
Core	644	20.6	4	19.3	2	57478	5966	30.8	9	125763	4771	11593	660	28303	1856	54.6	13	1491	132	3.5	1	44.3	3	51.4	10	21.5	2	26.2	2	1.7	0	5.2	2	0.4	0	1.4	0	0.7	1	15.1	1	62.7	0.1	22.8	0.2	0.0	4.1	8.2	1.6	0.0	0.0	99.7	19	71	9
Core	649	19.7	3	18.5	2	53750	2571	30.8	8	122088	5529	11119	553	28750	2322	51.9	13	1343	109	3.7	1	46.5	3	47.9	7	21.5	2	24.1	2	1.7	0	5.2	1	0.3	0	1.0	0	0.2	0	13.7	1	62.4	0.0	22.7	0.2	0.0	4.0	8.2	1.6	0.0	0.0	99.1	19	72	9
Core	654	20.4	2	19.3	2	55934	2727	37.4	11	132609	6404	11415	604	28987	1939	51.6	13	1571	214	3.2	1	48.7	4	48.0	7	25.0	2	25.2	2	2.0	0	4.8	1	0.2	0	1.4	0	0.3	0	15.8	1	62.8	0.1	22.5	0.2	0.0	3.8	8.2	1.7	0.0	0.0	99.2	18	72	10
Core	659	19.3	3	21.0	2	54810	2412	27.2	6	129651	6179	11413	519	29688	1973	53.1	14	1485	81	3.0	1	49.9	4	49.4	9	21.5	2	25.1	2	2.1	1	4.1	1	0.7	1	1.4	0	0.6	1	15.2	1	63.1	0.1	22.8	0.2	0.0	3.8	8.3	1.7	0.1	0.0	99.9	18	72	10
Core	664	23.9	4	19.8	1	56438	2925	31.1	16	129903	7109	11252	599	30836	2059	46.9	10	1390	161	3.7	1	51.0	4	56.0	12	23.8	2	26.8	2	2.0	0	6.0	1	0.8	0	1.6	1	0.3	0	15.6	1	62.4	0.0	22.6	0.2	0.0	3.8	8.1	1.7	0.0	0.0	98.8	18	72	10
Core	669	20.1	4	19.0	1	55144	3460	33.2	11	128534	8090	11258	572	29951	2345	63.9	19	1506	169	4.5	1	49.8	5	55.6	9	23.0	3	25.5	2	1.6	0	4.2	1	0.6	0	1.2	0	0.2	0	16.4	1	62.6	0.0	22.7	0.2	0.0	3.9	8.1	1.6	0.1	0.0	99.2	19	72	9
Core	674	19.2	3	20.4	2	54961	4573	22.0	8	122068	7816	10903	698	31260	5380	45.7	13	1345	141	3.8	1	45.9	5	46.2	8	22.9	3	24.5	3	1.9	0	4.3	1	0.2	0	1.6	0	0.3	1	15.4	2	62.5	0.1	22.9	0.2	0.0	4.1	8.1	1.6	0.0	0.0	99.3	20	71	9

Table B17: continured

Core	679	20.0	4	20.1	2	53690	3600	29.3	9	123203	7082	10969	552	28971	2806	51.8	13	1496	158	3.5	1	47.5	4	48.2	6	22.6	2	24.8	2	2.1	0	4.4	1	0.2	0	1.3	0	0.6	0	15.3	2	62.6	0.1	22.8	0.2	0.0	4.1	8.1	1.6	0.0	0.0	99.5	20	71	9
Core	684	16.8	2	19.3	2	53510	2606	28.6	7	122857	6178	11079	589	30510	2053	50.5	14	1378	150	3.5	1	48.7	3	52.8	10	22.9	2	25.6	2	1.7	0	5.3	1	0.4	0	1.1	0	0.3	0	15.7	2	62.4	0.0	22.8	0.2	0.0	3.9	8.1	1.6	0.0	0.0	99.1	19	72	9
Core	689	18.6	3	17.9	2	53275	2040	21.9	7	119917	4573	10627	439	29483	2187	42.5	13	1418	123	3.0	1	46.4	4	48.9	7	22.1	2	24.5	2	1.8	0	5.4	1	0.5	0	1.4	0	0.2	0	14.2	2	62.6	0.1	23.1	0.2	0.0	4.0	8.0	1.6	0.0	0.0	99.5	20	71	9
Core	694	19.6	2	19.7	1	53796	2413	35.1	8	124105	4038	10805	444	29630	1178	43.6	11	1404	120	3.7	1	50.8	4	61.2	7	23.1	2	25.4	3	1.7	0	4.1	1	0.5	0	1.4	0	0.2	0	15.2	1	62.1	0.1	22.8	0.2	0.0	4.0	8.0	1.6	0.0	0.0	98.7	20	71	9
Core	699	18.4	3	18.9	2	54365	2322	33.9	7	127255	6039	11134	633	29266	2707	41.5	11	1387	149	4.0	1	52.1	5	62.5	8	23.3	2	28.2	2	1.6	0	4.4	1	0.6	1	1.6	1	0.1	0	14.4	1	62.2	0.1	23.0	0.2	0.0	4.1	7.9	1.6	0.0	0.0	99.1	20	71	9
Core	704	18.9	3	17.9	1	52377	2482	24.8	5	122485	5027	10540	434	29376	2774	43.6	9	1354	139	2.8	1	43.9	3	55.2	9	20.9	2	24.3	2	1.8	0	5.0	1	0.5	0	1.4	0	0.5	1	15.5	1	62.2	0.0	22.9	0.2	0.0	4.1	8.1	1.5	0.0	0.0	99.0	20	71	9
Core	709	21.1	3	19.1	1	54106	3471	29.5	8	125921	7965	11208	689	32202	3420	60.9	12	1426	105	3.2	1	50.0	5	57.4	8	24.5	3	25.1	2	2.0	0	4.6	1	0.7	0	1.3	0	0.2	0	16.4	2	62.1	0.1	22.8	0.2	0.0	4.1	8.0	1.6	0.0	0.0	98.9	20	71	9
Core	714	22.7	3	19.4	2	55843	3436	34.2	10	131491	7605	11466	645	30465	2102	56.3	12	1500	182	3.3	1	50.3	5	58.6	11	23.5	3	27.1	1	1.6	0	4.9	1	0.6	0	1.8	1	0.2	0	15.2	2	62.4	0.0	22.8	0.2	0.0	4.0	8.0	1.6	0.0	0.0	99.0	20	71	10
Core	719	19.6	3	20.2	1	56221	2971	32.5	13	130916	5966	11573	545	29975	2472	57.7	13	1524	153	3.1	1	50.5	3	60.7	10	23.8	2	26.7	2	2.1	0	4.9	1	0.2	0	1.4	0	0.5	0	15.6	1	62.2	0.1	22.7	0.2	0.0	4.0	8.0	1.6	0.0	0.0	98.7	20	71	9
Core	724	20.4	3	19.1	2	54010	2003	33.1	6	125714	4641	11034	385	30550	2265	46.8	10	1446	160	3.6	1	49.2	3	57.9	9	23.3	2	25.8	1	2.2	0	4.5	1	0.5	0	1.1	0	0.6	0	15.2	1	62.5	0.1	22.8	0.2	0.0	4.0	8.0	1.6	0.0	0.0	99.3	20	71	9
Core	729	20.7	3	22.1	4	55325	2760	25.3	6	126534	6552	10997	469	31664	2191	60.1	18	1470	128	2.6	1	50.4	4	61.1	10	23.5	2	27.3	2	1.7	0	4.1	1	0.7	1	1.4	0	0.2	0	16.3	2	62.7	0.1	22.7	0.2	0.0	3.9	8.1	1.6	0.0	0.0	99.2	19	71	10
Core	734	20.6	4	19.0	1	53949	2659	23.4	6	123689	5501	10934	504	28328	2128	53.3	10	1352	149	2.8	1	48.1	3	53.3	8	23.8	2	24.0	2	1.6	0	5.8	1	0.5	1	1.3	1	0.3	0	15.3	1	61.9	0.0	22.7	0.2	0.0	4.1	7.8	1.5	0.0	0.0	98.3	21	71	9
Core	739	20.1	3	19.0	1	55300	2630	25.3	9	126432	5247	11320	521	30939	2190	61.7	12	1439	162	2.8	1	51.4	4	55.0	8	23.7	2	27.7	2	1.8	0	5.0	1	0.9	1	1.0	0	0.3	0	15.7	1	62.4	0.1	22.7	0.2	0.0	4.0	8.0	1.6	0.0	0.0	99.0	20	71	9
Core	744	19.4	3	19.0	1	54800	3112	35.5	7	126081	5899	10962	475	29600	2528	54.7	14	1493	215	3.0	1	48.4	4	59.6	7	22.8	2	26.6	2	2.0	0	4.9	1	0.5	0	1.5	0	1.1	1	14.8	1	62.2	0.1	23.0	0.2	0.0	4.1	7.9	1.5	0.0	0.0	99.0	20	71	9
Core	748	22.7	3	19.0	1	55064	2198	25.5	8	126940	4637	11006	442	30525	2035	49.5	13	1493	205	2.9	1	49.2	4	59.5	8	22.9	2	26.9	3	2.0	0	5.4	1	0.7	0	1.2	0	0.3	0	15.7	2	62.8	0.1	22.8	0.2	0.0	4.0	8.0	1.6	0.1	0.0	99.5	20	71	9
Core	753	20.0	3	18.6	1	52472	3032	24.5	7	122550	5919	10851	552	29782	2027	56.8	14	1360	135	3.4	1	49.9	3	56.9	10	21.6	2	25.6	3	1.8	0	4.2	1	0.5	0	1.2	0	0.5	1	14.7	1	62.4	0.0	22.8	0.2	0.0	4.1	8.0	1.6	0.0	0.0	99.1	20	71	9
Core	758	18.5	3	19.3	2	54642	2645	27.3	7	126441	5240	10762	498	31378	2437	52.4	10	1465	158	3.1	1	49.8	5	67.8	7	23.9	2	26.9	2	2.3	1	5.3	1	0.5	1	1.2	1	0.2	0	14.9	1	62.5	0.1	22.9	0.2	0.0	4.0	8.0	1.6	0.0	0.0	99.3	19	71	9
Core	763	18.8	3	18.9	2	53025	3115	33.3	10	122499	8044	11019	553	29670	1727	62.3	16	1361	135	3.2	1	49.4	4	67.3	9	24.9	2	26.8	3	2.1	0	5.1	1	0.8	1	1.6	0	0.4	0	14.7	1	62.6	0.1	22.7	0.2	0.0	3.8	8.1	1.7	0.1	0.0	99.2	19	72	10
Core	768	16.9	2	19.7	2	54980	2796	25.2	6	124961	6044	11173	637	28464	2077	51.0	8	1502	190	2.7	1	51.6	4	66.6	9	23.9	2	26.0	3	2.0	0	4.9	1	0.9	1	1.8	0	0.3	1	14.7	1	62.5	0.0	23.0	0.2	0.0	4.0	8.0	1.6	0.0	0.0	99.3	20	71	9
Core	773	19.8	3	19.9	2	54038	3592	28.7	8	124110	5927	11354	573	31667	2515	43.7	13	1537	191	3.2	1	50.2	5	60.1	9	23.0	2	25.4	2	2.0	0	4.0	1	0.7	1	1.4	0	0.3	0	16.5	2	62.7	0.0	22.6	0.2	0.0	3.9	8.0	1.6	0.0	0.0	99.0	19	71	9
Core	778	21.9	4	19.4	1	55245	2636	29.6	7	126801	6785	11302	580	29043	1694	48.1	13	1478	172	3.3	1	50.8	4	78.5	9	25.9	3	26.2	2	1.9	0	4.0	1	0.5	1	1.8	0	0.0	0	14.8	1	62.7	0.0	22.8	0.2	0.0	3.8	8.0	1.6	0.0	0.0	99.2	19	72	10
Core	783	21.7	3	21.1	2	58406	2659	27.9	9	132225	6773	11934	591	30466	2461	52.4	14	1589	120	3.6	1	51.8	4	71.6	10	25.1	3	26.9	2	2.3	0	5.1	1	0.2	0	1.0	0	0.4	0	15.0	2	62.6	0.1	22.6	0.2	0.0	4.0	8.1	1.6	0.0	0.0	99.2	19	71	9
Core	788	20.3	3	20.1	2	55302	3209	23.8	8	125974	6427	11486	646	29158	2199	42.4	11	1532	184	3.6	1	49.9	4	64.0	5	22.8	2	26.2	3	1.7	0	4.7	2	0.8	1	1.8	1	0.7	1	16.1	1	62.7	0.1	22.6	0.2	0.0	3.9	8.0	1.6	0.0	0.0	99.1	19	71	10
Core	793	19.5	2	20.0	2	54373	1956	33.5	8	123313	5229	11301	538	28236	2539	59.3	12	1601	147	3.1	1	48.1	3	70.1	10	24.2	2	25.4	2	1.6	0	4.0	1	0.7	1	1.6	1	0.6	1	13.4	1	63.0	0.0	22.6	0.2	0.0	3.8	8.1	1.7	0.0	0.0	99.4	18	72	10
Core	798	20.3	4	19.5	1	54503	2639	27.8	6	123996	5726	11584	589	28164	2212	63.7	16	1494	171	3.0	1	49.9	3	60.7	11	23.1	2	26.2	2	1.7	0	4.7	1	0.4	0	1.4	0	0.2	0	14.8	1	62.9	0.0	22.2	0.2	0.0	3.6	8.2	1.7	0.0	0.0	98.8	18	72	10
Core	803	20.4	2	19.4	1	56294	2650	22.3	6	126774	5546	11598	506	29312	1910	59.5	13	1522	133	3.6	1	50.4	4	64.8	10	23.8	2	27.7	1	1.6	0	4.2	1	0.5	0	1.6	0	0.0	0	15.6	2	62.7	0.1	22.4	0.2	0.0	3.9	8.1	1.7	0.0	0.0	98.9	19	71	10
Core	808	22.4	3	20.0	1	54411	2636	22.5	5	124254	5704	11474	538	28523	2289	46.7	8	1342	179	3.4	1	48.1	4	72.6	7	23.9	2	26.5	2	1.8	0	4.4	1	0.6	0	1.5	0	0.3	0	15.1	1	62.3	0.1	22.2	0.2	0.0	3.8	8.0	1.7	0.0	0.0	98.2	19	72	10
Core	813	21.3	4	19.2	1	55283	2157	26.7	7	124256	5521	11484	465	29680	3076	64.6	15	1413	147	3.5	1	49.7	3	62.4	9	22.6	2	26.8	1	1.9	0	4.4	1	0.5	0	1.4	1	0.8	1	14.9	1	62.5	0.1	22.2	0.2	0.0	3.9	8.1	1.6	0.1	0.0	98.7	19	72	9
Core	818	24.3	3	21.1	1	57250	2701	35.8	7	130196	6968	12002	638	28526	2610	51.2	12	1506	152	3.6	1	53.2	3	71.3	7	24.6	3	26.4	2	1.7	0	4.3	1	0.4	0	1.6	1	0.4	0	16.2	2	62.6	0.1	22.5	0.2	0.0	3.9	8.2	1.6	0.0	0.0	99.0	19	72	9
Core	823	21.9	2	20.1	1	54755	2775	22.8	9	123403	6505	11357	566	28598	2479	53.2	15	1371	191	3.3	1	50.0	4	60.8	10	23.1	2	25.8	2	1.8	0	4.2	1	0.7	1	1.3	0	0.1	0	16.0	2	62.5	0.1	22.8	0.2	0.0	4.0	8.1	1.6	0.0	0.0	99.2	19	71	9
Core	828	19.0	4	20.2	1	55345	2172	28.5	7	123748	4931	11424	380	28823	1688	59.3	10	1472	140	3.2	1	48.7	3	63.6	8	24.6	2	25.7	2	1.9	0	5.6	2	0.2	0	1.2	0	0.4	1	15.4	1	62.0	0.1	22.8	0.2	0.0	3.9	8.0	1.6	0.0	0.0	98.6	19	71	9
Core	833	20.5	3	19.3	1	54261	3197	29.6	7	121441	6762	11210	584	28818	2878	62.4	13	1376	127	3.4	1	48.9	4	60.2	10	23.0	2	25.9	2	1.6	0	4.5	1	0.4	0	1.8	0	0.1	0	15.7	1	62.3	0.1	22.7	0.2	0.0	4.1	8.1	1.6	0.0	0.0	99.1	20	71	9
Core	838	20.1	3	20.7	1	55758	2328	31.5	8	127779	5151	11787	549	28560	1845	73.2	18	1529	148	4.2	1	51.7	4	72.6	11	24.2	2	26.2	2	2.1	0	4.1	1	0.4	0	1.7	0	0.1	0	14.4	1	62.4	0.1	22.5	0.2	0.0	4.0	8.1	1.7	0.0	0.0	99.0	19	71	9
Core	843	18.8	3	18.9	1	54372	2328	40.1	11	123601	4350	11315	387	29479	2467	58.3	14	1468	142	3.0	1	49.0	4	59.0	6	22.6	1	24.8	2	1.9	0	4.7	1	0.3	0	1.3	0	0.2	0	16.2	2														
Core	848	18.0	3	18.7	1	56514	2703	30.9	7	125179	5067	11182	451	30582	2520	53.8	13	1443	144	3.2	1	52.1	5	61.1	6	22.9	3	26.5	2	1.5	0	5.6	2	0.6	0	1.7	0	0.6	0	14.9	1														
Core	853	20.0	2	17.7	1	54658	2357	32.6	9	123429	4531	11162	551	28202	2257	65.3	13	1430	127	3.7	1	51.7	6	64.2	8	22.0	2	24.9	2	1.6	0	4.9	2	0.3	0	1.6	1	0.2	0	15.4	1														
Core	858	16.7	3	15.8	1	56042	2302	25.5	8	124347	4601	11450	447	30667	2376	61.7	13	1522	151	3.8	1	49.7	4	68.3	11	25.3	2	27.0	2	2.0	0	5.8	1	0.7	0	1.4	1	0.4	0	16.5	2														
Crack	863	13.9	2	14.7	1	54707	2841	24.0	7	121987	6662	11267	641	29798	2476	61.1	14	1380	153	3.1	1	49.9	6	62.0	9	22.7	2	26.5	2	1.8	0	3.3	1	0.7	0	1.3	1	0.1	0	14.8	1														
Crack	868	16.0	3	12.1	1	52616	2862	25.9	7	122043	6392	10803	488	29586	1918	48.2	10	1405	135	3.4	1	47.7	3	67.9	8	23.7	2	27.2	2	1.6	0	4.7	2	0.2	0	1.2	0	0.3	0	15.1	1														
Crack	873	10.2	2	10.4	1	55302	2548	24.4	6	122120	6361	11040	586	27963	2273	58.6	14	1274	113	3.1	1	53.4	4	73.5	10	25.3	2	26.1	2	1.8	0	4.2	1	0.4	0	1.4	0	0.4	0	15.8	2														
Crack	878	10.5	2	9.2	1	56508	2615	24.0	9	125909	5822	11315	571	31112	2549	60.6	12	1491	180	3.6	1	51.5	4	70.6	10	24.7	2	26.3	2	1.6	0	5.8	2	0.8	1	1.4	0	0.2	0	15.7	1														
Crack	883	7.8	1	7.8	1	53881	1932	30.9	7	119860	4458	10875	403	29448	1888	52.0	13	1317	98	2.9	1	49.2	3	68.6	6	22.2	2	25.4	2	1.8	0	4.7	2	0.5	0	1.5	0	0.4	1	15.7	2														
Crack	888	7.0	2	7.2	1	57764	3106	31.1	11	129121	6824	11581	630	32692	2701	65.3	14	1442	164	3.6	1	52.1	4	75.2	13	24.8	2	29.6	2	2.2	0	6.1	1	0.3	0	1.4	0	0.2	0	15.8	2														
Crack	893	6.7	2	6.7	1	57083	2884	32.8	9	130704	8795	11202	642	30698	2745	63.7	19	1468	133	3.5	1	50.5	4	71.4	8	26.0	3	26.8	2	2.2	0	5.3	2	0.1	0	1.5	1	0.4	0	15.4	2														

Table B18: Plagioclase grain 21 - Line 1.2

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
rim	0	10.4	2	8.5	1	55212	3239	18.6	7	118407	6547	13064	770	25528	2080	33.8	9	1354	192	4.2	1	131.9	9	273.2	20	19.1	2	21.1	1	1.5	0	4.6	1
rim	4	12.6	2	10.8	1	56120	2382	24.2	6	122542	4622	13209	716	25695	1858	38.6	14	1368	181	3.7	1	141.4	9	255.0	21	18.2	1	20.7	2	1.4	0	3.8	1
rim	9	13.8	3	12.9	2	54970	2430	19.8	6	121560	5093	13688	1380	26178	2085	35.8	11	1431	153	5.4	1	140.9	9	264.5	30	20.0	2	21.6	2	1.7	0	4.0	1
rim	14	14.3	4	14.3	2	54671	2476	22.9	6	120923	5018	12894	590	26447	1564	43.2	11	1347	123	4.4	1	139.8	9	265.7	15	19.3	2	21.7	2	1.5	0	4.6	1
rim	19	16.0	3	15.3	2	53041	2224	26.8	7	113827	5405	12350	650	25407	1578	40.0	10	1321	142	4.5	1	132.3	7	253.4	14	19.0	1	20.1	2	1.3	0	4.1	1
core	24	13.8	3	15.0	1	57257	6530	20.0	5	118231	7387	12897	768	24481	1520	46.3	14	1271	144	3.9	1	139.1	8	268.8	26	19.4	2	19.7	2	1.4	0	4.0	1
core	29	20.1	4	18.0	4	55221	1948	25.9	7	119834	5377	13522	1001	26361	1917	50.8	11	1342	117	3.5	1	150.2	8	275.5	16	17.6	2	19.6	2	1.9	0	3.9	1
core	34	20.0	4	18.4	2	53376	3084	23.4	6	118195	7302	12998	785	25102	1869	36.9	12	1379	130	4.2	1	135.0	10	247.2	23	18.4	2	20.0	2	1.4	0	4.6	1
core	39	17.8	3	19.8	1	56082	4306	19.4	7	121084	6382	13550	809	26305	1990	42.8	9	1309	154	4.6	1	138.4	11	240.4	21	20.9	2	19.0	2	1.2	0	4.1	1
core	43	21.1	4	19.2	1	55960	2602	24.3	6	120462	5207	13255	604	25701	2195	52.5	12	1511	121	5.1	1	126.1	7	204.3	17	18.8	2	21.3	1	1.3	0	3.5	1
core	48	22.2	4	22.5	2	58110	2611	17.6	8	125228	6797	13544	924	25727	2716	47.3	10	1348	157	4.1	1	127.6	9	185.7	19	18.4	2	20.5	2	1.6	0	4.5	1
core	53	24.1	4	22.2	4	54625	3200	20.4	6	121305	7270	13299	809	25213	2329	37.0	9	1381	172	5.1	1	113.6	8	158.4	15	17.8	2	19.4	2	1.3	0	3.9	1
core	58	25.7	3	25.0	3	56549	2861	23.1	8	123784	5921	13542	709	27151	2018	36.3	12	1312	163	4.7	1	113.4	7	151.5	21	18.7	2	20.4	2	1.5	0	3.4	1
core	63	24.3	3	21.6	2	56680	3572	23.1	7	122883	7435	13480	827	25276	2679	40.9	13	1350	135	3.8	1	106.8	7	114.7	13	19.3	2	20.9	2	1.4	0	4.5	1
core	68	23.1	3	23.1	2	56844	2323	20.9	8	124487	6014	13334	633	26243	1982	38.2	12	1379	148	4.3	1	104.1	7	111.3	12	19.5	2	20.3	2	1.4	0	3.7	1
core	73	21.3	3	22.0	2	55126	2700	22.4	7	120297	4550	13096	585	24795	1822	33.3	9	1290	131	5.0	1	91.5	7	103.1	13	18.6	2	18.9	2	1.2	0	3.7	1
core	78	23.1	2	20.9	1	56461	2226	21.3	8	124666	5099	13277	595	28043	2023	42.1	8	1372	162	4.9	1	89.5	5	89.3	13	19.3	1	20.3	2	1.5	0	3.8	1
core	83	22.0	4	21.6	1	56327	2803	24.6	8	123788	6287	13538	810	27081	1670	52.3	11	1339	154	4.6	1	84.1	8	87.6	12	18.8	2	21.4	2	1.3	0	3.9	2
core	88	22.3	3	22.2	1	56996	2761	19.4	5	125107	5649	13156	613	25681	1830	49.6	15	1278	141	3.9	1	79.7	6	68.3	9	19.2	2	21.2	1	1.4	0	3.4	1
core	93	22.3	3	22.3	1	57273	3222	29.0	7	125299	7283	13279	724	26658	2365	30.6	9	1346	116	4.0	1	78.9	8	68.5	11	19.2	2	20.5	2	1.6	0	3.2	2
core	98	20.7	4	20.9	1	54196	3092	21.8	7	118588	6238	12542	640	24968	1657	40.0	11	1306	134	2.8	1	70.5	5	57.9	9	18.9	1	20.5	2	1.2	0	3.5	1
core	103	23.8	3	21.8	2	54982	3017	24.9	7	121070	5088	12834	626	26422	2350	42.7	11	1292	142	4.1	1	68.4	5	44.8	6	19.4	2	20.1	2	1.3	0	4.1	1
core	108	20.8	4	19.7	1	53281	3047	26.0	7	115365	5926	12628	661	25443	2686	36.4	13	1283	139	3.2	1	64.3	4	44.3	7	19.1	2	18.8	1	1.5	0	3.3	1
core	113	23.1	4	21.5	1	55048	2826	19.6	9	124493	7465	12800	556	27348	2026	36.9	9	1322	139	4.2	1	62.0	5	38.3	6	20.5	2	18.8	2	1.5	0	2.4	1
core	118	22.5	3	24.3	2	59260	3965	23.8	8	130448	8077	13752	836	28978	2554	45.8	8	1267	124	4.3	1	65.8	5	39.5	11	19.8	2	22.4	2	1.8	0	3.2	1
core	123	22.5	3	20.7	1	56568	3102	24.6	6	124434	7102	12981	726	26788	2051	52.6	14	1439	127	4.3	1	58.4	5	40.5	6	20.6	2	21.1	2	1.8	0	2.9	1
core	128	20.2	4	20.0	1	53565	2890	24.0	6	119412	6152	12314	558	25547	1611	43.6	11	1238	128	4.6	1	53.6	4	34.2	6	19.4	2	19.7	2	1.4	0	4.9	1
core	133	19.9	3	20.7	2	56663	3839	27.0	10	123520	6291	12911	732	26569	2379	48.1	13	1258	158	4.7	1	53.4	5	33.8	7	19.6	2	21.3	2	1.4	0	4.6	2
core	138	22.6	4	18.9	1	52499	2817	26.5	8	115640	6657	12284	692	24978	2107	30.6	9	1217	139	4.5	1	47.6	5	22.6	6	18.3	2	19.9	2	1.2	0	3.9	1
core	143	20.8	3	21.1	1	56042	1766	21.9	8	122774	4233	13293	418	26183	1630	40.4	9	1314	147	5.2	1	47.4	3	24.4	6	19.7	2	21.0	1	1.6	0	3.9	1
core	148	20.6	4	22.6	2	56089	3493	26.3	8	121194	7221	13066	995	26250	1888	49.7	8	1295	161	4.1	1	45.1	3	21.8	5	20.2	2	21.8	2	1.3	0	4.3	1
core	153	19.9	2	18.9	1	55591	2699	17.0	6	121341	5243	12824	645	25763	1998	38.8	12	1324	102	4.1	1	45.4	5	23.4	5	19.5	2	21.1	2	1.5	0	4.4	1
core	158	21.4	3	18.5	1	52175	1666	17.2	4	114042	4412	12869	843	26083	1900	33.1	11	1325	142	3.3	1	42.2	3	26.5	6	18.0	2	20.9	1	1.3	0	2.8	1
core	163	21.5	4	20.7	4	56423	4005	25.1	7	119119	5678	12490	676	25369	1755	46.3	11	1368	154	4.6	1	39.6	3	21.8	5	17.8	2	20.2	2	1.3	0	4.5	1
core	168	21.8	3	20.7	2	54870	2407	24.7	7	121658	5297	12891	757	26136	2216	32.2	11	1382	107	4.5	1	38.9	4	24.7	5	19.5	2	20.8	2	1.5	0	3.4	1
core	173	20.0	2	20.5	1	55629	2656	19.7	7	119501	4281	12278	442	23685	2132	42.8	8	1129	129	3.2	1	38.6	3	23.8	6	18.0	2	18.2	1	1.3	0	3.3	1
core	178	22.4	3	19.2	2	54941	2818	23.8	7	120033	5987	12473	640	26931	2203	32.9	11	1379	164	4.3	1	38.7	4	22.5	5	19.4	1	20.7	2	1.5	0	4.3	1
core	183	22.1	2	19.0	1	53385	1916	22.4	7	117598	4759	12295	555	27631	1918	42.4	12	1295	121	4.9	1	40.3	4	16.4	6	18.4	1	19.2	2	1.3	0	3.0	1
core	188	22.1	3	20.6	2	56216	2715	28.5	7	124375	6064	13067	655	27781	2100	35.9	11	1293	133	3.7	1	41.4	4	21.7	7	19.8	2	22.6	1	1.3	0	4.5	1
core	193	22.2	4	19.9	2	56770	3781	21.3	7	121931	6372	13474	912	26961	2516	48.3	11	1440	143	4.1	1	37.8	3	19.8	5	20.1	2	20.6	2	1.2	0	3.8	1
core	198	20.3	4	19.4	2	56060	3195	28.1	10	122862	6617	12722	729	25981	2627	41.2	9	1311	124	4.1	1	38.3	3	19.2	4	18.0	2	21.4	2	1.4	0	4.6	1
core	203	25.4	4	19.5	1	58658	3695	24.4	8	127467	10143	13396	878	25887	2256	46.0	13	1291	143	4.3	1	37.9	3	26.6	6	17.7	2	22.1	2	1.6	0	4.1	2
core	208	18.0	3	19.4	1	56241	3201	21.5	8	122961	6128	12664	505	25569	1924	43.4	13	1375	179	4.5	1	36.6	3	11.5	3	18.5	2	19.1	2	1.2	0	2.9	1
core	213	20.3	4	19.6	2	54364	3219	24.4	6	118150	6753	12601	861	25517	2178	42.9	13	1297	153	4.0	1	32.9	3	16.2	4	17.9	2	19.7	2	1.4	0	4.4	1
core	218	20.6	3	18.3	1	54511	2591	24.5	6	120469	4772	12695	550	27144	2146	46.4	10	1459	127	3.7	1	35.1	2	15.7	5	17.8	1	20.7	2	1.2	0	2.9	1
core	223	19.3	2	18.2	1	55164	2943	29.5	9	121227	6446	13087	548	26272	2090	50.8	13	1300	168	4.3	1	35.5	3	14.5	3	18.5	2	20.2	2	1.4	0	2.8	1
core	228	17.6	3	20.4	2	55759	2740	26.1	7	120049	4779	12637	656	25946	1609	46.3	10	1345	117	4.0	1	35.5	3	18.9	5	18.4	1	22.1	1	1.3	0	4.6	1
core	233	20.6	3	18.2	1	55148	2567	21.4	6	123107	4811	13618	929	24698	1649	46.1	9	1500	129	4.9	1	33.5	2	12.0	4	17.6	1	19.4	2	1.2	0	3.3	1
core	238	20.2	4	19.3	1	56822	3577	26.8	6	121579	5782	13620	1223	23561	1734	54.3	13	1377	139	5.1	1	32.9	3	19.7	5	19.1	2	19.6	2	1.2	0	4.5	1
core	243	15.8	3	18.2	1	55289	2752	36.7	10	121985	5034	13240	591	24600	1886	51.4	11	1329	133	4.3	1	34.0	3	15.2	4	17.6	1	19.9	2	1.3	0	3.0	1
core	248	20.6	3	20.5	2	57004	3691	26.1	10	126707	6876	13051	721	25886	2066	45.5	12	1515	135	5.0	1	33.6	4	16.5	4	19.8	2	21.1	2	1.2	0	3.3	1
core	253	19.4	3	19.7	3	56388	3657	26.3	9	128177	9276	13460	920	27093	2393	56.8	17	1467	141	3.2	1	33.4	4	15.7	4	18.7	2	22.0	2	1.5	0	3.2	1
core	258	19.6	3	16.8	1	55217	2801	27.3	7	120643	5842	12448	642	25449	2220	43.3	9	1543	140	4.5	1	35.0	3	13.8	3	18.4	1	20.9	1	1.4	0	2.8	1
core	263	17.3	2	21.8	4	55128	3141	26.0	8	120977	5627	12951	917	27751	2490	42.5	10	1414	100	4.4	1	35.2	3	22.3	5	19.7	2	21.1	2	1.4	0	3.2	1
core	268	18.6	3	17.8	1	56348	4197	28.5	9	120984	5750	12314	592	26157	1926	43.8	11	1423	169	4.1	1	31.6	2	15.1	5	19.6	2	22.7	2	1.6	0	3.6	2
core	273	20.2	3	18.4	2	57046	2455	25.0	8	123268	4889	12518	503	27795	1646	47.7	12	1484	133	4.8	1	34.6	3	19.6	5	20.2	2	20.9	2	1.8	0	4.3	1
core	278	18.4	3	20.1	2	57033	2531	33.2	8	126866	5100	13421	980	27300	2268	46.3	10	1521	123	4.0	1	36.8	3	17.3	4	20.9	1	21.5	1	1.5	0	5.9	2
core	283	19.6	5	17.8	2	54273	2903	23.5	6	117774	4291	12496	1465	27118	1927	56.6	13	1378	141	4.2	1	32.9	2	19.1	5	18.0	1	21.1	2	1.2	0	3.5	1
core	288	18.4	2	18.0	1	57677	3708	23.8	7	128141	7832	13134	755	28948	2396	29.9	10	1532	176	2.7	1	32.4	3	21.8	4	19.1	2	22.6	2	1.5	0	4.9	1
core	293	17.1	4	19.7	3	55188	3098	18.7	4	122339	6072	12571	724	27014	1593	54.3	12	1383	126	3.9	1	35.8	4	20.7	7	18.8	2	20.1	2	1.5	0	4.7	1
core	298	17.3	3	19.0	2	55118	2325	22.5	8	120314	4910	12420	633	27144	1749	35.0	12	1290	163	4.5	1	32.4	3	18.6	4	18.1	2	20.5	2	1.2	0	3.2	1
core	303	18.7	4	17.0	1	54077	3697	29.1	8	119271	5315	11827	498	25803	1987	44.7	11	1251	149	3.3	1	30.9	2	22.2	4	19.3	2	20.8	1	1.3	0	3.4	1
core	308	21.8	3	19.3	2	57868	4302	28.6	10	123960	7533	12510	695	27471	2120	44.1	9	1280	91	4.0	1	32.8	2	24.2	7	18.4	2	21.1	2	1.6	0	3.8	1
core	313	18.8	3	19.0	2	56903	3964	24.6	8	121278	5929	12931	1156	27121	1748	44.8	8	1401	172	3.2	1	31.8	3	20.0	4	19.5	2	20.8	2	1.2	0	4.0	1
core	318	18.6	3	18.2	2	53802	3576	27.4	10	123314	7752	12356	1161	25088	2969	43.2	10	1481	178	3.0	1	32.8	3	20.9	7	18.7	2	19.8	2	1.8	0	4.1	1
core	323	17.2	3	17.2	2	54268	4443	22.6	7	121853	10131	11902	966	28559	3251	47.3	10	1371	172	4.7	1	32.2	3	21.7	4	19.0	2	20.9	3	1.6	0	4.5	1
core	328	23.2	4	18.0	2	54827	2037	31.0	6	120962	4705	12342	634	27969	1792	48.1	12	1385	147	3.9	1	32.8	2	24.7	4	21.1	2	21.4	2	1.2	0	4.0	1

Table B18: continued

core	333	20.5	3	18.0	2	54274	2329	27.5	9	122579	6053	12169	483	26749	2223	51.7	11	1544	126	3.4	1	31.5	3	25.8	7	19.3	2	21.8	2	1.5	0	3.3	1	0.5	0	0.8	0	0.4	0	14.5	1
core	338	17.8	2	17.5	1	53574	2561	25.8	8	119847	6071	11691	558	25835	2035	56.7	13	1440	190	3.5	1	33.8	3	21.1	5	19.5	3	22.5	2	1.6	0	4.4	1	0.4	0	1.1	0	0.0	0	14.3	1
core	343	17.0	2	17.8	2	54272	3005	24.5	7	123247	6312	12830	854	26307	1961	45.9	10	1394	121	3.7	1	35.8	5	28.9	7	20.5	2	22.4	2	1.5	0	4.2	1	0.3	0	1.0	0	0.5	0	14.2	1
core	348	17.4	3	16.8	1	55975	3910	29.0	10	124327	7578	12423	892	27470	2988	48.8	11	1483	163	3.9	1	34.8	3	29.9	6	20.6	2	21.8	2	1.6	0	4.9	1	0.4	0	1.2	0	0.6	0	14.1	1
core	353	14.1	3	17.0	3	51608	4720	21.1	7	115274	11013	11632	1099	25270	3024	47.0	12	1252	185	4.1	1	31.5	4	26.0	6	19.1	3	19.8	2	1.6	0	3.5	1	0.3	0	0.8	0	0.4	0	13.7	2
core	357	20.7	3	17.3	1	53151	2183	26.8	8	119175	5375	11437	458	24889	2093	45.3	6	1391	143	3.7	1	35.5	2	29.2	7	21.0	2	21.4	2	1.4	0	5.4	1	0.7	0	1.2	0	0.1	0	14.8	1
core	362	21.2	6	18.1	2	54946	2808	24.2	7	123527	6932	11954	808	28221	1949	57.5	14	1363	98	3.4	1	37.4	4	30.9	6	19.8	2	23.0	2	1.4	0	5.2	1	0.9	1	0.6	0	0.0	0	14.2	2
core	367	19.1	4	17.4	1	55451	3161	25.8	7	124552	5454	11859	553	28188	2267	53.8	10	1427	156	2.9	1	34.6	3	30.7	7	21.0	2	23.1	2	1.7	0	5.4	1	0.3	0	1.0	0	0.1	0	13.6	1
core	372	18.0	3	17.1	2	55522	3392	31.5	7	127958	6862	12078	644	29149	2521	50.6	8	1495	162	4.0	1	39.1	3	29.4	5	21.3	2	23.7	2	1.7	0	4.0	1	0.5	1	0.8	0	0.1	0	14.4	1
core	377	18.1	3	16.4	1	55902	2716	28.5	9	121680	5255	12357	644	27580	2342	50.7	12	1331	147	3.0	1	35.4	3	32.8	7	21.5	2	22.8	2	1.9	0	3.7	1	0.7	1	0.9	0	0.6	1	15.1	1
core	382	17.7	3	15.9	1	53025	2567	29.1	10	117911	5424	11185	535	26840	2694	63.4	16	1451	167	3.3	1	36.8	2	26.9	6	20.4	2	21.5	2	1.6	0	4.5	1	0.4	0	1.0	0	0.0	0	14.0	2
core	387	17.7	3	17.5	2	55262	3494	25.6	7	123661	6376	11943	630	27467	2428	52.1	13	1462	128	4.2	1	37.3	3	35.8	7	21.1	2	23.0	2	1.7	0	3.7	1	0.4	0	0.8	0	1.0	1	14.3	1
core	392	19.3	4	16.6	2	54094	2738	28.5	8	124355	8165	12031	600	28062	2805	55.5	12	1337	146	4.2	1	32.9	3	27.8	5	22.1	2	21.5	2	1.2	0	4.2	1	0.2	0	1.3	0	0.5	0	13.5	1
core	397	16.7	3	15.9	1	54811	2535	27.6	7	121656	4520	11512	490	27422	1777	47.5	13	1388	173	3.5	1	35.5	2	28.4	8	20.4	2	22.9	2	1.9	0	4.2	1	0.3	0	0.9	0	0.3	0	14.2	1
core	402	17.1	2	16.9	1	58001	3015	28.0	7	127342	5968	12132	514	29226	1643	52.5	15	1406	160	4.2	1	34.8	3	35.0	6	20.6	2	22.8	2	1.8	0	5.6	1	0.5	0	1.0	0	1.0	1	15.9	2
core	407	17.0	3	18.0	2	57322	3679	28.0	7	124816	4685	11915	493	27749	1705	54.9	12	1340	166	3.9	1	37.6	3	29.0	5	22.1	2	24.1	2	1.7	1	3.9	1	0.3	0	0.8	0	0.2	0	14.4	2
core	412	17.7	3	15.7	1	54438	2874	28.5	9	120104	6378	11767	636	26907	2244	43.5	8	1454	194	3.7	1	36.2	3	32.0	6	20.7	1	22.3	2	1.4	0	3.9	2	0.2	0	1.1	0	0.7	1	14.8	1
core	417	15.7	3	15.4	1	55204	2036	26.0	6	123551	3463	11852	393	25974	1616	42.9	11	1479	101	3.2	1	36.6	2	24.4	7	20.5	1	23.1	2	1.6	0	4.9	1	0.5	0	1.4	0	0.7	1	14.7	1
core	422	19.8	5	15.6	1	54157	4270	30.7	7	121446	5975	11885	758	26901	1897	50.9	12	1397	183	3.4	1	32.9	3	28.8	7	17.5	1	20.1	1	1.3	0	4.1	1	0.5	0	1.4	0	0.3	0	14.3	1
core	427	17.4	3	17.0	2	55022	2260	31.0	6	124002	5279	12127	483	28049	1607	53.6	14	1407	140	4.2	1	36.5	3	29.0	6	19.3	2	21.5	1	1.7	0	4.1	2	0.1	0	0.9	0	0.4	0	14.6	2
core	432	16.6	3	15.2	1	54599	2441	37.5	11	121848	5371	12253	578	27207	2046	45.8	10	1466	145	3.7	1	36.6	2	31.6	7	19.7	2	21.2	1	1.2	0	4.4	1	0.3	0	0.9	0	0.0	0	14.8	1
core	437	17.0	2	16.5	2	55925	3158	29.2	7	126463	6764	12448	794	27056	2095	42.3	12	1361	184	3.1	1	36.9	4	31.4	6	20.3	2	21.6	3	1.6	0	3.8	1	0.4	0	1.0	0	0.4	0	14.1	1
core	442	15.4	3	16.0	1	54969	1939	30.6	8	122502	4864	12277	419	26552	2117	45.8	11	1320	145	3.6	1	34.8	3	26.9	5	19.2	2	21.7	2	1.2	0	5.3	2	0.1	0	1.4	0	0.1	0	16.0	1
core	447	17.2	3	15.4	1	54605	2220	30.9	6	123786	5235	11927	632	27355	2269	46.0	11	1324	133	3.3	1	37.9	3	31.1	6	18.7	2	22.6	2	1.5	0	4.6	1	0.6	1	1.1	0	0.6	1	15.0	1
core	452	17.0	2	14.9	1	55790	4714	27.4	9	122819	5117	12039	694	26596	2105	61.0	13	1348	147	3.6	1	34.9	2	31.2	5	20.9	2	22.2	2	1.8	0	4.5	1	1.0	1	1.0	0	0.2	0	14.0	1
core	457	17.0	4	16.1	2	56459	3801	27.9	8	124651	6958	12080	686	27321	2181	44.8	8	1391	156	3.7	1	34.9	4	33.6	6	22.2	2	23.1	2	1.5	0	4.4	1	0.6	1	1.2	0	0.4	1	14.8	1
core	462	16.5	2	15.7	1	55808	2793	29.1	7	127083	6014	11766	506	28288	2530	63.5	11	1498	122	4.0	1	37.3	3	37.6	6	20.9	2	24.2	2	1.6	0	3.5	1	0.4	0	0.9	0	0.5	0	14.7	1
core	467	16.5	3	17.2	2	58177	3847	37.1	8	133006	6344	12374	846	30641	2209	57.1	14	1523	184	4.0	1	34.2	4	41.7	6	23.8	3	25.2	2	1.7	0	4.4	1	1.1	1	1.3	0	0.3	0	16.7	2
core	472	15.9	3	15.5	2	52174	4141	33.0	8	118514	8898	10784	886	25464	2864	47.2	14	1330	163	3.4	1	35.7	4	40.0	6	19.2	2	21.1	2	1.6	0	4.5	1	0.3	0	1.0	0	0.4	0	13.5	1
core	477	16.2	3	15.7	1	56434	2705	43.8	7	128685	6662	11908	522	30002	1867	46.0	12	1417	142	3.8	1	39.2	4	38.9	6	22.9	2	24.3	1	1.6	0	4.7	1	0.5	1	1.4	0	0.0	0	15.1	2
core	482	15.1	2	15.5	2	56723	5126	29.8	7	120210	4817	11076	524	27780	1750	46.8	12	1281	144	3.9	1	34.9	2	32.2	6	21.2	1	23.0	2	1.4	0	4.5	1	0.4	1	1.3	0	0.4	0	13.8	1
core	487	16.2	4	16.0	1	55096	2633	32.7	9	124383	5676	11226	557	28860	1798	41.2	9	1551	158	6.2	1	40.9	3	38.2	8	21.2	2	26.0	2	1.9	0	3.8	1	0.3	0	1.4	0	0.5	1	15.1	1
core	492	16.7	3	18.4	2	54174	2262	39.0	8	123964	5626	12574	505	29001	1733	58.6	17	1284	141	11.7	2	38.0	3	32.3	4	22.4	1	24.9	2	1.6	0	4.7	1	0.6	0	0.8	0	0.2	0	16.1	2
core	497	22.0	3	22.6	4	55705	3012	39.6	6	123754	6996	12743	910	28344	2003	60.7	13	1276	93	12.7	1	38.5	3	36.9	8	23.6	2	24.4	2	2.0	0	3.8	1	0.5	0	1.0	0	0.1	0	15.6	1
core	502	16.6	2	15.4	2	53109	3471	29.7	8	119903	7138	10915	496	27440	3150	56.5	12	1319	144	3.3	1	35.1	3	34.9	8	22.1	2	25.0	2	1.8	0	4.7	2	0.7	0	1.5	0	0.2	0	14.2	1
core	507	16.4	2	16.6	2	53447	3090	28.1	7	121650	6011	11459	604	27446	1664	45.1	12	1271	132	2.7	0	35.5	3	36.4	6	22.8	2	24.0	2	1.7	0	5.0	1	0.5	0	1.0	0	0.2	0	14.8	1
core	512	17.4	4	15.0	1	56461	3317	24.1	7	123068	4636	12322	572	26784	1983	53.9	19	1408	180	3.4	1	39.3	3	42.4	6	22.5	1	23.3	1	1.6	1	5.5	1	0.4	0	1.3	0	0.2	0	15.6	1
core	517	16.8	4	14.4	1	56382	3693	29.0	10	119715	6708	12411	739	25837	1839	52.6	11	1408	147	3.9	1	39.6	3	39.7	9	21.8	2	21.7	2	1.2	0	3.7	1	0.3	0	0.9	0	0.4	0	14.5	2
core	522	15.0	3	14.9	1	56351	4828	27.5	8	122363	6798	13539	899	27061	2195	64.7	14	1410	142	4.2	1	38.9	3	40.5	7	21.1	2	22.1	2	1.5	0	3.8	1	0.2	0	1.0	0	0.5	1	15.7	1
core	527	15.3	3	15.5	1	55760	3081	30.8	9	117913	5002	12945	517	24333	1696	49.3	10	1419	132	4.1	1	36.1	5	40.3	6	19.8	1	22.0	2	1.1	0	3.7	1	0.5	1	1.3	0	0.3	0	14.7	1
core	532	14.4	2	15.9	1	53659	2658	34.8	9	115677	7095	12452	793	23863	2555	39.0	8	1327	111	3.4	1	35.1	3	40.0	6	19.7	1	22.2	2	1.6	0	3.3	1	0.3	0	1.2	0	0.3	0	14.4	1
core	537	16.9	4	16.2	2	55828	3209	28.2	10	122239	6024	12983	748	26420	2253	56.1	12	1400	123	3.6	1	39.3	3	47.9	10	22.0	2	24.6	1	1.6	0	4.1	1	0.3	0	1.2	0	0.3	0	16.1	2
core	542	16.2	3	17.9	3	57202	2855	33.4	6	126699	6002	12657	731	29582	2548	42.1	12	1485	163	3.5	1	41.4	4	44.2	7	23.3	2	25.3	2	1.5	0	3.0	1	0.5	0	1.1	0	0.6	0	16.1	1
core	547	17.9	3	17.8	2	54286	3700	33.7	9	120608	7931	11892	837	29121	2500	47.5	12	1432	183	3.3	1	37.6	4	41.3	7	22.9	2	23.6	3	1.8	0	5.3	1	0.3	0	1.2	0	0.2	0	15.4	2
core	552	18.3	3	17.3	2	52642	4377	30.3	8	117395	9198	11513	947	26318	2933	51.0	12	1398	140	3.7	1	36.9	4	39.2	7	21.4	2	23.0	2	1.6	0	3.9	1	0.5	0	1.1	0	0.8	1	14.5	1
core	557	18.2	4	16.2	1	53833	3182	33.3	10	122405	8127	11608	718	28207	2834	52.2	10	1411	171	4.3	1	39.2	3	39.8	7	20.6	2	24.2	2	1.3	0	4.7	1	0.6	0	1.4	1	0.1	0	15.7	2
core	562	21.1	4	18.7	2	58948	6491	26.8	9	123407	6633	11749	690	28487	1960	52.3	13	1634	166	4.1	1	38.3	3	38.6	7	21.6	2	25.6	3	1.6	0	5.3	1	0.2	0	1.3	0	0.1	0	15.3	2
core	567	17.3	2	19.1	2	57046	3577	39.6	8	128087	7502	12245	1244	31325	3471	57.1	13	1488	148	3.1	1	44.1	4	35.5	7	23.2	2	24.8	2	1.6	0	5.4	1	0.5	0	1.1	0	0.0	0	15.2	1
core	572	20.8	2	20.0	3	56800	3503	33.3	7	129017	7541	12395	1083	29660	1702	61.2	11	1516	130	4.0	1	40.2	4	39.4	5	21.8	2	25.9	2	1.9	0	4.6	1	0.3	0	1.2	0	0.3	0	15.5	1
core	577	17.0	3	18.1	2	53585	2744	29.6	8	120178	5290	11105	503	28772	1546	48.1	11	1483	200	4.0	1	38.4	3	46.5	6	21.9	2	24.3	2	1.5	0	4.4	1	0.5	0	1.3	0	0.2	0	14.7	1
core	582	17.4	4	18.3	2	50373	4104	36.1	9	115195	8735	10838	854	27204	2707	46.9	12	1324	141	2.8	1	38.7	4	37.8	7	19.5	2	22.8	2	1.6	0	5.2	2	0.6	0	1.3	0	0.2	0	13.7	1
core	587	22.4	8	20.7	3	56804	3741	32.7	8	126335	8491	11716	825	27678	2335	54.1	13	1512	154	3.5	1	41.7	5	47.1	9	21.4	1	23.0	2	1.4	0	4.6	1	0.9	1	1.0	0	0.3	0	14.9	1
core	592	18.0	3	17.7	2	56371	4145	41.2	12	122320	8391	11774	857	27465	2906	44.0	12	1593	202	3.0	1	41.2	6	37.7	4	20.3	2	23.1	2	2.2	0	5.2	2	0.2	0	1.0	0	0.6	0	14.7	2
core	597	23.4	5	20.6	3	58394	3387	41.5	11	131779	6126	12718	736	29904	2111	50.2	12	1492	189	4.7	1	42.5	4	39.2	6	19.8	2	24.5	2	1.5	0	4.7	1	0.5	0	1.4	0	0.9	1	15.4	1
core	602	17.8	2	19.3	3	51613	4982	36.3	7	113642	10037	10920	844	25191	2269	59.4	13	1299	164	3.0	1	37.1	4	42.3	8	18.8	3	20.3	2	1.6	0	4.1	1	0.3	0	1.3	0	0.3	0	14.3	2
core	607	23.2	4	20.5	3	54326	3802	27.5	8	122925	8585	11681	708	28025	2331	48.8	9	1380	116	3.6	1	41.1	4	38.2	6	20.7	2	23.4	2	1.7	0	4.2	2	0.6	0	1.3	0	0.4	0	14.4	1
core	612	19.1	2	19.6	2	56280	4766	32.6	7	123960	8047	11344	752	27591	2823	53.0	15	1501	163	4.1	1	42.1	4	45.3	8	21.0	2	21.6	2	1.6	0	4.0	1	0.5	0	0.8	0	0.5	0	16.5	2
core	617	18.8	3	18.3	2	53343	3822	29.2	8	118341	8273	11403	944	27312	2402	49.2	12	1495	174	4.0	1	40.1	4	42.5	6	20.0	2	21.7	2	1.6	0	4.3	1	0.1	0	1.0	0	0.2	0	14.9	2
core	622	21.9	5	18.7	2	56694	3365	22.7	6	122919	8685	11901	781	30319	2027	58.4	13	1471	174	3.2	1	44.5	4	41.8	7	21.4	3	23.9	2	1.5	0	4.2	1	0.3	0	1.1	0	0.1	0	15.3	1
core	627	20.7	4	21.6	3	54397	1991	32.6	9	122434	5315	11658	637	28336	2003	66.5	15	1479	170	3.6	1	46.2	4	39.1	6	20.7	2	23.5	2	1.7	0	4.4	2	0.5	0	1.4	0	0.3	0	15.1	2
core	632	19.2	2	20.0	3	55751	2571	41.4	9	123716	6401	11759	827	29426	2119	44.5	9	1587	157	3.7	1	43.8	4	40.6	6	20.1	2	22.5	1	1.9	0	3.9	1	0.3	0	1.0	0	0.3	0	15.7	2
core	637	21.2	4	20.5	3	56038	2795	30.4	6	123882	6156	11652	559	26759	2187	47.6	12	1395	155	3.6	1	43.0	4	45.7	7	19.7	2	23.7	2	2.0	0	3.9	1	0.4	0	1.3	0	0.2	0	15.3	2
core	642	19.6	4	19.0	2	55451	2730	29.1	6	125958	5840	12221	1062	30436	2382	68.0	11	1486	169	3.7	1	42.3	3	44.4	9	18.9	2	25.1	2	1.6	0	4.0	1	0.6	1	1.6	0	0.3	0	14.3	2
core	647	21.0	4	19.8	2	54729	3061	31.5	9	125204	6867	11347	663	30147	2330	51.4	14	1412	141	2.8	1	44.7	4	48.0	7	22.0	2	25.1	2	1.9	0	4.1	1	0.3	0	1.0	0	0.6	1	14.8	1
core	652	19.7	3	20.2	2	53572	2859	35.0	7	118379	6799	10947	708	27327	1358	50.5	12	1442	153	2.6	1	45.0	3	52.0	9	21.8	2	23.7	1	1.3	0	5.1	2	0.2	0	1.1	0	0.7	1	14.7	1
core	657	21.9	4	21.2	2	55359	2726	32.3	7	123666	5737	11424	606	29398	1563	64.1	14	1499	149	3.1	1	46.9	4	52.1	10	22.6	2	25.3	2	1.9	0	4.2	2	0.2	0	1.3	0	0.3	0	15.5	2
core	662	21.2	4	21.9	3	55839	5142	31.7	8	124754	7821	11250	732	29620	2063	52.5	10	1501	165	3.8	1	44.8	4	51.1	9	21.6	2	25.7	3	1.8	0	5.5	2	0.6	1	1.4	0	0.6	0	15.3	1
core	667	22.8	4	19.6	2	54429	3195	27.8	6	125928	6622	11964	886	29192	2715	48.9	11	1435	139	2.8	1	47.0	4	52.9	10	21.9	2	25.7	3	1.5	0	5.4	2	0.5	1	1.4	0	0.3	0	15.7	2
core	671	20.5	4	22.4	3	53428	2373	39.1	9	117443	5411	11301	592	27837	1699	62.3	10	1459	189	3.5	1	43.8	4	55.7	10	22.4	2	23.2	2	1.6	0	4.4	2	0.2	0	1.6	1	0.3	0	13.8	1

Table B18: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD
0.6	0	3.1	1	0.2	0	12.3	1
0.2	0	3.8	1	0.1	0	13.8	1
0.4	0	3.5	1	0.1	0	12.8	1
0.5	0	3.7	1	0.5	1	13.1	2
0.4	0	3.5	1	0.2	0	12.7	1
0.7	1	3.9	1	0.6	1	12.8	1
0.5	1	4.1	1	0.1	0	11.9	1
0.5	0	3.7	1	0.3	0	12.3	1
0.2	0	4.1	1	0.2	0	12.2	1
0.3	0	3.5	1	0.1	0	14.2	1
0.7	1	3.6	1	0.1	0	12.5	1
0.5	0	3.1	1	0.0	0	12.9	1
0.4	0	2.9	1	0.1	0	13.7	1
0.3	0	2.7	1	0.1	0	12.8	1
0.2	0	3.6	1	0.1	0	13.8	1
0.2	0	2.3	0	0.2	0	12.3	1
0.6	1	2.6	1	0.5	1	14.2	1
0.1	0	2.8	0	0.3	0	14.2	1
0.5	0	1.4	0	0.1	0	15.0	1
0.4	0	2.3	1	0.3	0	13.4	1
0.3	0	1.6	0	0.5	0	12.1	1
0.1	0	1.7	1	0.1	0	14.7	2
0.2	0	1.6	0	0.6	1	13.3	1
0.1	0	1.5	0	0.2	0	14.0	1
0.6	0	1.5	0	0.3	0	14.7	2
0.3	0	1.3	0	0.5	0	14.9	2
0.5	0	1.6	1	0.1	0	13.6	1
0.5	0	1.4	0	0.1	0	15.1	1
0.5	0	1.1	0	0.3	0	13.1	1
0.4	0	0.9	0	0.4	0	14.7	2
0.1	0	1.6	0	0.3	0	14.6	2
0.5	0	1.3	0	0.5	0	14.4	2
0.3	0	1.0	0	0.7	1	13.4	1
0.2	0	1.2	0	0.2	0	14.7	1
0.2	0	1.3	0	0.6	0	14.5	1
0.8	1	0.6	0	0.3	0	13.8	1
0.3	0	1.2	0	0.4	0	14.2	2
0.4	0	1.0	0	0.2	0	15.1	1
0.1	0	0.9	0	0.5	1	15.0	2
0.1	0	1.2	0	0.9	1	14.9	1
0.3	0	1.3	0	0.1	0	15.1	1
0.6	1	0.9	0	0.0	0	14.3	1
0.5	0	1.0	0	0.1	0	14.8	1
0.5	0	1.0	0	0.1	0	14.5	1
0.4	0	1.0	0	0.2	0	14.7	1
0.1	0	1.0	0	0.6	1	15.4	2
0.3	0	1.1	0	0.1	0	13.5	1
0.1	0	0.8	0	0.4	0	14.9	2
0.4	0	1.0	0	0.1	0	14.8	1
0.3	0	1.1	0	0.1	0	14.9	2
0.3	0	0.9	0	0.4	0	15.6	1
0.1	0	0.9	0	0.4	0	14.6	2
0.2	0	0.8	0	0.2	0	14.3	2
0.3	0	0.9	0	0.3	0	15.6	1
0.2	0	1.2	0	0.2	0	14.8	2
0.5	0	1.1	0	0.5	1	15.6	2
0.3	0	0.8	0	0.6	0	15.4	1
0.2	0	1.4	1	0.1	0	13.4	1
0.4	0	0.9	0	0.5	1	15.7	2
0.3	0	1.0	0	0.7	1	15.6	1
0.2	0	1.1	0	0.5	0	14.8	1
0.4	0	1.0	0	0.4	0	13.8	1
0.3	0	0.8	0	0.3	0	14.5	2
0.2	0	1.4	0	0.1	0	14.5	1
0.3	0	1.0	0	0.2	0	12.9	1
0.3	0	0.7	0	0.1	0	14.2	2
0.1	0	1.1	0	0.1	0	15.2	1

Table B18: continued

core	676	21.4	3	22.2	3	57226	8800	24.9	7	120590	7542	10967	672	27935	2325	44.9	8	1484	176	3.7	1	46.6	5	50.7	8	20.5	2	24.0	1	1.8	0	5.1	1	0.6	0	1.5	0	0.2	0	14.9	1
core	681	20.9	3	22.6	3	56475	3726	27.6	8	125821	6021	11386	558	28481	2388	40.3	12	1427	107	3.1	1	43.2	4	51.9	9	21.5	2	25.0	2	1.6	0	4.6	1	0.4	0	1.2	0	0.2	0	14.3	1
core	686	19.0	2	22.8	3	54356	3077	32.1	12	125329	6665	11313	671	28431	1943	53.9	12	1533	154	2.9	1	46.9	4	51.3	6	22.4	2	25.6	2	1.9	0	4.7	1	0.2	0	1.6	1	0.2	0	15.1	1
core	691	19.3	3	20.3	1	52750	2554	30.5	9	121404	6522	10895	517	29064	2100	53.7	15	1510	130	2.9	1	48.0	3	51.9	7	21.2	2	24.7	2	1.8	0	4.4	2	0.3	0	1.5	0	0.4	0	14.5	1
core	696	20.5	2	18.8	1	56786	7027	35.0	8	118624	5832	10833	572	27001	1862	49.7	8	1356	123	3.6	1	44.2	3	53.4	8	20.3	1	22.7	2	1.4	0	4.2	1	0.5	0	1.5	1	0.4	0	14.4	1
core	701	22.3	4	18.7	1	55077	2666	31.3	7	126979	6902	11328	521	29693	2099	56.6	17	1417	135	3.7	1	46.9	4	56.8	8	22.3	2	25.1	2	1.8	0	4.1	1	0.8	1	1.2	0	0.5	0	14.1	1
core	706	21.1	3	22.1	3	54272	2813	34.3	11	128094	5617	11746	786	29083	2034	48.7	11	1522	174	3.9	1	50.6	4	56.9	10	23.4	2	27.2	2	1.6	0	4.2	1	0.3	0	1.3	0	0.3	0	15.5	2
core	711	21.3	3	20.3	2	54529	3211	31.7	6	121292	6261	11049	525	29788	2209	43.9	12	1543	140	3.3	1	45.5	4	62.3	9	20.9	2	25.2	2	1.6	0	5.1	2	0.6	1	1.4	0	0.4	0	14.5	1
core	716	21.1	3	19.9	2	59295	7280	32.1	9	122600	6722	11005	666	29248	2077	51.8	12	1510	129	3.7	1	46.0	4	58.6	8	21.5	2	24.1	2	1.8	0	4.2	1	0.2	0	1.7	0	0.4	0	14.5	1
core	721	22.2	4	20.9	2	59483	5309	43.8	12	129107	10383	12235	1108	29987	2824	61.2	15	1654	201	3.7	1	52.2	6	62.9	8	24.0	2	26.5	3	1.8	0	5.1	2	0.4	0	1.1	0	0.2	0	15.8	1
core	726	23.0	4	21.4	2	54219	3492	33.7	7	121585	6640	11338	777	28779	2582	59.4	14	1468	175	3.5	1	48.6	4	60.3	10	22.2	2	25.6	2	1.6	0	4.5	2	0.5	0	1.7	0	0.1	0	14.3	2
core	731	24.6	4	21.2	2	55163	2724	32.6	10	126730	6577	11405	553	29439	2210	49.1	12	1623	175	3.2	1	50.2	5	66.5	8	23.5	2	25.1	2	2.0	0	5.2	2	0.4	1	1.6	0	0.4	0	15.0	1
core	736	26.3	5	20.5	1	54864	1967	28.0	8	125482	3028	11478	635	29470	1978	61.5	12	1458	166	2.8	1	47.5	3	69.6	9	24.6	2	26.9	2	1.9	0	3.5	1	0.3	0	1.3	0	0.4	0	15.3	1
core	741	20.0	3	19.6	2	53596	4879	25.6	8	120845	7611	11275	755	27530	2340	46.6	11	1420	124	3.2	1	48.0	4	66.5	9	22.2	2	24.7	2	1.7	0	5.4	1	0.6	0	1.5	0	0.2	0	14.9	2
core	746	24.8	3	21.4	2	54970	2127	32.8	9	128319	5975	12287	839	29964	2115	50.4	11	1419	199	3.5	1	49.8	4	70.2	9	25.7	2	25.9	2	1.7	0	4.5	1	0.5	0	1.3	0	0.6	0	15.6	2
core	751	19.4	3	22.8	2	57086	3989	30.6	8	126603	6697	11715	646	30016	2054	44.8	11	1627	141	2.9	1	51.4	4	67.9	8	24.6	2	26.7	2	2.2	0	4.2	1	0.4	0	1.3	0	0.1	0	15.6	2
core	756	22.3	4	21.5	2	58543	3677	34.5	9	129088	7212	11932	623	28896	2547	50.9	14	1528	173	3.7	1	50.8	4	71.3	10	23.5	2	25.6	2	2.3	0	4.1	1	0.1	0	1.7	0	0.5	0	15.3	1
core	761	23.9	4	22.3	3	54066	3930	32.4	8	123187	7041	11626	880	28857	2300	52.5	14	1414	168	3.7	1	50.1	5	70.0	10	22.5	2	26.1	1	1.7	0	5.1	1	0.3	0	1.4	0	0.0	0	15.1	2
core	766	22.2	4	22.5	3	51870	2641	31.2	7	120029	5816	11493	481	29960	2426	56.6	10	1350	125	3.1	1	48.1	2	67.8	10	22.2	2	24.4	2	2.0	0	6.0	1	0.3	0	1.0	0	0.2	0	14.7	1
core	771	22.0	3	22.6	2	53600	5281	26.2	6	116904	8231	11873	1010	27904	2627	59.2	17	1460	120	3.5	1	49.4	5	68.4	9	20.0	2	24.4	2	1.9	0	4.3	1	0.3	0	1.2	0	0.5	1	14.8	2
core	776	24.6	3	22.5	3	56483	3734	26.2	5	124288	7828	11903	744	29291	2717	53.0	13	1375	161	4.0	1	46.0	3	65.9	11	21.6	2	24.3	2	1.8	0	4.7	1	0.1	0	1.2	0	0.2	0	14.8	1
core	781	25.1	4	23.0	3	55455	4439	31.1	7	112939	7678	11479	838	23890	2465	63.4	18	1356	131	3.7	1	46.6	4	63.5	10	20.9	2	22.5	3	1.5	0	4.2	1	0.7	0	1.1	0	0.3	0	13.7	2
core	786	22.3	3	23.4	3	58221	5263	28.3	8	120409	8166	11979	872	26635	2555	46.1	12	1298	155	3.2	1	50.1	5	76.1	10	22.6	2	24.0	2	1.8	0	4.2	1	0.5	0	1.2	0	0.2	0	14.0	2
core	791	21.4	3	21.8	1	55533	2466	26.3	7	122032	4963	13038	951	26904	1843	62.0	16	1601	164	3.8	1	49.7	3	77.7	9	21.7	1	23.0	1	1.5	0	4.2	1	0.3	0	1.1	0	0.1	0	14.5	1
core	796	21.5	4	22.0	2	55765	4082	28.0	10	122774	8131	12230	820	26573	1854	45.6	12	1456	192	3.6	1	49.3	5	74.2	10	21.4	2	21.9	2	1.6	0	4.8	1	0.4	0	1.5	0	0.6	1	15.2	2
core	801	23.4	3	21.9	2	55543	4067	26.6	7	119909	6359	11689	520	26480	1551	56.8	13	1512	163	3.6	1	46.2	4	63.6	9	22.3	2	23.6	2	1.5	0	3.7	1	0.4	0	1.3	0	0.2	0	14.8	1
core	806	25.6	3	22.8	2	59083	5311	28.0	7	127405	7805	12438	862	28119	3099	51.8	12	1386	116	3.3	1	50.3	4	62.6	7	25.0	3	25.3	2	1.8	0	4.1	1	0.5	0	1.2	0	0.1	0	16.7	2
core	811	23.2	4	22.0	2	59207	6524	27.4	11	124791	6319	11776	726	28575	2887	59.4	10	1415	113	3.2	1	47.6	4	76.5	8	22.1	2	24.6	2	1.6	0	4.0	1	0.5	0	1.2	0	0.1	0	15.7	1
core	816	22.0	2	24.4	2	57606	3686	35.9	7	124071	6295	11870	642	28243	2032	54.7	10	1531	194	3.2	1	50.3	3	68.5	8	23.1	2	25.2	2	1.7	0	4.3	1	0.3	0	1.2	0	0.4	0	15.4	2
core	821	24.4	3	22.2	2	55737	3193	30.0	9	122758	6392	11756	608	28171	2186	52.1	16	1487	169	3.4	1	48.2	4	68.2	13	22.6	2	24.3	2	1.8	0	4.1	1	0.3	0	1.5	1	0.1	0	15.6	1
core	826	24.3	4	21.9	2	57017	2591	22.4	8	122038	4961	11789	516	29870	2267	62.4	12	1359	147	3.5	1	49.2	3	73.4	7	23.8	2	25.7	2	1.8	0	5.0	1	0.3	0	1.0	0	0.2	0	15.6	1
core	831	26.4	6	21.6	2	53721	2834	28.3	7	118368	5360	11068	599	28117	2259	49.0	11	1499	150	3.7	1	47.5	4	66.5	6	21.8	2	26.6	2	1.5	0	5.6	1	0.2	0	1.2	0	0.8	1	14.8	2
core	836	21.4	3	21.1	2	53735	2835	24.3	8	118991	4710	10920	453	27743	1981	42.6	12	1325	122	2.7	1	48.1	3	60.7	7	22.1	2	25.5	2	1.9	0	5.4	2	1.1	0	1.1	0	0.4	0	14.8	1
core	841	22.5	3	20.7	1	54081	1990	25.2	6	122066	4561	11095	424	28801	1998	53.6	13	1448	142	3.1	1	49.4	4	68.2	10	22.2	1	26.9	2	1.8	0	6.2	1	0.3	0	1.2	0	0.5	0	14.9	1
core	846	22.6	3	21.7	2	57350	3434	31.1	8	129512	6429	11832	754	29476	2220	58.2	11	1524	136	3.6	1	48.6	4	66.3	10	25.0	2	28.3	2	1.6	0	4.4	2	0.6	0	1.3	1	0.5	0	16.2	2
core	851	23.0	3	22.4	2	59341	4243	31.7	8	126977	7677	11391	611	32118	2472	61.2	15	1507	167	3.6	1	55.8	4	69.4	14	25.0	2	28.1	2	2.0	0	4.5	2	0.5	0	1.4	1	0.6	1	16.5	2
core	856	19.9	2	21.9	3	56116	2290	28.3	8	127356	4768	11520	518	30308	2369	49.5	9	1386	133	4.3	1	51.9	4	73.2	9	24.0	2	27.8	2	2.0	0	5.1	2	0.2	0	1.5	0	0.1	0	14.8	1
core	861	17.8	3	18.2	1	56767	3861	27.8	3	122587	7293	10984	845	29591	3229	41.6	14	1434	116	3.3	1	53.2	4	68.6	12	24.1	2	28.2	2	2.0	0	4.7	2	0.2	0	1.6	0	0.1	0	15.5	2
core	866	20.2	2	18.7	2	55058	3633	21.0	7	124109	7649	11153	677	29520	2207	51.1	8	1512	155	3.6	1	50.1	4	77.1	10	25.6	2	27.3	2	1.9	0	5.0	1	0.7	1	1.2	0	0.3	0	15.8	2
core	871	15.9	2	16.3	1	54152	2744	31.6	8	119023	6347	10972	563	28385	2031	54.7	14	1449	147	3.8	1	50.0	5	75.8	12	23.6	2	26.9	2	1.8	0	6.3	2	0.4	0	1.5	0	0.6	1	15.7	1
core	876	18.2	3	17.0	1	55814	2840	24.2	7	122305	6298	11163	453	28562	2034	55.9	12	1610	195	2.8	1	51.0	4	73.8	10	24.7	2	25.9	2	1.8	0	5.2	2	0.3	0	1.4	0	0.6	0	14.8	1
cracked	881	16.7	3	18.9	2	60351	2992	39.0	11	129560	5207	11884	451	29046	1985	62.9	14	1508	187	4.0	1	54.2	5	80.3	10	25.2	2	27.0	2	2.0	0	5.1	1	0.1	0	1.6	1	0.2	0	17.9	1
cracked	886	15.3	3	14.4	1	53308	2874	23.8	7	117145	5056	11023	505	28310	1660	43.9	12	1444	129	4.7	1	49.8	5	76.9	15	23.4	2	25.4	2	1.8	0	3.6	1	0.2	0	1.2	0	0.1	0	15.6	1
cracked	891	17.0	3	14.4	1	57241	3495	28.3	9	122268	6507	11702	680	26446	2838	57.1	13	1466	130	3.5	1	46.1	3	69.4	12	23.5	2	26.0	2	1.9	0	5.1	2	0.6	1	1.6	1	0.2	0	15.7	1
cracked	896	17.9	4	15.7	1	55222	2029	23.4	7	121813	5348	11837	633	29496	2229	52.2	13	1479	145	3.5	1	49.7	3	77.8	11	25.3	2	26.2	2	1.9	0	5.3	1	0.2	0	1.1	0	0.4	0	16.4	1
cracked	901	15.0	3	14.5	1	60377	8066	29.7	6	122538	5189	11698	516	27954	2136	52.8	12	1462	131	4.4	1	49.3	4	69.6	8	22.7	2	25.9	2	1.8	0	5.2	1	0.3	0	1.3	0	0.4	0	17.3	2
cracked	906	16.5	3	16.0	2	54823	2528	22.6	9	116252	5172	11850	552	26505	2020	57.4	15	1346	137	4.4	1	47.2	4	70.5	9	21.7	2	25.1	2	1.5	0	5.0	1	0.8	1	1.3	0	0.0	0	18.2	2
cracked	911	14.6	2	13.2	1	53730	2788	26.1	10	112454	6056	11321	626	24441	2208	62.2	11	1383	172	3.1	1	45.2	4	63.5	10	21.5	2	23.5	2	1.3	0	4.2	2	0.6	1	0.9	0	0.6	1	14.9	1
cracked	916	13.2	2	14.4	2	54648	2981	24.6	9	114918	6701	11351	716	24835	1971	41.3	14	1381	109	3.5	1	47.9	4	58.9	11	22.6	2	24.5	2	1.8	0	5.2	1	0.3	0	1.7	0	0.4	0	15.6	2
cracked	921	18.9	3	15.0	1	56947	2961	32.9	10	117857	7387	11318	766	26278	1253	54.8	11	1631	125	4.8	1	52.1	5	73.9	13	24.3	2	27.5	2	1.9	0	2.6	0	0.7	0	2.0	1	0.0	0	14.9	1

Table B19: Plagioclase grain 21 - Line 2

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
Cracked	2	11.4	3	12.2	1	59918	4482	25.1	7	120650	7971	12477	1020	28451	2487	50.4	8	1468	145	4.0	1	46.8	4	74.2	8	24.7	2	27.9	3	1.4	0	3.6	1
Cracked	6	11.5	2	11.7	1	57993	3203	29.3	9	119451	6160	11955	679	26330	2245	54.8	12	1421	171	3.6	1	48.2	3	77.4	6	22.1	2	26.0	2	1.9	0	4.8	2
Cracked	11	12.5	3	12.6	2	58488	4668	30.0	6	117220	7392	11638	712	25510	2449	58.0	14	1691	450	3.5	1	45.0	5	71.1	13	23.0	2	27.5	3	1.9	0	5.7	1
Cracked	16	14.7	4	11.3	2	55082	3214	33.1	9	114103	6696	11931	1041	27425	2336	46.2	10	1433	136	3.9	1	45.1	3	59.8	8	21.9	2	26.8	3	2.0	0	6.2	1
Cracked	21	13.5	3	11.9	2	54739	3558	24.2	8	117786	7089	11179	645	26515	2277	45.1	11	1559	197	3.2	1	46.3	4	70.9	11	22.3	2	26.4	2	2.0	0	5.4	1
Cracked	26	13.2	2	12.1	1	57824	2597	28.3	7	120591	5633	11685	672	27754	1965	66.5	16	1473	123	3.1	1	46.8	3	73.1	11	23.3	2	27.4	3	1.9	0	3.9	1
Cracked	31	11.9	3	10.9	1	54203	2243	26.2	6	114808	3514	11033	517	25345	1688	46.5	12	1425	117	3.6	1	42.7	3	71.3	10	23.3	2	26.9	2	2.0	0	4.9	2
Cracked	36	12.1	2	10.1	1	53964	2502	27.0	8	117780	5268	11235	657	26973	1604	50.1	12	1423	188	3.4	1	48.2	4	63.2	7	24.1	2	26.7	2	1.9	0	4.9	1
Cracked	41	11.1	3	12.0	1	59336	3639	31.4	7	124872	7759	11664	853	29171	2719	70.0	13	1606	122	2.9	1	52.5	4	71.2	12	26.4	2	27.7	2	2.3	0	5.3	2
Cracked	46	10.5	2	10.4	1	58914	7109	30.1	8	120005	7380	11272	676	28615	2471	44.3	8	1519	166	2.7	1	48.4	4	66.7	11	23.8	2	27.0	3	1.7	0	3.2	1
Cracked	51	13.4	3	12.2	1	59237	5007	30.9	8	124415	6583	11751	514	29250	2499	60.4	17	1449	176	4.1	1	49.3	5	75.6	10	24.8	2	29.2	3	2.4	0	5.3	1
Cracked	56	12.5	3	16.0	4	53187	2627	24.7	6	120709	6190	11103	532	29288	2168	42.8	11	1500	187	3.0	1	46.5	4	70.8	9	25.0	2	29.6	2	2.0	0	5.1	1
Cracked	61	14.8	3	13.2	2	56536	3082	36.8	9	121746	6109	11448	576	29379	2007	55.3	13	1677	133	4.0	1	48.8	5	63.2	11	25.5	2	26.9	2	1.9	0	3.4	1
Cracked	66	11.7	3	11.8	2	56026	3360	28.5	8	121623	6650	11508	735	28652	2134	49.6	11	1632	210	3.4	1	47.3	4	71.7	9	26.1	2	29.1	3	2.0	0	4.6	1
Cracked	71	11.5	2	12.9	2	56193	4939	26.1	7	120601	6981	11592	1024	28233	2550	58.4	10	1497	173	4.2	1	46.7	3	74.9	11	25.2	2	28.5	2	1.7	0	4.9	2
Cracked	76	14.0	3	13.5	3	57157	3944	38.7	10	118814	8182	11310	689	27710	2600	45.6	12	1452	150	3.0	1	48.1	4	80.8	13	24.4	2	28.2	2	1.8	0	5.4	2
Cracked	81	15.2	5	14.9	3	59096	6493	33.6	10	122058	8806	11468	1018	28734	3258	57.2	15	1441	173	3.4	1	49.3	4	73.7	10	29.1	4	28.7	3	2.6	1	7.4	2
Cracked	86	14.7	4	15.2	5	56652	4103	40.4	9	125109	8247	11886	876	28539	2491	51.6	18	1542	167	4.9	1	47.1	5	68.2	9	26.3	3	32.3	3	2.1	1	6.5	2
Cracked	91	12.3	3	11.2	1	58336	6117	39.2	15	113343	8290	11742	869	25101	2279	57.9	12	1343	164	3.6	1	45.1	4	71.1	13	23.7	2	27.7	2	1.3	0	6.0	2
Cracked	96	11.1	3	10.6	1	59495	4249	34.7	9	111681	5976	12873	1181	23773	2143	44.7	10	1356	120	3.2	1	43.6	4	75.7	11	22.0	2	25.2	2	1.9	0	4.0	1
Cracked	101	11.2	2	10.2	1	55255	3209	33.4	7	111811	6406	12197	747	24877	2280	48.7	13	1454	156	3.9	1	46.2	4	65.1	8	22.4	2	24.8	3	1.3	0	4.6	1
Cracked	106	11.6	3	10.0	1	57062	3859	30.5	8	118975	7001	12133	637	26527	2387	50.9	12	1418	150	4.5	1	51.4	4	73.5	10	24.5	2	26.5	2	1.8	0	4.2	1
Cracked	111	10.3	4	10.8	3	53082	2290	22.8	6	112687	5080	12140	653	23845	1391	47.6	10	1392	106	3.3	1	46.8	4	71.4	10	22.1	2	23.8	2	1.7	0	4.8	2
Cracked	116	10.7	3	8.9	1	54757	3105	23.4	7	114205	5552	11409	542	24797	2026	58.2	14	1303	156	3.6	1	45.4	3	76.5	7	22.2	2	25.4	3	1.7	0	4.6	1
Cracked	121	9.4	2	9.0	1	55017	3250	29.5	8	118809	8188	12101	756	26212	2223	57.3	10	1411	168	4.3	1	52.4	4	79.6	11	24.3	3	27.1	2	2.0	0	5.0	2
Cracked	126	7.6	2	9.3	2	55365	4165	31.8	10	115654	6878	12006	950	27217	2233	49.8	10	1315	135	4.1	1	45.0	5	81.3	10	24.2	3	25.4	2	2.0	1	4.9	2
Cracked	131	9.3	2	10.4	2	57243	3530	23.2	9	121225	6581	12443	640	26922	2325	48.1	12	1417	174	3.9	1	51.6	5	66.5	7	23.3	2	28.1	2	1.8	0	3.9	1
Cracked	136	10.3	3	10.6	1	58165	3294	32.0	8	121521	6574	12681	877	25840	1890	47.2	14	1403	120	3.8	1	48.2	4	84.7	9	24.7	2	27.3	2	1.4	0	4.2	1
Cracked	141	7.4	2	9.6	1	55190	3180	26.5	6	115991	6864	12345	734	24845	1924	45.3	9	1378	169	4.0	1	48.3	4	78.7	13	23.3	2	25.8	2	2.2	0	5.2	2
Cracked	146	10.0	3	11.0	2	56046	2706	32.7	8	120008	4689	12459	554	26071	1571	52.0	10	1410	148	3.7	1	47.6	4	86.2	11	23.8	2	27.3	3	1.6	0	4.4	1
Cracked	151	7.6	2	10.8	1	54451	2664	26.4	6	115398	5232	12210	656	26103	2359	49.1	11	1343	134	3.9	1	46.3	4	89.0	12	23.8	2	25.8	2	1.7	0	3.9	1
Cracked	156	9.6	2	10.7	1	56256	2955	24.5	6	118125	5225	12450	529	24553	1452	51.5	13	1364	123	4.1	1	44.8	3	84.9	10	21.9	2	25.2	2	1.6	0	4.2	1
Cracked	161	12.8	3	12.5	1	55416	2272	29.6	7	114538	5788	12901	648	25160	1930	55.7	13	1434	142	4.0	1	46.3	3	73.0	10	23.2	2	25.0	3	1.6	0	4.4	1
Cracked	166	12.6	3	11.9	1	51875	2120	30.0	8	110605	4185	12165	606	22578	1695	49.1	13	1246	99	3.4	1	46.3	4	73.1	11	21.4	2	24.8	2	1.6	0	4.0	1
Cracked	171	14.5	2	14.9	3	57263	2729	19.4	5	118050	5785	12489	641	28236	2757	54.1	8	1481	149	3.8	1	45.5	5	76.7	10	23.8	2	26.1	1	1.8	0	5.5	2
Cracked	176	13.5	3	14.3	3	56948	3701	24.5	8	115718	5934	12108	633	26125	2750	46.9	12	1313	151	3.6	1	47.0	5	76.5	12	25.4	2	26.9	2	1.9	0	3.6	1
Cracked	181	12.9	3	14.1	1	58619	4290	27.9	8	119001	6858	12547	800	26733	2216	47.5	12	1408	153	3.1	1	48.5	3	78.4	9	23.6	2	26.6	2	1.6	0	3.1	1
Cracked	186	14.4	4	15.6	2	58214	2718	23.2	6	125546	6506	12724	616	29146	1951	54.9	15	1589	200	4.8	1	48.8	4	90.4	10	24.3	2	26.1	2	1.8	0	4.4	2
Cracked	191	13.2	3	14.2	2	54937	2413	20.8	7	115871	3119	12419	522	27076	1911	47.1	14	1408	150	4.1	1	46.4	2	85.8	11	24.4	2	26.2	2	1.7	0	4.0	1
Cracked	196	15.0	3	17.0	2	59517	3828	31.9	8	126046	7777	12912	858	27194	2208	62.2	15	1433	233	4.2	1	51.0	5	92.1	14	24.2	2	27.2	3	2.0	0	5.0	2
Cracked	201	14.1	3	16.0	2	56036	3567	26.7	8	117099	6327	12059	697	26992	2027	50.5	13	1404	121	3.6	1	47.3	4	73.7	10	22.0	2	25.7	2	1.3	0	3.9	1
Cracked	206	15.3	2	16.1	2	55105	3590	27.0	7	114754	6232	11817	619	25418	1933	47.7	10	1379	156	3.2	1	45.9	3	79.8	11	24.9	3	25.7	2	1.8	0	3.8	1
Cracked	211	19.7	3	15.5	1	58031	2706	23.0	7	121106	4738	12186	519	27748	2058	57.4	15	1591	160	3.3	1	48.9	3	86.2	11	25.0	1	29.5	2	1.7	0	3.2	1
Cracked	216	18.4	4	17.7	2	53468	2830	36.3	9	117826	9561	11665	725	26087	1875	48.9	9	1291	123	3.7	1	43.0	4	75.6	11	22.4	2	27.3	2	1.9	0	4.8	1
Cracked	221	16.2	3	16.7	1	54977	2774	24.8	5	117179	5498	11936	689	25791	2461	62.8	16	1429	204	3.7	1	44.2	3	73.8	7	22.4	2	25.9	2	1.8	0	4.6	1
Cracked	226	21.0	3	17.8	2	56843	3762	32.7	8	120553	8263	12327	753	29672	3243	61.7	12	1483	186	4.1	1	47.6	5	88.3	10	23.5	2	28.0	3	2.0	1	6.3	2
Cracked	231	15.3	3	16.9	2	58704	6294	27.8	10	116435	8346	12619	853	26504	2506	48.2	12	1465	158	4.6	1	46.4	5	84.8	13	24.6	3	26.2	2	1.6	0	5.7	2
Cracked	236	22.0	4	20.7	2	57180	2926	35.7	11	123955	6731	12741	689	27602	1865	50.3	12	1519	138	3.6	1	51.2	6	87.8	9	25.5	2	28.8	3	2.2	0	4.4	1
Cracked	241	17.7	4	16.0	1	56444	3418	28.8	7	120856	6514	11848	645	27480	1970	38.8	9	1383	90	3.7	1	50.0	4	76.1	10	24.2	2	26.3	2	1.7	0	7.0	2
Cracked	246	16.5	4	18.0	3	57942	3754	21.3	7	119170	6347	12070	660	26766	2220	49.3	11	1447	174	3.4	1	43.1	4	80.1	12	23.4	2	24.6	2	1.9	0	5.0	1
Cracked	251	13.9	3	15.6	2	54973	3599	29.7	7	115228	5672	12019	603	26415	1915	54.6	7	1484	188	4.0	1	47.2	5	88.0	11	23.4	2	23.8	2	1.7	0	3.6	2
Cracked	256	16.7	3	14.4	2	56265	3141	35.6	9	120750	5732	12263	537	27639	2448	49.0	13	1423	117	4.7	1	48.5	4	78.1	10	23.4	2	26.9	2	1.8	0	6.0	2
Cracked	261	14.0	2	14.4	2	57150	3251	26.1	9	122441	5100	12579	626	27975	2647	56.3	15	1317	99	4.2	1	47.8	3	88.1	10	23.8	2	26.5	2	2.2	0	4.5	1
Cracked	266	14.3	2	13.3	2	54969	3343	28.7	9	116730	5335	12472	784	26473	1863	38.7	13	1348	122	3.5	1	45.0	4	87.5	13	22.7	2	27.1	2	1.7	0	6.0	1
Cracked	271	12.5	3	11.8	1	55774	2424	27.1	10	120284	5237	12699	772	25187	1824	49.1	10	1425	179	4.7	1	46.7	4	80.1	10	24.8	2	26.3	2	1.8	1	4.2	1
Cracked	275	13.9	4	12.7	2	54204	2855	27.2	8	119431	6548	12656	1036	25228	2081	46.4	11	1455	152	4.7	1	42.9	3	88.4	11	22.7	3	25.6	2	1.6	0	4.9	2
Cracked	280	11.8	2	12.6	2	55365	4186	26.5	9	117970	7878	12738	825	26025	2323	54.5	11	1426	166	3.6	1	46.4	3	76.6	10	21.9	2	24.7	2	1.7	0	4.4	1
Cracked	285	13.0	4	13.2	2	58570	4541	29.9	7	116077	5483	12480	601	25122	2209	53.0	11	1469	186	4.1	1	49.3	3	83.2	13	23.2	2	26.4	2	1.9	0	3.9	1
Cracked	290	11.5	3	10.7	1	57452	4530	31.1	9	118289	7221	12486	819	26027	2180	47.9	12	1364	141	3.0	1	45.4	4	78.1	12	22.1	2	26.7	2	1.6	0	4.1	1
Cracked	295	11.9	2	11.6	2	61105	5839	18.5	6	119764	5117	12518	547	26944	1599	59.0	16	1483	112	4.6	1	49.4	4	82.6	13	22.9	2	26.7	2	1.8	0	3.5	2
Cracked	300	11.0	3	10.3	2	54743	3300	30.3	9	118473	6399	12969	1031	26297	2339	56.6	15	1540	129	3.8	1	49.8	4	85.9	12	23.3	2	25.9	2	1.7	0	4.1	2
Cracked	305	9.5	3	10.8	1	55170	3140	25.5	5	114552	4789	12110	490	26296	2094	41.2	10	1440	179	3.1	1	45.8	5	87.6	9	21.8	2	26.1	2	1.8	0	5.1	1
Cracked	310	10.0	4	10.7	1	57354	4554	35.9	9	123335	8467	13639	1100	28048	2104	59.1	17	1536	196	3.6	1	50.0	5	91.6	14	24.2	2	26.5	2	1.7	0	5.4	1
Cracked	315	10.0	2	10.4	1	58126	4887	25.3	8	127343	7029	12727	699	28802	2222	52.8	11	1540	187	3.1	1	50.7	4	100.0	12	25.4	2	26.5	2	2.1	0	5.4	2
Cracked	320	13.3	3	9.7	1	57660	3196	30.4	9	122625	4335	12376	637	28196	1513	56.8	14	1590	178	3.0	1	49.6	4	98.0	12	24.4	1	24.8	2	1.8	0	5.0	2

Table B19: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD
0.6	0	1.5	0	0.5	0	18.2	1
0.4	0	1.4	0	0.4	0	17.9	1
0.4	0	1.2	0	0.8	1	17.4	2
0.6	0	1.4	0	0.3	0	17.0	2
0.6	0	0.9	0	0.3	0	16.8	2
0.8	0	1.3	1	0.1	0	20.4	5
0.3	0	1.3	0	0.0	0	15.2	1
0.4	0	1.2	0	0.6	0	16.5	2
0.6	0	1.1	0	0.1	0	16.9	2
0.7	0	1.4	0	0.4	0	16.0	2
1.0	1	1.5	0	0.5	0	16.7	1
0.5	0	1.7	0	0.2	0	16.1	2
1.0	1	1.5	1	0.6	0	16.5	1
0.6	0	1.3	0	0.7	1	15.5	2
0.6	0	1.1	0	0.4	1	15.9	2
0.8	0	1.0	0	0.6	1	18.5	2
1.2	1	1.7	0	0.6	1	19.1	2
0.6	0	1.6	1	0.4	0	17.3	1
1.1	1	1.1	0	0.0	0	17.6	2
0.6	1	1.2	0	0.4	1	16.9	2
0.6	0	1.5	0	0.1	0	15.9	2
0.4	0	1.6	0	0.2	0	15.1	2
0.6	0	1.6	0	0.2	0	22.1	16
0.3	0	1.3	0	0.3	0	14.9	2
0.6	0	1.4	0	0.7	0	15.2	2
0.1	0	1.1	0	0.5	0	14.8	2
0.2	0	1.3	1	0.6	1	15.1	1
1.3	1	1.7	1	0.1	0	16.0	1
0.7	1	1.6	0	0.1	0	15.2	1
1.0	1	1.1	0	0.1	0	15.6	2
0.4	0	1.4	1	0.2	0	15.2	1
0.4	0	1.4	0	0.1	0	15.1	1
0.3	0	1.2	0	0.0	0	16.7	1
0.7	0	1.3	0	0.2	0	15.9	2
0.5	1	1.3	0	0.0	0	16.9	2
0.1	0	1.4	0	0.3	0	15.3	2
0.3	0	1.3	0	0.4	0	15.7	2
0.7	1	1.5	0	0.5	0	16.4	2
0.7	0	0.7	0	0.3	1	15.2	1
0.0	0	1.3	0	0.3	0	16.7	2
0.1	0	1.3	0	0.4	0	15.2	1
0.5	0	1.9	0	0.4	0	16.2	1
0.4	0	1.1	1	0.8	1	15.1	1
0.5	0	1.4	0	0.5	0	14.0	1
0.3	0	1.3	0	0.2	0	15.4	2
0.4	1	1.2	0	0.7	1	17.0	1
0.6	1	1.0	1	0.4	1	14.4	2
0.4	0	1.7	1	0.4	1	15.5	2
0.4	0	1.6	1	0.2	0	15.7	1
0.7	0	1.4	1	0.1	0	14.7	2
0.0	0	1.1	0	0.5	0	14.9	2
0.1	0	1.3	0	0.3	0	15.7	2
0.4	0	1.1	0	0.3	0	15.0	2
0.2	0	1.1	0	0.9	1	14.3	2
0.3	0	1.4	1	0.6	0	16.5	2
0.1	0	1.1	0	0.2	0	15.9	2
0.5	0	1.5	1	0.6	1	14.5	1
0.5	0	1.5	1	0.1	0	17.3	4
0.4	0	1.2	0	0.8	1	14.8	2
0.6	0	1.2	0	0.6	0	16.1	1
0.3	0	1.3	0	0.6	1	15.2	2
0.9	1	1.2	0	0.3	0	14.4	1
0.3	0	1.4	0	0.4	0	15.5	1
0.4	0	1.5	1	0.5	0	15.7	1
0.9	1	1.7	0	0.0	0	15.2	2

Table B19: continued

Cracked	325	11.7	3	11.4	3	57733	4072	30.9	9	123300	6992	12560	816	26374	1712	63.5	19	1546	182	3.4	1	48.6	4	82.0	10	24.4	3	26.9	3	1.7	0	5.1	2	0.5	1	1.8	1	0.1	0	16.1	2
Cracked	330	13.2	4	11.8	3	54915	3469	37.8	10	116643	5601	12287	725	26128	1631	56.5	13	1344	180	3.9	1	47.3	2	82.5	13	22.5	2	26.2	2	1.7	0	5.4	1	0.1	0	1.3	0	0.5	0	15.7	2
Cracked	335	9.8	3	10.6	2	54820	2322	29.0	8	119990	4432	12179	676	26290	1734	52.3	12	1549	156	2.5	1	47.4	3	90.3	11	23.7	2	26.5	2	1.6	0	4.1	1	0.2	0	1.5	0	0.4	0	15.3	1
Cracked	340	8.2	2	10.1	2	56712	3857	26.3	8	121565	9015	12191	1042	25734	2620	56.3	14	1583	159	3.2	1	48.9	6	95.5	10	23.2	2	27.3	3	2.3	1	3.8	2	0.6	1	1.3	0	0.3	0	15.0	1
Cracked	345	6.5	2	9.7	1	55818	5054	33.6	9	122874	7865	12594	1061	27310	2701	51.3	12	1472	190	3.4	1	47.5	4	94.3	10	24.4	3	27.2	2	1.7	0	4.9	2	0.6	1	1.8	1	0.4	0	14.8	2
Cracked	350	7.9	2	9.0	1	56757	2662	33.4	11	123265	5391	12458	596	27694	1661	56.7	16	1536	204	3.9	1	46.1	3	97.5	9	23.2	2	25.8	2	2.2	0	5.8	2	0.4	0	1.4	0	0.6	1	15.6	1
Cracked	355	8.8	3	9.3	1	54880	2513	35.9	6	120730	4942	12453	526	29242	2248	51.1	11	1461	192	3.5	1	50.4	4	94.0	7	22.4	2	25.6	2	2.0	0	4.4	1	0.2	0	1.2	0	0.2	0	16.1	2
Cracked	360	7.2	3	9.8	3	53948	4138	30.0	9	116826	8248	12335	781	24301	2714	52.4	14	1363	171	3.1	1	46.5	4	91.9	10	21.7	2	25.2	3	1.8	1	5.1	1	1.0	1	1.4	0	0.6	0	15.3	2
Cracked	365	8.3	2	8.4	1	55641	2272	31.4	8	118986	4136	12132	498	26138	2574	54.5	13	1497	130	3.7	1	47.1	4	93.5	12	21.9	2	24.8	2	2.0	0	5.3	2	0.4	1	1.5	0	0.1	0	15.8	1
Cracked	370	6.2	2	8.2	1	54829	2617	23.7	7	115705	3932	11892	507	26851	1961	42.5	9	1448	141	4.3	1	45.9	3	86.7	12	23.1	2	25.7	2	1.9	0	4.9	1	1.2	1	2.0	1	0.0	0	14.4	2
Cracked	375	6.0	2	8.9	2	56886	2795	23.6	8	122027	6840	12795	646	27823	2312	50.8	13	1402	119	3.7	1	45.7	4	89.5	10	24.9	2	25.9	2	1.9	0	4.4	1	0.3	0	1.5	0	0.5	0	15.9	1
Cracked	380	9.2	4	6.7	1	55250	3741	30.7	8	121240	7673	11984	749	28584	2340	53.1	17	1476	213	3.2	1	48.9	5	88.5	12	24.7	2	26.4	2	1.8	1	5.1	2	0.7	1	1.1	0	0.5	0	15.5	1
Cracked	385	7.9	2	8.0	1	57245	3573	19.2	5	124120	6958	11997	676	28642	2237	51.2	13	1493	158	3.1	1	48.1	5	83.7	11	23.2	2	27.9	2	1.8	0	5.3	2	0.4	0	1.9	1	0.1	0	15.4	2
Cracked	390	7.7	3	7.5	1	57146	5404	34.9	9	125330	7567	12148	1085	28619	2694	55.4	11	1466	191	3.7	1	49.1	5	85.6	9	24.9	2	26.5	2	1.6	0	4.3	1	0.7	0	1.5	0	0.6	1	15.7	1
Cracked	395	6.0	2	7.6	1	54725	3002	26.0	6	120104	6328	11575	682	26083	2972	57.2	13	1466	214	3.6	1	46.5	5	93.8	12	24.4	2	26.8	3	2.1	0	3.6	1	0.8	1	1.3	0	0.3	1	15.3	2
Cracked	400	6.9	2	7.1	1	55164	4206	29.8	8	119504	6191	11931	1262	26325	2491	48.7	11	1433	148	3.1	1	46.1	4	82.7	11	24.4	2	24.4	2	2.2	0	3.5	2	0.3	0	1.4	0	0.1	0	14.2	2
Cracked	405	6.3	2	6.9	1	54184	3545	33.3	10	120549	8543	11843	861	29085	2415	54.6	16	1535	166	5.2	1	49.7	5	91.6	10	24.3	3	27.9	3	1.6	0	5.7	2	0.5	0	1.4	1	0.9	1	16.0	2
Cracked	410	7.7	2	7.2	1	55456	1914	28.7	9	119123	4176	11799	401	27048	2095	59.3	15	1487	195	4.3	2	47.6	4	94.0	11	23.3	2	26.5	2	1.8	0	4.0	1	0.5	0	1.8	0	0.6	0	15.6	2
Cracked	415	8.1	3	8.4	1	53079	2933	24.3	7	112895	6929	11908	689	26196	2412	51.6	13	1321	118	4.1	1	46.4	4	79.5	11	22.0	2	25.6	2	1.9	0	4.5	1	0.6	1	1.4	0	0.5	1	14.3	1
Cracked	420	6.5	3	7.7	1	54276	4348	25.2	5	113259	9387	11952	1095	26649	2460	52.4	12	1371	151	3.7	1	44.6	4	99.2	14	22.2	2	25.4	2	1.4	0	4.7	1	0.5	0	1.7	0	0.6	0	14.5	2
Cracked	425	10.8	2	8.3	1	58760	6984	30.6	10	121127	6805	12364	699	25260	2749	55.4	14	1441	142	3.0	1	46.1	4	95.9	11	22.5	2	27.5	2	1.6	0	4.4	1	0.7	0	0.9	0	0.5	0	16.2	2
Cracked	430	7.1	2	8.5	1	54577	4305	29.1	8	113222	5735	11968	708	26175	1895	58.7	13	1417	191	3.1	1	44.9	4	79.7	10	21.9	2	25.4	2	1.9	0	3.6	1	0.4	0	0.9	0	0.4	0	14.7	1
Cracked	435	10.6	3	10.0	2	56705	3444	32.0	11	121201	7658	12422	782	26981	2520	61.8	13	1386	178	3.5	1	45.4	5	86.0	11	23.7	2	25.2	2	2.0	0	5.5	1	0.7	1	1.1	0	0.4	0	16.0	2
Cracked	440	8.1	2	9.9	1	52849	2442	26.7	6	114567	4415	11803	557	25531	2038	40.2	9	1344	161	3.8	1	41.8	4	79.3	8	21.4	2	24.6	3	1.7	0	4.5	2	0.4	0	1.4	0	0.3	0	15.0	2
Cracked	445	10.2	2	9.8	1	58083	4065	33.0	9	121127	4293	12676	546	25962	1878	48.4	14	1523	175	3.2	1	47.6	3	80.0	7	22.9	2	27.0	3	1.7	0	4.4	1	0.4	0	1.3	0	0.5	0	15.2	2
Cracked	450	12.2	3	10.1	1	52967	2485	24.9	6	115414	4633	12055	491	24720	2133	54.8	10	1387	135	3.5	1	44.6	3	77.5	8	21.6	2	23.6	2	2.0	0	5.4	2	0.6	0	1.6	1	0.3	0	14.1	1
Cracked	455	11.8	2	9.1	1	54796	2989	40.0	12	117312	5188	12163	531	25011	1887	49.3	14	1326	137	3.7	1	45.9	3	81.2	11	22.7	2	23.8	2	1.9	0	4.5	2	0.3	0	1.7	1	0.2	0	15.3	2
Cracked	460	9.4	2	9.6	1	57804	3268	44.7	8	123654	6401	12272	624	26823	2015	64.7	11	1556	164	4.0	1	45.5	4	70.5	11	24.0	2	26.2	2	1.7	0	4.1	1	0.4	0	1.4	0	0.7	1	14.9	1
Cracked	465	7.5	2	9.1	1	57091	2853	29.5	7	123412	5508	12822	542	26082	2675	52.8	14	1387	224	4.2	1	45.0	3	84.8	11	22.5	2	26.3	2	1.8	1	4.9	1	0.5	0	1.2	0	0.5	0	15.6	1
Cracked	470	5.2	2	7.6	1	55326	2752	41.3	16	118209	6263	12127	691	27319	1801	58.6	15	1596	182	3.4	1	44.6	3	77.5	11	24.1	2	24.5	2	2.7	1	6.4	2	0.8	1	0.8	0	1.1	1	14.6	2

grain 21 - Line 2

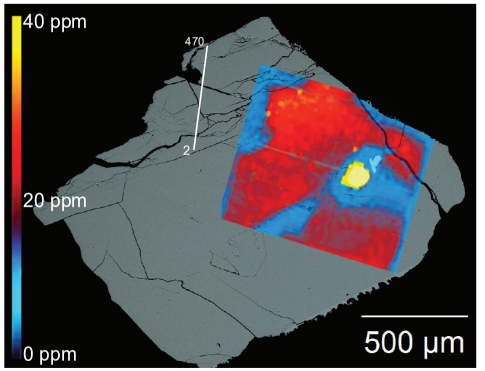


Fig. B17. BSE image of plagioclase grain 21 with trace element line 2 (by LA-ICP-MS) indicated.

Table B20: Plagioclase grain 21 - Line 3.1

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	1	28.5	5	31.6	4	60521	6694	34.0	7	119285	2321	11654	458	29782	1618	51.7	14	1206	52	3.5	1	49.2	5	70.8	7	25.1	1	25.3	2	2.2	0	5.1	1
core	5	25.0	4	28.3	3	57865	3129	24.0	5	114108	6483	11124	694	26336	1644	51.5	9	1553	147	3.4	1	45.9	4	71.6	10	22.7	2	27.3	1	1.5	0	4.5	1
core	10	29.4	3	30.2	2	61356	4055	28.0	9	122142	5642	12721	724	27416	2145	54.5	11	1580	198	4.3	1	47.6	3	72.2	10	24.7	2	27.6	2	1.6	0	5.1	2
core	15	27.2	4	26.5	2	61598	10837	24.1	6	114076	5695	11927	442	24955	1776	42.8	8	1361	161	4.3	1	45.0	3	80.5	13	21.7	2	25.2	2	1.6	0	4.1	1
core	20	26.4	4	30.2	4	57587	2726	22.7	7	113309	3787	12463	581	24584	1947	66.2	15	1440	186	3.9	1	46.2	4	70.8	13	21.5	2	25.2	2	1.6	0	4.8	1
core	25	25.8	3	25.7	3	56446	3685	28.0	9	112875	5127	12724	677	22912	1543	52.7	12	1411	155	4.5	1	44.5	4	79.3	8	19.3	1	21.7	2	1.7	0	3.4	1
core	30	27.6	6	28.1	3	55569	3658	24.1	7	114967	6324	12683	800	24270	1868	55.8	11	1394	158	4.4	1	45.9	4	85.5	12	20.9	2	24.0	2	1.5	0	5.3	1
core	35	24.2	3	29.9	3	59751	3786	26.7	5	120560	5368	13108	876	27106	2040	60.8	10	1418	161	4.3	1	49.0	4	70.6	9	21.4	1	24.4	2	1.8	0	4.8	2
core	39	28.7	4	27.9	3	57039	4312	24.4	9	116530	5910	12812	667	25748	2296	54.4	13	1500	140	3.8	1	46.9	4	76.9	7	21.0	2	24.8	2	1.6	0	3.5	1
core	44	27.0	5	26.9	2	53295	3288	25.9	6	114734	7174	12298	660	23845	1778	49.2	9	1413	134	4.2	1	45.0	4	73.9	10	20.5	2	23.3	3	1.5	0	3.8	1
core	49	27.4	2	28.7	2	62005	6568	30.6	8	112135	4744	13326	845	24793	1680	49.2	9	1412	147	3.8	1	45.0	3	72.3	9	19.2	2	22.7	2	1.5	0	4.2	1
core	54	27.6	4	30.5	4	59581	2893	28.5	8	118671	5098	13319	500	25438	1785	48.9	12	1368	177	4.8	1	50.6	4	79.3	11	23.2	2	24.3	2	1.6	0	5.8	1
core	59	33.5	6	28.4	2	57980	5377	30.4	8	117239	8449	12787	1004	25118	2209	60.3	16	1411	196	5.3	1	42.3	4	75.5	12	20.1	2	24.0	2	1.4	0	3.9	1
core	64	29.6	4	29.0	4	56866	3752	33.8	11	119693	6962	12466	734	25505	2373	48.4	10	1438	135	3.3	1	49.7	4	61.7	10	21.9	3	24.7	2	1.8	0	3.9	1
core	69	29.2	5	29.2	2	58336	4433	27.0	8	116663	6629	11997	800	27034	2252	57.8	12	1565	172	3.4	1	48.4	5	71.4	6	21.5	2	27.0	3	1.4	0	4.2	1
core	74	31.0	4	30.8	3	56768	4218	24.9	6	118638	6309	11961	647	27540	2345	52.9	19	1295	158	3.3	1	45.5	5	82.3	10	22.0	2	25.6	2	1.5	0	4.3	1
core	79	29.3	4	29.7	4	57460	5719	26.1	8	116755	5370	12100	711	25525	2006	55.7	13	1447	146	4.7	1	46.5	3	63.4	12	19.7	2	24.0	2	1.5	0	4.1	1
core	84	33.3	5	30.1	3	59606	3136	32.0	7	125080	6335	12490	644	26001	2095	73.3	23	1467	141	3.7	1	50.9	4	77.0	11	21.5	2	26.6	2	2.0	0	5.5	2
core	89	25.2	3	30.9	4	55991	4148	32.8	7	119627	5716	12391	906	27023	2333	44.0	10	1370	155	2.9	1	46.3	5	68.6	7	22.4	2	27.5	2	1.8	0	4.3	1
core	94	25.6	3	27.7	4	52238	3036	23.0	6	114753	5964	11368	776	26025	1970	57.3	13	1349	151	3.6	1	45.0	3	59.1	11	20.6	2	22.7	2	1.5	0	3.8	2
core	99	31.3	5	28.7	2	58264	3857	33.9	12	122664	7956	11906	739	28846	2975	44.4	13	1503	235	4.3	1	48.2	5	71.4	10	23.4	2	27.3	2	1.9	0	5.1	2
core	104	24.4	4	30.1	3	57540	3016	24.7	7	122252	6595	12820	931	29767	3043	57.8	12	1420	169	4.4	1	50.5	5	74.3	13	22.0	2	26.2	2	1.6	0	4.2	1
core	109	31.2	5	28.3	3	58039	2965	25.3	9	116869	4628	12229	797	26384	1337	46.4	11	1374	151	3.8	1	46.0	4	70.3	10	23.7	2	25.1	2	1.4	0	4.3	2
core	114	26.8	3	28.1	2	56431	3126	21.1	8	120611	4763	13116	1517	26841	1939	57.7	13	1427	137	4.4	1	47.5	3	72.2	8	21.2	2	25.9	2	1.3	0	4.2	1
core	119	27.0	3	27.5	2	61970	3704	25.6	7	126947	5026	12614	585	28419	1801	64.1	16	1490	119	4.6	1	48.8	4	69.8	8	23.3	2	27.9	2	1.6	0	5.8	2
core	124	25.9	4	27.8	4	60429	3704	26.6	6	125717	6063	12771	793	27890	2144	65.4	16	1479	184	5.6	1	50.6	6	79.9	10	24.4	2	25.8	2	1.9	0	5.1	2
core	129	24.3	4	25.7	2	56303	3221	27.7	8	121722	7368	11292	582	27942	2549	62.7	13	1502	104	3.7	1	47.2	5	68.1	8	20.1	2	27.0	2	1.9	0	4.0	2
core	134	28.2	5	26.5	3	55254	2933	24.6	7	116768	8577	10861	838	27176	3222	57.8	15	1435	138	4.3	1	45.3	5	70.9	11	20.6	3	25.5	2	1.7	0	4.8	1
core	139	27.0	4	26.4	3	59841	9318	30.7	8	122041	7200	11511	883	28632	2039	55.5	12	1469	223	3.7	1	49.2	5	71.9	11	22.1	2	27.1	2	1.9	0	3.5	1
core	144	21.9	4	24.8	2	57113	3109	37.4	8	123217	4561	11287	457	29482	2300	51.3	14	1560	183	3.5	1	48.0	4	66.8	9	22.9	2	27.4	3	1.9	0	5.3	1
core	149	26.0	3	26.1	3	54501	2813	31.9	9	117218	6181	11462	899	27047	2095	54.0	13	1396	156	2.3	1	42.9	4	64.6	7	22.5	2	26.5	3	2.1	0	6.8	1
core	154	27.3	4	24.1	2	55018	4228	24.2	5	116507	7144	11346	668	27604	3025	50.7	12	1452	138	3.8	1	45.5	4	65.7	11	22.5	2	25.0	3	1.8	0	6.7	1
core	159	24.3	3	26.4	3	54531	3925	25.7	7	118117	7899	11273	726	29073	3136	64.6	15	1521	194	3.0	1	46.5	4	62.1	7	23.2	2	27.0	3	1.7	0	4.5	2
core	164	23.9	3	26.8	3	60441	4683	26.1	8	121569	4117	11812	500	29617	2066	58.7	11	1508	120	3.6	1	48.1	4	69.6	9	23.8	2	27.2	2	1.7	0	5.0	1
core	169	24.2	4	25.8	3	54940	4159	27.6	8	117461	6450	11322	768	26724	2224	58.1	13	1415	180	4.5	1	45.8	4	71.5	10	20.9	2	25.0	3	1.6	0	5.9	2
core	174	27.1	3	28.6	4	56958	3296	29.3	10	122970	7286	12313	1486	29132	2507	56.2	16	1429	133	3.6	1	51.8	5	69.7	9	21.9	2	27.3	3	1.7	0	5.2	2
core	179	27.9	3	26.5	2	57461	3564	27.4	5	121254	6899	11920	752	28603	2273	55.2	15	1499	171	4.1	1	47.0	4	67.6	7	21.4	2	26.3	2	1.8	0	5.2	2
core	184	29.5	5	25.5	3	55088	2492	30.9	9	117584	6423	11292	688	26150	2183	50.5	15	1386	164	3.3	1	43.8	3	64.4	10	20.8	2	25.3	2	1.5	0	4.1	1
core	189	20.9	2	25.5	3	56488	2150	31.5	6	120936	4070	12029	579	29605	2478	53.7	9	1355	126	4.1	1	46.1	4	74.3	11	22.5	2	24.6	2	1.8	0	4.9	2
core	194	28.4	3	26.3	2	57936	3321	29.1	8	125895	7357	11956	720	29721	2166	51.1	11	1549	202	3.3	1	48.9	4	71.0	16	22.1	2	27.2	2	1.5	0	4.7	2
core	199	24.1	4	24.0	2	57065	3323	30.7	9	118488	7110	11196	567	26232	1979	61.0	12	1371	159	3.5	1	44.2	4	73.3	9	21.2	2	23.9	2	1.6	0	3.9	1
core	204	24.8	3	23.9	2	56796	3249	27.3	8	118439	5769	11447	637	28568	2408	55.3	10	1430	133	3.3	1	46.8	3	61.4	9	20.3	3	25.5	2	1.9	0	5.5	2
core	209	22.8	3	26.7	3	54345	3028	27.8	6	115021	5919	11334	601	27754	2458	55.1	17	1336	108	3.2	1	44.8	5	60.4	8	21.5	2	24.3	2	1.7	0	4.3	1
core	214	26.6	3	26.4	5	55121	3133	28.7	9	118531	7475	11585	670	29190	2451	46.9	11	1427	193	3.7	1	46.6	4	62.8	7	22.2	2	23.8	2	1.6	0	4.9	2
core	219	25.7	4	23.9	1	59185	4044	26.8	8	123127	6463	11871	617	26483	1829	49.3	12	1470	190	3.9	1	45.8	5	70.7	10	20.5	1	26.2	2	1.5	0	5.4	1
core	224	24.7	4	25.2	3	58997	4727	21.7	9	121191	8472	11980	899	29509	2455	51.0	13	1405	141	3.9	1	49.4	3	66.3	10	22.6	2	25.4	2	1.6	0	4.0	1
core	229	23.0	3	25.9	3	56665	4461	30.8	9	117244	6662	11694	841	29996	2970	49.3	11	1356	144	4.1	1	43.0	3	61.5	11	21.7	1	23.8	2	2.0	0	2.9	1
core	234	25.5	3	22.3	2	56705	4008	26.3	9	116711	5754	11790	1564	28566	3028	57.0	14	1231	121	3.9	1	46.8	4	64.6	7	22.2	2	24.6	2	2.0	0	3.6	1
core	239	18.8	3	22.8	3	53013	2893	27.0	7	114533	5681	11826	1292	26440	2622	51.9	15	1358	115	2.4	1	46.6	4	63.0	8	21.6	2	25.8	2	1.5	0	4.4	1
core	244	24.1	4	22.7	2	57893	3040	24.2	6	126932	6394	11862	613	29200	1631	61.3	12	1641	187	3.4	1	50.9	4	70.9	11	22.4	2	27.2	2	1.8	0	4.5	2
core	249	24.8	5	23.5	2	59332	2982	38.5	6	128607	5294	11972	535	30784	2201	57.2	12	1561	173	4.2	1	45.3	3	61.4	10	23.4	3	27.6	2	1.8	0	4.1	1
core	254	23.0	3	19.9	2	57452	8447	33.9	7	118807	7741	11085	659	28410	2386	58.5	16	1524	206	3.5	1	45.9	4	63.9	7	20.4	2	23.8	2	1.6	0	5.1	1
core	259	21.4	3	20.5	2	54161	3225	29.6	9	121536	7789	11353	630	26147	2049	64.6	16	1413	135	3.7	1	43.6	3	62.5	10	21.8	2	26.1	2	1.7	0	4.9	2
core	264	19.4	3	17.5	1	56047	2862	27.1	7	122082	5606	10957	416	27786	1858	58.9	11	1327	139	3.1	1	46.9	4	63.1	9	22.4	2	25.7	2	1.8	0	5.8	2
rim	269	18.0	4	16.8	2	54951	2717	30.9	7	118826	5864	11152	696	28855	3032	62.4	17	1415	185	3.7	1	46.5	4	65.3	11	22.3	2	25.4	2	1.9	0	4.8	1
rim	274	16.6	3	16.0	2	57607	4341	33.6	8	124534	8499	11100	709	29955	2723	54.2	13	1508	201	3.7	1	49.7	5	61.7	11	21.3	3	27.8	2	2.1	0	3.8	1
rim	279	15.3	3	14.1	1	56469	2806	28.0	9	120507	4551	11016	448	29923	2232	48.3	13	1270	128	3.4	1	44.8	2	57.4	11	22.6	2	26.8	2	1.8	0	5.1	2
rim	284	15.3	3	13.1	2	54880	3261	36.0	11	119731	6846	10948	645	30223	2644	53.7	12	1337	145	4.0	1	43.9	5	58.8	10	21.7	2	26.2	2	2.1	0	4.7	2
rim	289	9.9	3	12.8	1	55570	2341	30.5	9	122337	5230	11173	748	28457	1680	45.2	13	1454	151	2.8	1	44.2	4	54.2	9	22.0	2	26.2	2	1.9	0	5.1	1
rim	294	9.0	3	11.5	2	54938	3488	28.7	8	118466	6043	11059	583	29391	2482	58.8	11	1386	173	2.7	1	45.1	3	62.8	11	21.9	2	26.7	2	1.9	0	4.0	1
rim	299	9.8	3	8.5	1	54517	2671	24.3	8	119840	5185	11009	546	27891	2098	58.3	15	1401	138	3.9	1	46.8	3	59.1	7	19.0	2	24.4	2	1.6	0	5.1	2
rim	304	8.4	2	7.7	1	54366	2934	28.7	11	118379	7069	11133	542	30253	2757	47.5	10	1395	159	3.3	1	43.1	5	65.5	12	20.6	2	24.0	2	1.4	0	4.6	1

Table B20: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.2	0	0.7	0	0.0	0	17.3	1	63.0	0.1	23.1	0.2	0.0	4.4	8.0	1.4	0.0	0.0	100.1	22	71	8
0.4	0	1.4	0	0.4	0	19.1	5	63.2	0.0	23.1	0.2	0.0	4.4	8.0	1.4	0.1	0.0	100.4	21	70	8
0.7	1	1.7	1	0.5	0	17.0	2	62.9	0.1	22.9	0.2	0.0	4.3	8.0	1.4	0.0	0.0	99.9	21	71	8
0.4	0	1.5	1	0.2	0	15.4	1	63.1	0.1	22.9	0.2	0.0	4.5	7.9	1.4	0.0	0.0	100.1	22	70	8
0.2	0	1.4	0	0.4	0	16.3	1	63.3	0.1	22.9	0.2	0.0	4.4	7.7	1.4	0.0	0.0	100.1	22	70	9
0.9	1	1.5	0	0.2	0	16.9	2	63.2	0.1	23.0	0.2	0.0	4.4	8.0	1.4	0.0	0.0	100.2	21	70	8
0.6	0	1.5	0	0.0	0	16.5	2	63.3	0.1	22.9	0.2	0.0	4.3	7.8	1.4	0.0	0.0	100.1	22	70	8
0.4	0	1.3	0	0.3	0	17.6	2	63.0	0.1	23.3	0.2	0.0	4.4	7.9	1.4	0.0	0.0	100.3	22	70	8
0.4	0	1.4	0	0.6	0	17.0	2	63.2	0.1	23.0	0.2	0.0	4.4	7.9	1.4	0.0	0.0	100.3	22	70	8
0.4	0	1.4	0	0.2	0	16.8	2	63.1	0.1	23.1	0.2	0.0	4.4	7.8	1.4	0.0	0.0	100.0	22	70	8
0.2	0	1.3	0	0.5	0	16.0	2	63.0	0.0	23.2	0.2	0.0	4.5	7.8	1.4	0.0	0.0	100.1	22	70	8
0.4	0	1.5	1	0.2	0	16.1	2	63.0	0.1	23.1	0.2	0.0	4.2	7.9	1.4	0.1	0.1	100.1	21	71	8
0.3	0	1.0	0	0.4	0	15.7	2	63.5	0.1	22.9	0.2	0.0	4.1	8.0	1.5	0.0	0.0	100.2	20	71	9
0.5	0	1.6	1	0.3	0	16.3	1	63.5	0.1	22.8	0.2	0.0	4.0	7.8	1.6	0.0	0.0	100.1	20	71	10
0.4	0	1.4	0	0.3	0	15.6	2	63.5	0.1	22.6	0.2	0.0	4.1	7.8	1.6	0.0	0.0	99.9	20	70	9
0.7	1	1.4	0	0.3	0	15.6	1	63.3	0.1	22.8	0.2	0.0	3.9	7.8	1.6	0.0	0.0	99.6	20	71	10
0.3	0	1.7	1	0.4	0	15.6	2	63.4	0.1	23.0	0.2	0.0	3.9	8.0	1.6	0.0	0.1	100.2	19	71	9
0.5	0	1.3	0	0.5	0	16.8	2	63.1	0.1	22.8	0.2	0.0	4.1	8.0	1.5	0.1	0.1	99.9	20	71	9
0.5	0	1.2	0	0.3	1	16.3	2	63.3	0.1	22.9	0.2	0.0	4.3	7.9	1.5	0.0	0.0	100.3	21	70	9
0.4	0	1.2	0	0.4	1	15.7	1	63.0	0.1	23.0	0.2	0.0	4.3	7.8	1.5	0.0	0.0	99.9	21	70	9
0.9	1	1.6	0	0.5	0	17.1	1	63.0	0.1	22.8	0.2	0.0	4.3	8.0	1.5	0.0	0.0	99.9	21	71	9
0.1	0	1.5	0	0.3	0	17.5	2	63.1	0.1	23.0	0.2	0.0	4.3	7.8	1.5	0.0	0.0	99.9	21	70	9
0.5	0	1.6	0	0.6	0	16.5	2	63.2	0.1	23.1	0.2	0.0	4.4	7.9	1.5	0.0	0.0	100.3	21	70	8
0.1	0	1.2	0	0.1	0	16.7	2	63.0	0.1	23.0	0.2	0.0	4.4	8.0	1.4	0.0	0.0	100.1	21	70	8
0.3	0	1.5	0	0.5	1	17.0	2	63.1	0.1	23.3	0.2	0.0	4.5	8.1	1.4	0.0	0.0	100.7	22	70	8
0.0	0	1.5	0	0.7	1	16.4	2	63.1	0.1	23.0	0.1	0.0	4.5	7.9	1.4	0.0	0.0	100.1	22	70	8
0.5	0	1.7	0	0.3	0	15.7	1	62.8	0.1	23.2	0.2	0.0	4.6	7.9	1.4	0.0	0.1	100.2	22	70	8
0.2	0	1.8	1	0.6	1	15.0	2	63.0	0.1	23.3	0.2	0.0	4.6	7.9	1.4	0.1	0.0	100.5	22	70	8
0.1	0	1.2	1	0.3	0	14.6	2	63.0	0.1	22.9	0.2	0.0	4.5	7.9	1.4	0.0	0.0	100.0	22	70	8
0.5	1	1.3	0	0.7	1	15.3	1	63.0	0.1	23.2	0.2	0.0	4.4	7.9	1.4	0.0	0.0	100.2	22	70	8
0.2	0	1.5	0	0.2	0	15.1	1	63.3	0.1	23.2	0.2	0.0	4.4	7.7	1.4	0.0	0.0	100.4	22	70	8
0.7	1	1.3	0	0.5	0	14.6	1	63.4	0.1	23.3	0.2	0.0	4.4	7.5	1.4	0.0	0.1	100.2	23	69	8
0.4	0	1.3	0	0.4	0	15.7	2	63.3	0.0	23.4	0.2	0.0	4.4	7.3	1.4	0.1	0.0	100.0	23	69	9
0.4	0	1.3	0	0.1	0	15.2	1	63.5	0.1	23.1	0.2	0.0	4.3	7.4	1.4	0.0	0.0	100.0	22	69	9
0.8	0	1.3	0	0.1	0	15.7	1	63.3	0.1	23.1	0.2	0.0	4.3	7.3	1.4	0.0	0.0	99.6	22	69	9
0.2	0	1.5	0	0.4	0	16.5	2	63.1	0.1	23.1	0.2	0.0	4.4	7.7	1.4	0.0	0.0	100.1	22	69	9
0.0	0	1.3	1	0.2	0	15.5	1	62.9	0.1	23.0	0.2	0.0	4.4	8.0	1.4	0.1	0.0	100.0	21	70	8
0.6	1	1.3	1	0.1	0	15.2	1	63.0	0.0	23.0	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.0	21	70	8
0.5	1	1.4	0	0.4	0	16.0	1	63.2	0.0	22.9	0.2	0.0	4.3	7.9	1.4	0.1	0.0	100.0	21	70	8
0.7	0	1.5	0	0.2	0	16.1	1	63.1	0.0	23.0	0.2	0.0	4.2	8.0	1.5	0.0	0.0	99.9	20	71	8
0.6	0	1.0	1	0.3	0	16.2	2	63.4	0.1	23.1	0.2	0.0	4.2	7.9	1.4	0.0	0.1	100.4	21	71	8
0.0	0	1.6	0	0.6	0	15.0	2	63.3	0.1	23.1	0.2	0.0	4.3	7.9	1.4	0.1	0.0	100.4	21	70	8
0.8	1	1.3	0	0.2	0	14.2	1	63.1	0.0	22.9	0.2	0.0	4.4	7.9	1.4	0.0	0.0	100.0	22	70	8
0.3	0	1.4	0	0.5	0	14.9	2	63.1	0.1	23.2	0.2	0.0	4.4	8.0	1.4	0.0	0.0	100.3	21	71	8
0.2	0	1.4	0	0.6	1	15.1	1	63.2	0.1	22.9	0.2	0.0	4.3	8.0	1.4	0.0	0.1	100.2	21	71	8
0.7	0	1.4	0	0.1	0	16.1	2	63.1	0.0	23.1	0.2	0.0	4.3	7.9	1.4	0.1	0.0	100.2	21	71	8
0.9	1	1.6	0	0.6	1	14.8	1	63.3	0.1	22.9	0.2	0.0	4.4	8.1	1.4	0.0	0.0	100.4	21	71	8
0.4	0	1.5	0	0.1	0	14.3	1	63.1	0.1	23.0	0.2	0.0	4.2	8.0	1.4	0.0	0.0	100.1	21	71	8
0.6	0	1.3	0	0.2	0	14.4	1	63.2	0.1	23.0	0.2	0.0	4.2	7.9	1.5	0.0	0.0	100.1	21	71	9
0.3	0	1.4	0	0.3	0	16.0	1	63.2	0.1	22.9	0.2	0.0	4.3	8.2	1.5	0.0	0.0	100.2	20	71	8
0.2	0	1.5	0	0.3	0	16.5	2	63.0	0.1	23.1	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.1	21	71	8
0.2	0	1.0	0	0.6	1	14.5	1	62.9	0.1	22.9	0.2	0.0	4.3	8.0	1.5	0.0	0.0	99.7	21	71	9
0.5	0	1.3	0	0.5	0	15.1	1	63.1	0.1	23.0	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.1	21	71	9
0.5	0	1.2	1	0.4	0	14.4	1	63.5	0.1	22.8	0.2	0.0	4.2	7.8	1.5	0.0	0.0	100.0	21	70	9
0.1	0	1.8	0	0.3	0	14.5	2	63.1	0.1	22.8	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.0	21	71	8
0.6	0	1.4	0	0.2	0	14.7	1	63.2	0.0	23.1	0.2	0.0	4.2	7.9	1.5	0.0	0.0	100.1	21	71	9
0.3	0	0.8	0	0.1	0	15.2	1	63.1	0.1	22.9	0.2	0.0	4.1	8.0	1.5	0.0	0.0	99.9	20	71	9
0.2	0	1.4	0	0.1	0	16.0	1	63.4	0.1	22.8	0.2	0.0	4.0	8.1	1.6	0.1	0.0	100.2	20	71	9
0.5	0	1.5	0	0.1	0	15.0	2	63.4	0.0	22.9	0.2	0.0	4.1	8.0	1.6	0.0	0.0	100.2	20	71	9
0.5	0	1.0	0	0.0	0	14.7	1														
0.3	0	1.3	0	0.2	0	13.8	1														
0.5	0	1.1	0	0.2	0	14.3	1														

grain 21 - Line 3.1

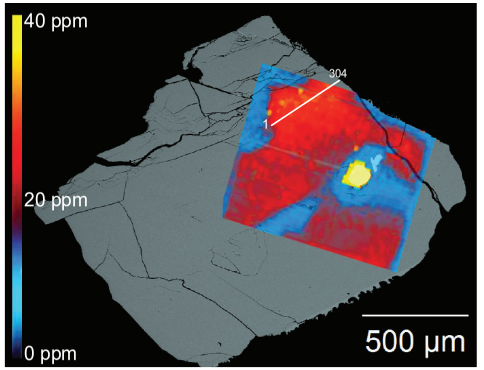


Fig. B18. BSE image of plagioclase grain 21 with trace element line 3.1 (by LA-ICP-MS) indicated.

grain 21 - Line 3.2

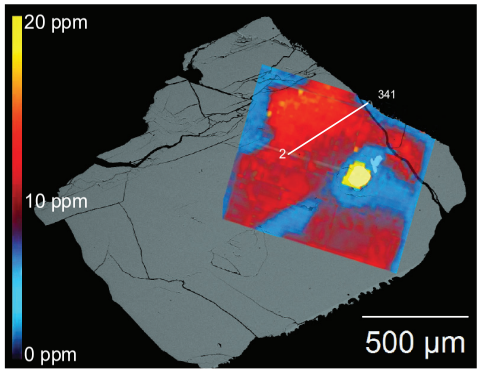


Fig. B19. BSE image of plagioclase grain 21 with trace element line 3.2 (by LA-ICP-MS) indicated.

Table B21: Plagioclase grain 21 - Line 3.2

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	2	29.6	5	24.7	2	58899	4227	27.6	8	121773	6578	12280	440	28190	2488	53.4	13	1407	147	4.3	1	48.6	4	78.3	11	23.3	2	26.8	3	2.0	0	5.0	2
core	7	27.8	4	25.3	2	55607	3615	27.8	8	115144	6106	11340	618	24952	2416	52.8	11	1433	111	3.2	1	49.0	4	65.3	8	21.1	2	24.7	1	1.9	0	4.1	1
core	12	28.9	4	25.1	2	55953	4935	32.1	8	117297	7059	11753	843	27017	2619	49.5	12	1454	213	3.8	1	44.3	4	70.8	9	21.8	2	25.9	2	1.4	0	6.2	1
core	17	27.8	3	24.6	2	58929	3318	26.4	7	124310	6765	11880	651	28474	2407	60.6	15	1585	178	4.3	1	48.3	6	79.2	11	22.1	2	28.1	2	1.9	0	5.5	1
core	22	26.2	4	25.4	2	55654	2493	31.3	6	118714	6184	11951	1105	26222	1473	78.9	45	1331	157	3.3	1	45.5	3	69.1	10	21.7	2	25.9	2	2.0	1	4.1	1
core	27	30.6	6	28.0	3	61590	5719	34.1	10	128121	10760	12193	1169	29485	3259	62.8	12	1675	236	4.0	1	49.1	4	73.8	11	24.0	2	28.3	3	1.8	0	4.4	2
core	32	31.4	4	27.3	3	56883	4561	36.7	7	117772	7970	11940	1096	26473	1944	60.0	16	1564	166	3.3	1	46.1	5	70.7	9	22.0	2	25.3	2	1.8	0	3.3	1
core	37	25.6	2	29.1	3	56885	3064	28.9	8	123100	5758	12174	705	28953	1772	48.0	15	1554	152	4.3	1	53.5	5	74.2	10	20.9	2	25.5	2	1.6	0	4.6	1
core	41	28.0	5	24.9	3	54705	6025	27.1	8	116677	8907	11594	763	26229	2390	50.6	10	1490	178	3.8	1	50.0	5	75.8	9	22.0	2	26.2	3	1.5	0	4.0	2
core	46	26.9	5	27.0	4	56312	7320	28.1	8	115394	8594	12150	933	26771	2118	48.2	15	1406	122	3.6	1	43.3	4	67.6	12	20.4	2	25.6	3	1.7	0	4.6	1
core	51	28.4	4	27.8	2	56020	2696	33.5	10	117635	5959	12215	707	26317	2413	59.2	13	1585	188	4.4	1	50.3	4	65.7	12	22.2	2	26.7	2	1.8	0	3.6	1
core	56	26.6	4	26.8	4	54715	4000	29.0	6	115812	5133	11657	673	26673	1832	57.2	12	1272	122	3.9	1	46.8	3	74.4	10	20.6	2	24.1	2	1.7	0	3.8	1
core	61	26.3	4	25.9	2	57789	5017	26.7	8	118720	5135	11608	755	27907	2223	48.1	14	1381	123	3.6	1	46.8	4	74.8	12	22.2	2	25.7	2	1.3	0	4.5	2
core	66	27.9	4	27.8	3	58252	4102	27.6	8	121391	6834	12065	798	28603	2644	46.5	16	1475	190	4.3	1	49.4	5	71.0	10	23.9	2	24.7	2	1.4	0	4.4	1
core	71	30.3	5	29.7	4	58978	3919	25.4	8	124041	6759	12360	744	27479	2609	44.2	11	1541	121	4.1	1	49.0	4	66.6	8	21.2	2	27.3	2	1.9	0	2.4	1
core	76	27.6	4	26.4	3	53585	4567	32.0	9	110452	6522	11656	790	25655	2289	54.4	14	1342	164	3.7	1	42.4	4	67.3	11	19.1	1	22.9	2	1.9	0	3.6	1
core	81	29.6	4	27.8	3	56275	4860	27.0	7	134142	42025	11566	574	24250	2073	59.3	8	1294	129	3.9	1	45.6	4	56.4	6	18.7	2	24.1	2	1.6	0	3.5	1
core	86	28.9	4	28.5	5	57408	3517	26.3	6	120308	6823	12723	1096	24547	2220	53.2	16	1516	195	5.2	1	46.4	3	62.7	8	20.7	2	24.1	2	1.9	0	5.2	1
core	91	31.5	5	28.5	4	55453	5417	28.2	9	113065	8941	11877	1174	25694	2744	55.3	13	1401	171	4.0	1	45.9	6	64.3	8	19.8	2	22.3	3	1.7	0	5.5	2
core	96	28.0	4	28.4	3	59000	6437	25.7	6	117070	6854	11762	879	27879	3144	53.1	11	1459	106	3.0	1	47.3	4	64.8	9	21.7	2	25.5	2	1.8	0	5.1	1
core	101	29.6	6	29.0	3	56784	5248	27.2	6	115527	6694	11067	666	26767	2397	49.9	12	1296	144	3.6	1	46.7	4	58.5	9	21.8	2	26.6	3	1.5	0	3.5	1
core	106	29.3	4	27.8	3	56264	4651	32.0	7	118164	6567	11661	902	26873	1151	43.4	12	1463	126	3.6	1	44.8	3	63.2	7	21.9	2	25.1	2	1.6	0	3.8	1
core	111	28.7	4	29.6	2	59705	4366	30.5	8	123797	6935	11681	703	29013	2867	56.0	10	1513	189	3.6	1	46.1	4	58.6	10	23.0	2	26.7	3	1.8	0	4.1	1
core	116	36.4	4	28.3	2	56340	3481	26.9	5	117026	4610	12077	920	26710	2974	65.7	10	1417	155	3.8	1	45.3	4	64.5	7	21.7	2	25.4	2	1.8	0	4.5	2
core	121	29.9	5	28.9	3	55298	3187	31.8	8	121994	6948	12123	691	27085	1701	45.2	8	1448	187	3.1	1	45.4	5	64.4	9	21.8	2	26.0	2	1.8	0	5.2	2
core	126	29.6	4	29.0	3	57147	7185	18.5	5	114400	7601	11613	865	26633	2824	59.9	13	1424	166	3.5	1	42.2	4	61.4	8	20.7	2	23.6	2	1.5	0	5.7	1
core	131	30.1	4	27.0	2	52716	3197	32.7	8	117327	6331	11464	613	26443	2007	52.1	16	1547	158	3.4	1	45.5	5	66.5	9	20.7	2	24.6	2	1.7	1	2.1	1
core	136	28.9	4	30.9	3	56207	2504	26.1	6	118764	3495	11133	401	27483	1873	51.8	10	1464	142	3.6	1	46.0	3	66.8	10	22.0	2	27.0	2	1.8	0	5.2	2
core	141	31.1	4	29.4	3	56202	2773	34.4	8	124044	5601	11635	612	28526	2201	53.1	11	1478	147	3.6	1	49.3	4	62.1	7	22.8	2	26.1	2	1.6	0	5.4	2
core	146	29.2	4	27.6	4	52452	3605	30.8	8	115890	6502	11061	699	26525	1786	47.1	10	1378	135	3.5	1	44.9	4	63.7	9	21.2	2	26.4	2	1.8	0	4.1	1
core	151	30.2	4	28.3	4	57900	5329	29.6	7	115066	7554	11031	745	26363	2291	45.4	11	1390	130	3.4	1	42.2	3	64.6	7	18.8	2	24.6	3	1.5	0	4.4	1
core	156	33.7	5	29.8	4	55423	3592	29.0	6	120146	6854	11239	817	29904	2645	46.0	10	1337	111	3.5	1	45.3	4	57.3	10	22.0	2	25.2	2	1.8	0	5.8	1
core	161	28.6	4	31.1	4	55722	3003	31.6	9	118207	4873	11295	823	30998	2296	53.8	11	1558	140	2.8	1	44.6	4	58.6	8	22.2	2	26.2	2	1.5	0	4.7	2
core	166	33.0	4	31.0	5	56135	2170	27.7	10	127437	6310	11460	638	30067	2500	54.3	12	1522	200	3.8	1	49.8	4	66.5	9	21.4	2	28.4	3	1.7	0	5.4	2
core	171	29.3	4	28.7	3	58078	4886	24.8	6	120806	7632	11216	874	29721	3269	57.6	16	1340	138	3.7	1	45.4	4	58.1	8	22.3	2	26.5	2	2.2	0	3.6	1
core	176	29.8	4	33.5	4	58371	4599	34.2	10	126626	9532	11318	722	29250	2874	62.8	15	1464	183	3.7	1	49.5	5	59.0	10	23.8	2	27.8	2	2.1	1	6.0	1
core	181	29.9	5	28.1	4	52206	3498	27.2	7	113767	6621	10801	551	28360	3246	55.4	18	1419	147	3.0	1	40.7	3	54.7	8	21.3	2	24.0	2	1.7	0	4.2	1
core	186	25.7	4	29.5	4	55542	3508	31.5	6	120114	6666	11401	745	28592	2525	65.3	17	1624	160	3.7	1	45.3	4	58.5	9	21.6	2	26.7	2	1.5	0	4.1	1
core	191	25.7	4	27.0	4	54346	4109	25.4	6	115156	7304	10688	722	25558	2274	42.1	8	1335	129	3.1	1	46.0	4	56.1	8	21.2	2	23.8	2	1.7	0	4.3	1
core	196	28.6	5	26.6	3	53924	3976	32.3	10	115726	9667	10905	976	26882	3457	40.3	8	1380	206	3.4	1	44.7	6	57.3	9	20.6	3	23.9	2	1.5	0	4.7	1
core	201	28.3	5	31.7	4	57755	3343	30.6	8	127710	7149	12278	979	29291	3252	54.6	13	1565	159	3.9	1	48.2	4	62.9	6	21.0	2	26.6	3	1.7	0	4.6	2
core	206	25.7	4	26.3	4	58433	5034	32.6	13	117751	6975	11278	672	28387	3008	44.1	13	1389	113	3.3	1	46.3	3	55.4	11	20.8	1	25.6	3	1.7	0	3.3	1
core	211	27.2	4	27.5	3	55898	4213	26.9	8	119741	6869	10912	690	27232	1572	40.4	11	1356	154	3.3	1	45.7	3	51.6	8	21.7	3	25.0	2	1.5	0	5.6	2
core	216	25.8	4	26.0	3	55944	5251	34.7	9	116898	6381	11299	786	26305	1870	43.7	11	1376	153	3.1	1	43.6	4	54.1	7	20.3	2	23.9	2	1.5	0	4.8	1
core	221	29.4	4	29.5	4	57473	4165	41.7	11	122661	6273	12306	732	28979	2059	48.3	13	1555	168	3.9	1	49.1	4	49.8	7	21.9	2	25.0	2	1.8	0	4.7	1
core	226	28.4	4	29.8	4	57363	4922	30.2	8	120188	6314	11435	645	27596	2216	62.0	13	1629	184	3.0	1	50.0	5	57.9	9	20.3	2	25.4	2	1.7	0	5.4	1
core	231	28.3	5	30.7	4	60932	7897	32.3	7	125597	6116	11897	944	29139	2315	57.2	13	1648	202	3.8	1	48.4	4	48.1	7	21.9	2	25.1	3	1.7	0	4.8	1
core	236	27.6	3	27.6	3	58673	4250	29.5	9	120915	6606	11503	748	27760	3019	55.0	13	1513	136	3.0	1	46.3	4	56.5	9	21.1	2	23.6	2	1.8	0	4.6	1
core	241	26.7	4	26.9	3	56829	2554	27.5	6	120893	6521	11441	628	28642	1944	52.3	13	1536	153	3.1	1	44.7	3	44.7	7	19.7	2	23.4	2	1.8	0	5.6	1
core	246	23.7	3	24.1	2	54962	3325	27.5	6	118097	5228	11034	675	28070	2054	59.2	14	1450	172	3.1	1	47.0	3	56.0	6	20.6	2	23.6	2	2.0	0	3.4	1
core	251	26.6	3	24.6	2	54672	3053	28.3	7	120431	7300	11169	715	28497	2730	63.4	15	1518	220	3.9	2	44.3	4	50.7	9	20.7	2	25.1	2	1.8	0	3.9	1
core	256	26.7	5	22.1	2	52323	1971	24.6	7	113340	3074	10318	414	26839	1381	46.9	11	1331	107	2.9	1	40.6	3	54.8	10	20.4	1	23.5	1	1.7	0	4.1	2
core	261	23.3	3	24.1	2	53787	2783	31.8	7	116370	5724	10696	568	28214	1717	42.2	14	1473	109	3.2	1	41.9	3	49.0	4	19.1	1	24.9	2	1.7	0	3.1	1
core	266	24.0	3	23.4	2	57338	5528	26.6	11	116470	5371	11207	547	29664	1919	56.4	11	1327	175	3.4	1	46.7	4	51.7	6	20.0	2	23.5	2	1.6	0	4.0	1
core	271	23.3	3	22.3	2	53454	2072	32.4	8	113611	4652	10687	517	29051	1684	42.4	11	1505	147	3.7	1	43.9	4	48.1	7	18.5	1	25.0	2	1.6	0	4.0	1
core	276	27.7	4	23.3	2	56718	3078	28.7	6	123662	7377	11190	514	30242	2585	57.7	13	1491	156	4.0	1	45.6	4	46.0	8	20.5	2	23.8	2	1.7	0	4.1	1
core	281	23.0	4	20.8	2	55278	2551	27.9	9	124768	4634	11503	643	29719	1951	41.8	10	1476	186	3.4	1	47.8	3	50.6	7	20.1	2	25.0	2	1.9	0	4.6	2
core	286	22.4	3	19.3	2	53339	3163	23.2	7	115830	6661	11014	643	27340	1696	57.5	10	1386	165	3.6	1	42.4	4	48.8	10	19.4	2	23.3	2	1.6	0	3.8	1
core	291	21.5	3	19.4	2	54468	1915	21.2	8	116655	4120	11139	570	29516	1966	46.5	16	1422	89	3.3	1	45.3	3	52.0	7	19.0	2	22.7	2	1.3	0	4.2	1
rim	296	17.3	3	17.9	2	56405	3154	27.6	7	120989	5029	11485	581	29457	3380	58.1	12	1427	122	3.5	1	45.7	3	46.9	7	20.2	2	23.9	2	1.4	0	4.5	1
rim	301	14.4	3	15.0	1	55796	3620	28.4	7	114897	6100	11157	719	26446	1967	47.6	16	1390	154	3.6	1	43.2	4	46.6	6	18.6	2	21.1	2	1.6	0	3.2	1
rim	306	19.2	5	16.3	2	57425	4171	33.5	13	121185	7151	11932	684	28319	2393	54.7	13	1429	164	2.6	1	47.7	4	55.3	7	18.5	2	22.5	2	1.6	0	4.0	1
rim	311	14.6	3	13.0	1	53805	2795	31.2	7	117270	5750	11500	615	26692	2042	44.1	10	1384	158	3.5	1	42.1	3	39.9	8	17.9	1	20.1	1	1.5	0	2.6	1
rim	316	13.0	2	12.2	2	52593	2979	32.3	10	114549	7249	11651	767	24642	2135	39.4	11	1282	194	3.4	1	40.0	3	42.6	7	18.4	2	21.2	2	1.4	0	4.6	2
rim	321	12.6	3	15.0	4	56750	3557	40.5	12	126314	14275	12729	1265	26683	3589	57.7	13	1552	206	3.4	1	43.6	4	48.1	9	19.7	2	21.6	2	1.8	0	4.9	2
rim	326	13.0	3	14.3	2	63761	8336	93.3	95	126403	6480	12618	575	28190	2010	62.2	14	1327	165	3.2	1	47.9	4	44.7	9	20.8	2	22.5	2	5.9	8	5.4	2
rim	331	16.2	3	11.1	1	56377	2857	33.7	9	113603	6004	12431	728	26880	1824	46.8	10	1363	186	4.2	1	42.5	3	48.3	6	19.7	2	21.5	2	1.6	0	4.4	1
rim	336	8.8	2	9.5	2	56985	3363	26.5	6	111974	5802	12402	685	24506	1991	37.8	9	1415	124	4.3	1	40.5	3	56.2	7	16.4	1	20.0	1	1.7	1	3.6	1
rim	341	8.0	3	7.4	1	56740	3996	28.9	6	112284	5091	12045	580	25923	1963	51.7	15	1525	141	3.5	1	42.1	3	47.4	7	17.4	2	21.6	2	1.5	0	2.9	1

Table B21: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.5	0	1.2	1.2	0.1	0.1	18.6	2														
0.4	0	1.6	1.6	0.4	0.4	16.6	2														
0.3	0	1.4	1.4	0.2	0.2	16.8	1														
0.8	1	1.4	1.4	0.3	0.3	18.0	2														
0.7	1	1.4	1.4	0.1	0.1	16.6	1	63.5	0.1	23.0	0.2	0.0	4.4	7.9	1.5	0.0	0.0	100.5	22	70	8
0.4	0	1.3	1.3	0.3	0.3	19.6	3	63.1	0.1	23.1	0.2	0.0	4.4	8.0	1.4	0.0	0.0	100.3	21	70	8
1.0	1	1.4	1.4	0.2	0.2	16.5	2	63.6	0.0	23.0	0.2	0.0	4.4	7.8	1.5	0.0	0.0	100.4	21	70	9
0.6	1	1.1	1.1	0.7	0.7	17.9	1	63.2	0.0	22.8	0.2	0.0	4.3	7.9	1.5	0.0	0.0	100.0	21	70	9
0.6	0	1.6	1.6	0.4	0.4	17.4	2	63.2	0.1	23.1	0.2	0.0	4.3	7.9	1.4	0.0	0.0	100.3	21	70	8
1.1	1	1.3	1.3	0.2	0.2	16.3	2	63.2	0.1	23.0	0.2	0.0	4.4	7.9	1.5	0.1	0.0	100.3	21	70	9
0.5	0	0.8	0.8	0.7	0.7	15.7	2	63.5	0.1	22.7	0.2	0.0	4.2	7.9	1.5	0.0	0.0	100.2	21	70	9
0.3	0	1.4	1.4	0.2	0.2	17.8	3	63.8	0.1	22.6	0.2	0.0	4.1	8.0	1.6	0.1	0.0	100.4	20	71	9
1.1	1	1.1	1.1	0.5	0.5	15.7	2	63.5	0.1	22.6	0.2	0.0	4.1	8.0	1.5	0.1	0.1	100.2	20	71	9
0.4	0	1.7	1.7	0.6	0.6	16.8	2	63.1	0.1	22.8	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.0	21	71	9
0.6	0	1.4	1.4	0.2	0.2	16.7	1	63.3	0.1	22.9	0.2	0.0	4.4	7.9	1.4	0.0	0.0	100.3	21	70	8
0.3	0	1.4	1.4	0.2	0.2	14.8	2	63.2	0.1	23.0	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.3	21	70	9
0.5	0	1.0	1.0	0.6	0.6	15.8	2	63.4	0.1	22.9	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.3	21	71	9
0.1	0	1.2	1.2	0.5	0.5	16.7	2	63.1	0.1	22.9	0.2	0.0	4.4	7.9	1.5	0.0	0.0	100.0	22	70	8
0.5	0	1.4	1.4	0.6	0.6	15.9	2	63.2	0.1	22.9	0.2	0.0	4.5	7.8	1.4	0.0	0.0	100.1	22	70	8
0.5	0	1.1	1.1	0.4	0.4	15.3	2	62.8	0.1	22.9	0.2	0.0	4.5	7.9	1.4	0.0	0.0	99.7	22	70	8
0.7	0	1.5	1.5	0.1	0.1	15.2	2	62.5	0.1	23.0	0.2	0.0	4.4	7.7	1.4	0.0	0.0	99.4	22	70	8
0.6	0	1.4	1.4	0.5	0.5	14.9	2	63.1	0.1	23.0	0.2	0.0	4.5	7.8	1.4	0.0	0.0	100.1	22	70	8
0.6	0	1.4	1.4	0.4	0.4	17.8	2	63.2	0.1	22.9	0.2	0.0	4.4	7.8	1.4	0.0	0.0	100.0	22	70	8
0.4	0	1.3	1.3	0.3	0.3	15.9	2	63.3	0.0	23.1	0.2	0.0	4.5	7.4	1.4	0.0	0.0	99.9	23	69	8
0.7	1	1.0	1.0	0.3	0.3	17.0	2	63.2	0.1	23.2	0.2	0.0	4.5	7.3	1.4	0.1	0.0	99.9	23	68	8
0.2	0	1.5	1.5	0.7	0.7	14.1	2	63.0	0.1	23.3	0.2	0.0	4.6	7.3	1.4	0.0	0.0	99.9	24	68	8
0.6	0	1.0	1.0	0.2	0.2	14.8	2	63.1	0.1	23.2	0.2	0.0	4.5	7.4	1.4	0.0	0.0	99.9	23	69	8
0.8	1	1.0	1.0	0.3	0.3	15.4	1	63.1	0.1	23.0	0.2	0.0	4.6	7.7	1.3	0.0	0.0	100.0	23	69	8
0.6	0	1.5	1.5	0.4	0.4	16.1	2	62.8	0.0	23.0	0.2	0.0	4.6	7.8	1.3	0.0	0.0	99.8	23	70	8
0.6	0	1.2	1.2	0.4	0.4	14.7	2	63.0	0.1	22.9	0.2	0.0	4.5	7.8	1.4	0.0	0.0	99.9	22	70	8
0.5	0	1.0	1.0	0.2	0.2	16.1	2	63.2	0.1	23.0	0.2	0.0	4.5	7.9	1.4	0.0	0.0	100.3	22	70	8
0.6	0	1.4	1.4	0.1	0.1	15.9	1	63.0	0.0	23.0	0.2	0.0	4.6	8.0	1.4	0.0	0.0	100.2	22	70	8
0.4	0	1.1	1.1	0.4	0.4	15.5	1	63.0	0.1	22.8	0.2	0.0	4.5	7.9	1.4	0.1	0.0	100.0	22	70	8
0.3	0	1.2	1.2	0.2	0.2	16.2	1	63.3	0.1	23.2	0.2	0.0	4.5	7.9	1.4	0.0	0.1	100.6	22	70	8
0.4	0	1.2	1.2	0.5	0.5	14.8	2	62.9	0.1	23.0	0.2	0.0	4.4	7.9	1.4	0.0	0.0	99.8	22	70	8
0.2	0	1.4	1.4	0.6	0.6	16.8	2	62.9	0.1	23.1	0.2	0.0	4.6	8.0	1.3	0.0	0.0	100.2	22	70	8
0.2	0	1.1	1.1	0.1	0.1	14.5	1	62.9	0.0	23.2	0.2	0.0	4.6	7.9	1.4	0.0	0.1	100.4	22	70	8
0.7	0	1.3	1.3	0.6	0.6	15.9	1	62.8	0.1	22.9	0.2	0.0	4.5	7.9	1.4	0.0	0.0	99.7	22	70	8
0.3	0	1.3	1.3	0.0	0.0	15.6	2	63.3	0.1	23.1	0.2	0.0	4.5	8.0	1.3	0.0	0.0	100.6	22	70	8
0.7	1	1.5	1.5	0.2	0.2	15.4	1	63.2	0.1	23.0	0.2	0.0	4.6	7.9	1.4	0.0	0.0	100.3	22	70	8
0.6	0	1.0	1.0	0.1	0.1	16.7	1	63.0	0.1	22.9	0.2	0.0	4.5	7.9	1.4	0.0	0.0	100.0	22	70	8
0.5	0	1.2	1.2	0.5	0.5	15.2	1	62.9	0.1	22.8	0.2	0.0	4.5	7.9	1.3	0.0	0.0	99.8	22	70	8
0.6	0	1.4	1.4	0.2	0.2	16.3	1	63.1	0.1	23.3	0.2	0.0	4.6	7.9	1.4	0.0	0.0	100.5	22	70	8
0.3	0	1.6	1.6	0.1	0.1	15.0	2	62.9	0.0	23.2	0.2	0.0	4.6	8.0	1.4	0.0	0.0	100.3	22	70	8
0.2	0	1.2	1.2	0.3	0.3	16.0	2	63.1	0.1	23.1	0.2	0.0	4.5	8.0	1.3	0.0	0.0	100.3	22	70	8
0.6	0	1.1	1.1	0.6	0.6	15.8	1	62.9	0.1	23.1	0.2	0.0	4.5	8.0	1.4	0.0	0.0	100.2	22	70	8
0.5	0	1.1	1.1	0.4	0.4	16.8	2	62.7	0.1	23.0	0.2	0.0	4.5	7.9	1.3	0.0	0.0	99.7	22	70	8
1.1	1	1.3	1.3	0.6	0.6	15.9	2	63.1	0.1	23.1	0.2	0.0	4.3	7.9	1.4	0.0	0.0	100.0	21	71	8
0.6	1	1.2	1.2	0.4	0.4	15.1	1	63.2	0.1	22.9	0.2	0.0	4.2	7.9	1.4	0.0	0.0	99.8	21	71	8
0.6	1	1.6	1.6	0.4	0.4	14.8	1	63.2	0.1	22.8	0.2	0.0	4.2	8.0	1.4	0.0	0.0	99.9	21	71	8
0.5	0	1.3	1.3	0.3	0.3	15.7	2	63.2	0.0	23.0	0.2	0.0	4.4	8.0	1.4	0.1	0.0	100.3	21	70	8
0.5	0	1.2	1.2	0.5	0.5	16.0	1	63.3	0.1	23.1	0.2	0.0	4.4	7.9	1.5	0.1	0.0	100.6	22	70	8
0.6	0	1.4	1.4	0.1	0.1	15.1	1	63.3	0.1	22.7	0.2	0.0	4.4	8.0	1.5	0.0	0.0	100.1	21	70	8
0.5	0	1.3	1.3	0.1	0.1	14.5	2	63.2	0.1	23.0	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.2	21	71	8
0.2	0	1.4	1.4	0.1	0.1	14.1	1	63.2	0.1	22.9	0.2	0.0	4.3	8.0	1.4	0.0	0.0	100.1	21	71	8
0.4	1	1.5	1.5	0.2	0.2	15.8	1	63.2	0.1	23.2	0.2	0.0	4.4	8.0	1.4	0.0	0.0	100.5	21	70	8
0.3	0	1.1	1.1	0.6	0.6	16.4	2	63.3	0.1	22.9	0.2	0.0	4.3	7.9	1.4	0.0	0.0	100.1	21	70	8
0.7	1	1.5	1.5	0.3	0.3	14.3	1	63.5	0.1	22.8	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.2	21	71	9
0.4	0	1.4	1.4	0.3	0.3	13.9	1	63.6	0.1	22.7	0.2	0.0	4.1	8.0	1.6	0.0	0.0	100.3	20	71	9
0.3	0	1.0	1.0	0.2	0.2	14.8	1	63.5	0.1	22.5	0.2	0.0	4.0	8.1	1.6	0.0	0.0	100.0	20	71	9
0.7	0	1.4	1.4	0.3	0.3	15.0	1	63.9	0.1	22.6	0.2	0.0	3.8	8.0	1.6	0.0	0.0	100.2	19	72	10
0.4	0	1.5	1.5	0.3	0.3	17.0	3	63.8	0.1	22.6	0.2	0.0	3.9	8.1	1.6	0.0	0.0	100.3	19	72	10
0.3	0	1.4	1.4	0.2	0.2	14.2	1	63.4	0.1	22.6	0.2	0.0	3.9	8.1	1.6	0.0	0.0	99.8	19	71	9
0.8	1	1.0	1.0	0.5	0.5	14.3	2	63.3	0.1	22.6	0.2	0.0	4.0	8.0	1.6	0.0	0.0	99.8	20	71	9
0.9	1	1.5	1.5	0.8	0.8	17.2	2	63.6	0.1	22.8	0.2	0.0	4.1	7.9	1.5	0.0	0.0	100.1	20	71	9
0.5	1	1.3	1.3	0.8	0.8	14.9	1	63.3	0.1	22.8	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.2	21	70	9
0.7	1	1.0	1.0	0.3	0.3	14.4	1	63.2	0.1	22.7	0.2	0.0	4.4	8.0	1.4	0.1	0.1	100.0	21	71	8
0.6	0	0.9	0.9	0.2	0.2	15.1	2	62.9	0.1	23.0	0.2	0.0	4.5	7.9	1.4	0.0	0.0	100.0	22	70	8
0.6	1	1.4	1.4	0.3	0.3	17.3	2	62.8	0.1	22.9	0.2	0.0	4.2	7.9	1.5	0.0	0.0	99.6	21	71	9

Table B22: Plagioclase grain 21 - Lithium isotopes

MEASURED				background		Results (BLK + tau corr.)																		
	^{7}Li (V)	^{6}Li (cps)	^{6}Li (V)	^{7}Li (V)	^{6}Li (cps)	^{7}Li/^{6}Li	SE	SD	1 RSD	n	D time (min)	std drift ^{7}Li/^{6}Li	δ^{7}Li (‰) rel GOR132-G	2 σ	δ^{7}Li (‰) rel IRMM-016	RepRate Hz	integr.time (s)		dis-tance	Li (ppm)	2 σ	d^{7}Li	2 σ
1	0.00673	31262	0.00050	0.0001418	779	13.4088	0.0109	0.0866	814	65	12.0	-1.1	-12.7	2.1	-3.8	50	1.049	rim	31	15.9	1	-3.8	2.1
2	0.01632	75767	0.00121	0.0001386	758	13.3986	0.0112	0.1025	835	85	5.1	1.0	-13.5	2.2	-4.6	36	1.049	core	80	21.2	1	-4.6	2.2
3	0.01535	71637	0.00115	0.0001340	720	13.4006	0.0101	0.0929	752	85	4.5	1.0	-12.3	2.1	-3.4	31	1.049	core	122	21.5	3	-3.4	2.1
4	0.01623	75939	0.00122	0.0001306	712	13.3562	0.0096	0.0884	722	84	4.2	0.3	-15.0	1.9	-6.1	31	1.049	core	168	19.4	1	-6.1	1.9
5	0.01575	73739	0.00118	0.0001305	695	13.3487	0.0089	0.0826	663	87	4.4	0.6	-15.1	1.9	-6.2	31	1.049	core	210	18.6	1	-6.2	1.9
6	0.01442	67499	0.00108	0.0001258	675	13.3334	0.0102	0.0912	765	80	4.2	0.0	-15.9	2.0	-7.0	28	1.049	core	256	18.6	3	-7.0	2.0
7	0.01360	63713	0.00102	0.0001194	660	13.3585	0.0128	0.1154	960	80	4.9	0.1	-14.0	2.4	-5.1	25	1.049	core	310	16.9	1	-5.1	2.4
8	0.01457	68289	0.00109	0.0001212	631	13.3584	0.0143	0.1118	1071	60	4.1	-1.5	-14.6	2.6	-5.7	25	1.049	core	358	17.2	1	-5.7	2.6
9	0.01324	61805	0.00099	0.0001186	625	13.3782	0.0093	0.0831	695	80	4.3	1.3	-13.3	2.0	-4.4	25	1.049	core	416	17.5	1	-4.4	2.0
10	0.01134	52787	0.00084	0.0001146	611	13.4120	0.0103	0.0915	768	80	4.2	-0.3	-10.3	2.0	-1.4	25	1.049	cracked	481	6.2	1	-1.4	2.0
11	0.00951	44330	0.00071	0.0001121	610	13.4192	0.0133	0.1196	990	80	4.2	0.2	-9.8	2.4	-0.9	25	1.049	core	537	19.2	3	-0.9	2.4
12	0.01331	62132	0.00099	0.0001163	593	13.3799	0.0099	0.0889	738	80	5.5	0.5	-12.3	2.1	-3.4	25	1.049	core	592	20.0	2	-3.4	2.1
13	0.01237	57988	0.00093	0.0001127	596	13.3571	0.0104	0.0963	782	85	4.3	-0.4	-14.0	2.1	-5.1	22	1.049	core	643	19.3	2	-5.1	2.1
14	0.01212	56866	0.00091	0.0001092	584	13.3266	0.0094	0.0895	708	90	4.3	0.3	-16.2	1.9	-7.3	21	1.049	core	698	18.9	2	-7.3	1.9
15	0.01141	53651	0.00086	0.0001078	578	13.3131	0.0093	0.0880	696	90	4.0	0.5	-16.8	1.9	-7.9	20	1.049	core	750	19.0	1	-7.9	1.9
16	0.01235	58135	0.00093	0.0001088	570	13.2888	0.0121	0.1079	908	80	4.2	-0.5	-18.6	2.2	-9.7	20	1.049	core	803	19.4	1	-9.7	2.2
17	0.01303	61307	0.00098	0.0001077	565	13.2912	0.0118	0.1041	887	80	4.2	-1.0	-19.1	2.2	-10.2	20	1.049	core	849	18.7	1	-10.2	2.2
18	0.00971	45501	0.00073	0.0001046	552	13.3521	0.0179	0.1615	1344	80	4.3	1.9	-14.2	3.1	-5.3	20	1.049	core	892	14.4	1	-5.3	3.1
19	0.00663	30839	0.00049	0.0001028	532	13.4149	0.0142	0.1299	1057	85	4.0	-1.5	-9.3	2.5	-0.4	22	1.049	cracked	940	12.2	1	-0.4	2.5
20	0.01228	58511	0.00094	0.0000738	380	13.1398	0.0131	0.1164	997	80	7.5	-1.6	-14.8	2.5	-5.9	19	1.049	cracked	929	15.0	1	-0.1	2.7
21	0.00507	23950	0.00038	0.0000818	389	13.2219	0.0148	0.1328	1116	80	5.1	0.7	-9.0	2.7	-0.1	19	1.049	cracked	964	12.1	1	5.1	2.9
22	0.00592	27800	0.00044	0.0000744	389	13.2949	0.0167	0.1760	1256	110	4.3	-1.1	-3.8	2.9	5.1	29	1.049	cracked	1015	13.5	3	1.6	2.6
23	0.00578	27065	0.00043	0.0000807	407	13.2504	0.0135	0.1262	1021	90	4.1	0.7	-7.3	2.6	1.6	29	1.049	cracked	1061	9.0	1	3.3	2.4
24	0.00653	30773	0.00049	0.0000733	365	13.2713	0.0119	0.1123	897	88	4.2	-0.3	-5.6	2.4	3.3	29	1.049	cracked	1110	14.9	3	3.8	2.7
25	0.00816	38417	0.00061	0.0000797	366	13.2791	0.0155	0.1392	1165	80	5.3	0.2	-5.1	2.7	3.8	29	1.049	cracked	1152	15.5	1	3.5	2.3
26	0.00677	31757	0.00051	0.0000732	370	13.2737	0.0131	0.1278	988	95	4.2	-0.1	-5.4	2.3	3.5	29	1.049	cracked	1215	12.7	2	2.3	2.6
27	0.00562	26432	0.00042	0.0000766	365	13.2631	0.0144	0.1369	1088	90	4.5	-0.5	-6.6	2.6	2.3	29	1.049	cracked	1296	9.3	1	4.2	2.6
28	0.00457	21436	0.00034	0.0000720	368	13.2905	0.0143	0.1352	1078	88	4.2	0.1	-4.7	2.6	4.2	29	1.049	cracked	1343	7.6	1	0.6	2.4
30	0.01065	50252	0.00080	0.0000701	360	13.2134	0.0162	0.1437	1223	80	6.9	0.1	-10.8	2.9	-1.9	42	1.049	rim	35	16.8	2	-1.9	2.9
31	0.00726	34136	0.00055	0.0000667	351	13.2133	0.0170	0.1271	1285	55	5.8	-0.8	-11.1	2.9	-2.2	42	1.049	rim	32			-2.2	2.9
32	0.00556	26191	0.00042	0.0000678	338	13.2214	0.0131	0.1247	988	90	5.1	-0.1	-11.0	2.4	-2.1	42	1.049	rim	30			-2.1	2.4
33	0.01763	83371	0.00133	0.0000667	336	13.1937	0.0106	0.0949	804	82	4.0	-0.2	-13.2	2.1	-4.3	33	1.049	core	91	26.4	5	-4.3	2.1
34	0.01606	76167	0.00122	0.0000671	331	13.1880	0.0097	0.0875	738	80	4.4	-0.1	-13.8	2.1	-4.9	25	1.049	core	134	25.8	3	-4.9	2.1
35	0.01195	56884	0.00091	0.0000669	331	13.1763	0.0089	0.0921	672	109	4.2	0.4	-14.5	2.1	-5.6	19	1.049	core	183	27.5	2	-5.6	2.1
36	0.01099	52255	0.00084	0.0000657	331	13.1567	0.0088	0.0957	672	119	4.7	-0.5	-16.0	2.1	-7.1	29	1.049	core	229	30.8	3	-7.1	2.1
37	0.01075	51181	0.00082	0.0000691	333	13.1481	0.0103	0.1129	784	119	4.4	-0.3	-17.1	2.2	-8.2	29	1.049	core	277	28.1	3	-8.2	2.2
38	0.01051	50049	0.00080	0.0000682	329	13.1401	0.0095	0.1010	720	113	4.1	-0.2	-17.9	2.0	-9.0	29	1.049	core	321	25.4	2	-9.0	2.0

grain 21 - Isotopes

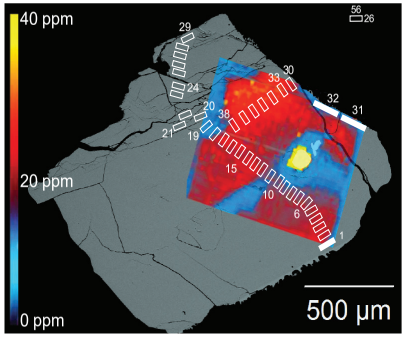


Fig. B20. BSE image of plagioclase grain 21 with Fs-LA-MC-ICP-MS lines indicated.

Table B23: Plagioclase grain 25 - Line 1

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	1	16.5	2	17.2	0	58768	1614	31.7	6	127138	3608	7728	215	32096	1852	62.6	8	1788	78	3.3	0	146.4	5	233.0	14	32.8	1	34.7	2	1.7	0	7.3	1
core	5	17.1	2	17.2	1	61717	2094	29.4	6	133426	4182	7989	249	34975	1520	65.6	9	1830	134	3.2	1	143.8	6	257.7	19	33.4	2	34.9	2	2.3	0	7.0	2
core	10	19.5	2	17.8	1	63068	2482	39.3	8	135353	5143	8085	290	36147	2473	61.5	8	1929	118	3.3	1	144.5	5	247.1	19	32.1	3	34.8	2	2.5	0	7.5	2
core	15	18.7	2	17.7	1	59676	1615	31.9	5	131021	4126	7831	242	35246	1338	53.8	12	1802	150	3.0	0	139.1	6	237.8	14	32.0	2	33.9	2	2.4	0	7.9	1
core	20	19.4	2	17.7	1	60272	2894	35.9	6	132440	6960	7905	397	35535	1756	57.8	11	1794	124	2.7	0	145.8	8	238.0	16	34.5	2	37.1	3	2.4	0	7.0	2
core	25	19.3	2	17.2	1	59520	2180	34.9	6	131966	4753	7848	275	35421	2126	60.5	10	1813	163	3.1	1	141.4	6	235.0	17	33.6	1	34.8	2	2.3	0	7.5	2
core	30	18.8	2	17.0	1	58691	2824	31.0	7	135242	6189	7755	392	37097	2409	62.8	9	1820	132	2.3	0	144.5	9	235.1	20	32.9	3	37.1	3	2.3	0	7.7	2
core	35	17.1	1	16.9	1	55972	2741	28.0	7	130939	6290	7605	367	34395	2020	70.2	10	1811	140	2.7	1	137.5	8	230.4	15	34.1	2	35.1	3	2.5	1	7.3	2
core	40	16.5	2	16.8	1	58369	2269	37.5	7	130651	4685	8022	333	34264	1904	59.4	9	1792	118	2.8	0	137.5	6	226.2	18	33.4	2	35.2	3	2.3	0	7.1	3
core	45	18.5	2	17.0	1	60137	2453	29.8	5	135637	5303	8441	394	34095	1712	70.9	9	1797	91	3.0	1	138.5	6	223.8	14	30.8	3	34.8	3	2.6	1	7.8	2
core	50	17.9	3	16.8	1	57909	2468	35.4	6	127174	4553	8115	306	31264	2254	64.6	9	1712	102	2.8	0	128.6	5	216.5	15	30.6	2	31.4	2	2.2	0	6.1	1
core	55	15.3	1	16.4	1	57889	2450	31.3	7	127570	4995	8084	294	32082	1515	65.5	10	1913	98	2.7	1	127.5	6	209.6	11	29.1	1	32.1	3	1.9	1	5.7	2
core	60	16.9	2	17.7	2	59613	3204	37.8	5	130678	6840	8313	536	32962	2027	60.4	9	1898	133	2.8	0	131.8	8	216.8	16	30.4	2	33.3	3	2.5	1	7.3	2
core	65	18.8	2	17.9	1	61030	3839	36.3	6	134824	7607	8521	471	37161	2970	69.4	8	2011	164	3.5	1	143.2	9	221.4	15	33.5	3	35.5	3	2.9	0	8.2	3
core	70	18.6	2	17.9	1	60861	3566	37.5	6	134180	6759	8313	445	36335	2594	66.2	9	1889	125	2.7	1	139.2	8	216.0	18	34.5	2	35.6	3	2.7	0	7.6	2
core	75	18.8	2	17.6	1	58769	2612	38.4	10	131768	6182	8059	416	35448	2257	59.1	9	1894	123	2.4	0	141.4	7	217.7	14	33.6	2	37.1	2	2.4	1	6.9	2
core	80	18.4	2	17.4	1	59205	2679	34.3	7	132028	5856	8062	379	35218	2137	60.1	10	1870	116	2.8	0	137.3	7	215.7	11	32.6	3	37.8	3	2.8	1	6.4	2
core	85	18.7	3	17.1	1	57853	3334	34.6	6	129388	6579	8081	404	34817	2295	71.9	9	1831	166	2.8	1	134.8	7	231.8	24	33.7	3	35.7	3	2.4	0	7.5	2
core	90	17.4	2	16.6	1	57332	3649	29.8	5	124793	5474	7803	353	32951	1681	56.2	10	1741	148	2.9	1	127.1	6	222.2	19	32.4	2	34.8	3	2.5	0	6.7	1
core	95	17.9	2	17.6	1	60335	3295	36.7	5	134494	8445	8302	441	34918	1803	54.9	8	1786	156	3.0	1	137.5	9	216.3	19	32.7	3	36.3	3	2.6	1	7.0	2
core	100	19.0	2	18.0	1	62400	3033	35.4	7	135787	5704	8598	458	36488	2163	61.6	11	1991	119	3.2	1	142.3	7	227.6	19	32.9	2	34.4	2	2.3	0	7.8	2
core	105	19.6	3	18.1	1	58904	2031	28.0	4	133832	4925	8178	350	35387	2014	63.1	9	1900	137	2.9	1	136.3	7	238.5	19	32.4	2	35.4	2	2.3	0	6.4	2
core	110	17.9	1	17.3	1	58507	2791	38.6	7	132605	5793	8289	404	34463	2327	64.1	11	1841	135	3.2	1	137.3	6	228.1	22	30.7	2	35.9	3	2.7	0	7.3	2
core	115	18.8	3	18.5	2	60240	3444	33.0	6	132128	7639	8518	479	36111	2203	56.3	8	1947	143	3.2	1	136.2	8	232.7	19	32.1	3	36.9	3	2.2	0	6.0	2
core	120	19.4	2	19.4	3	62003	3614	37.6	7	134685	7234	8639	577	35439	2545	56.8	12	1979	151	2.6	0	140.8	9	225.4	16	33.9	3	34.9	3	2.4	0	6.8	2
core	125	18.8	2	17.4	2	58251	3620	34.1	8	129503	8707	8101	555	34178	3320	68.4	12	1893	195	3.2	0	126.1	8	200.5	20	32.2	3	36.3	5	2.4	0	5.7	2
core	130	19.4	3	17.6	1	61055	3416	34.7	7	136612	5574	8528	506	36596	2314	68.8	11	1900	139	3.4	1	138.9	8	229.1	22	33.1	3	35.9	2	2.5	0	6.2	2
core	135	18.1	2	17.4	1	59305	2650	34.1	8	133621	5465	8546	366	35241	2088	56.3	8	1929	166	3.0	0	131.2	7	206.9	17	32.3	2	34.7	2	2.4	0	5.5	1
core	140	16.7	2	16.9	1	61551	4333	37.9	7	132054	6193	8448	344	34238	1543	54.0	9	1768	111	2.5	0	129.8	6	201.9	14	32.5	2	33.8	2	2.0	0	4.5	1
core	145	18.6	2	17.9	1	60635	2693	37.2	5	135794	6360	8486	334	35311	2798	65.9	7	1958	120	2.8	0	134.5	8	205.3	14	30.5	2	36.1	3	2.5	0	5.9	2
core	150	17.8	2	17.5	1	60530	2263	33.3	7	133459	4461	8572	281	35102	1767	59.6	7	1962	137	2.9	1	134.9	4	218.6	15	30.3	2	33.5	3	2.2	0	6.6	2
core	155	17.5	3	17.7	1	59419	4198	37.8	6	128957	7070	8455	436	34533	2439	59.5	12	1767	139	3.2	0	131.9	8	199.4	21	29.9	3	31.9	2	2.2	0	7.3	2
core	160	17.7	2	17.0	1	58193	2394	35.0	6	128756	4993	8627	377	33318	1889	55.4	8	1795	160	2.9	0	127.9	7	201.7	13	30.3	3	33.1	2	2.2	0	7.1	2
core	165	18.5	2	18.0	2	58408	4890	30.5	7	126730	10692	8352	681	32523	2655	57.7	11	1753	170	2.8	1	127.2	11	193.2	22	31.2	3	31.9	3	1.7	0	4.3	1
core	170	16.3	3	16.9	1	59738	2784	30.1	6	130227	4616	8712	348	34042	1937	49.0	9	1825	173	3.1	1	128.7	6	194.4	15	29.1	2	35.0	2	2.2	0	7.9	2
core	175	17.0	2	16.2	1	57877	4291	30.2	7	127618	8864	8420	596	34312	3284	64.7	12	1700	187	3.3	1	125.7	9	204.2	25	30.1	3	32.8	3	2.4	1	7.4	2
core	180	19.0	2	16.9	1	58733	2274	34.6	9	133752	5251	8565	373	33389	1876	63.8	10	1856	123	3.7	1	127.6	6	190.2	15	30.5	3	32.7	2	2.6	0	6.4	2
core	185	17.0	2	17.2	1	58032	1933	28.0	6	128865	4925	8429	256	32921	1600	50.5	8	1769	142	3.2	1	124.4	5	186.6	15	28.6	2	29.8	2	2.3	0	8.5	2
core	190	18.5	2	17.3	1	58535	3384	33.2	7	129777	7354	8612	569	34593	2963	56.9	10	1856	117	3.4	1	127.4	9	175.6	15	29.0	2	31.6	3	1.9	0	4.4	2
core	195	18.7	2	17.8	1	61004	2412	33.5	8	137682	5912	8927	374	34715	1968	48.7	10	1918	176	3.3	0	132.2	7	187.6	15	31.8	2	35.5	3	2.6	1	6.6	2
core	200	18.1	2	17.2	1	59064	2863	24.1	6	132451	6619	8831	488	34664	2289	55.8	10	1840	155	3.2	1	132.1	10	183.4	14	31.3	3	33.9	2	2.3	1	5.6	2
core	205	17.5	2	17.0	1	58292	3007	33.9	5	128535	6117	8424	398	33752	1665	55.2	8	1783	134	3.0	1	122.3	7	178.8	14	27.6	2	31.6	2	2.3	0	4.1	2
core	210	19.2	2	17.7	1	61147	3765	38.2	10	135552	8467	8962	526	35965	2402	54.3	11	2004	208	3.0	0	126.3	8	192.5	17	31.7	3	32.6	2	2.3	1	10.0	2
core	215	17.9	2	17.1	1	62977	5245	37.3	9	134288	7755	8989	559	36013	2723	57.9	10	1836	179	3.5	1	124.1	6	194.6	16	31.4	3	31.6	3	2.6	1	6.7	2
core	220	17.3	2	17.5	1	60824	2339	35.7	7	136713	5639	8980	361	34109	1698	54.2	9	1860	149	3.2	1	125.0	6	188.8	17	31.0	3	31.1	3	2.6	1	6.6	2
core	225	18.0	3	17.3	1	61039	2554	33.0	6	134266	5480	8986	347	34129	2032	60.9	9	1913	152	3.2	1	121.6	4	177.4	19	29.5	1	30.9	2	2.6	0	6.0	1
core	230	16.9	2	17.3	2	58742	5227	36.7	7	137162	17916	8655	641	33631	3174	50.4	10	1853	170	3.4	1	117.3	10	176.1	15	27.4	3	28.2	3	1.8	0	4.0	2
core	235	17.3	2	17.5	1	59763	2729	37.9	8	131739	5717	9053	458	34499	2172	60.4	8	1803	130	3.3	1	121.9	6	186.0	16	30.5	2	30.1	2	2.4	0	5.8	2
core	240	17.1	2	17.6	1	59658	3183	29.6	5	131206	6626	9116	467	33380	2048	56.3	10	1825	149	3.0	1	124.1	7	196.0	14	28.8	3	31.3	2	2.3	0	4.6	2
core	245	16.3	1	17.1	1	60055	2748	27.5	8	129187	5961	9156	474	32831	1698	56.4	7	1852	134	3.2	0	123.0	7	188.4	13	29.3	2	32.5	4	2.0	0	6.6	2
core	250	17.5	1	17.7	1	61258	3407	29.6	6	135383	7099	9386	416	33906	2404	56.5	8	2039	158	3.2	1	121.4	7	205.1	16	28.4	3	30.6	3	2.2	0	6.0	2
core	255	16.5	2	17.1	1	60590	2387	28.8	7	134962	4834	9384	309	33636	1664	54.1	7	1951	129	3.3	0	127.8	6	197.2	19	29.8	2	33.3	2	2.0	0	6.5	2
core	260	18.5	2	18.2	1	60589	2257	29.5	7	132564	4239	9240	386	34817	1750	58.2	9	1825	126	2.6	1	121.5	5	200.8	17	32.3	2	31.6	3	2.3	0	5.9	2
core	265	17.5	2	16.9	1	61165	3451	32.5	7	131322	5042	9089	380	31974	1797	58.7	10	1763	157	3.3	1	120.0	5	195.7	15	31.9	2	32.3	3	2.0	0	5.4	2
core	270	18.1	2	16.5	1	59128	2463	32.5	6	129189	5174	9174	416	30888	1831	54.0	9	1882	186	3.6	1	111.9	6	186.1	15	30.9	2	31.1	3	1.9	0	6.6	2
core	275	17.8	2	17.3	1	61377	2910	34.5	7	133707	6222	9405	389	32761	2612	58.8	7	1888	145	3.7	1	120.7	5	201.4	16	30.6	2	31.0	3	2.5	0	6.8	2
core	279	19.8	1	18.1	1	62807	3899	31.7	6	136809	8255	9600	567	33901	1969	62.5	12	1951	156	3.5	1	128.3	9	222.4	20	30.4	2	32.9	2	2.6	0	5.7	1
core	284	17.0	2	17.1	1	57869	2009	32.7	5	127902	5177	8927	376	31511	2103	57.5	11	1850	86	3.4	1	114.8	5	200.7	18	30.7	2	31.8	2	2.1	0	6.8	2
core	289	18.5	1	17.6	1	58572	3203	28.4	6	130583	5876	8900	371	33472	2033	51.8	10	1843	173	3.4	1	115.6	7	205.8	15	28.9	2	32.3	2	2.1	0	6.1	2
core	294	17.9	2	18.5	1	61646	2534	28.6	6	136673	6765	9442	435	34904	1582	66.6	12	1932	145	3.7	1	124.8	7	231.0	13	30.4	2	34.4	3	2.0	0	8.6	2
core	299	16.7	2	17.8	1	61896	3963	31.9	6	135631	7991	9305	592	34819	2583	45.2	8	1888	227	3.4	1	123.4	9	222.9	17	31.0	2	33.5	4	2.1	0	5.9	2
core	304	18.4	2	17.7	1	60475	3015	32.3	9	135357	6574	9279	515	33450	2172	49.9	9	1775	134	3.5	1	118.5	8	220.2	27	28.8	2	30.9	2	2.3	0	6.6	2
core	309	18.1	2	17.0	1	58910	2999	33.8	8	127705	5250	9363	527	32744	2269	53.1	10	1748	121	2.8	0	112.3	5	215.9	14	26.0	2	30.1	2	2.1	0	6.3	2
core	314	17.8	2	17.9	1	59126	2429	32.5	6	130362	6064	10027	1379	30960	1424	53.0	10	1721	151	3.5	1	111.0	5	225.4	17	26.3	2	27.8	2	1.9	0	5.4	2
core	319	17.9	2	17.1	1	60473	2995	24.7	5	127318	5484	9576	482	32093	1878	55.2	12	1734	118	3.7	1	113.7	6	222.4	22	27.5	2	27.7	2	1.7	0	5.1	2
core	324	18.8	3	18.7	1	62183	3552	27.5	6	137127	7868	9899	551	32968	1881	58.8	11	1912	155	4.0	1	118.2	7	224.6	14	28.2	2	30.3	2	2.3	0	6.1	2
core	329	20.3	2	18.1	1	61462	2975	32.7	6	134130	6514	9620	502	33329	2560	58.7	9	1801	147	3.4	1	119.1	7	239.1	17	31.6	2	30.4	3	2.6	1	6.3	2
core	334	18.6	2	18.8	1	63126	2492	29.6	7	140305	5817	9836	388	35992	2150	58.2	9	1923	145	3.5	0	120.8	6	237.4	26	32.9	3	33.8	3	1.8	0	6.8	2
core	339	18.9	2	17.9	1	59970	1941	30.7	9	136614	5494	9496	397	33856	2140	61.6	13	1782	148	3.3	0	119.9	6	252.4	17	32.1	3	32.3	2	2.2	1	5.3	2
core	344	17.4	3	17.4	1	59049	2874	33.2	9	131212	5309	9168	333	33634	1828	59.3	9	1901	143	3.2	1	116.2	5	238.3	21	31.8	2	31.4	2	2.0	1	6.8	2
core	349	16.2	2	17.2	1	58055	1876	32.2	6	129031	4968	9150	435	32302	2298	51.1	10	1865	153	3.1	0	112.7	6	219.4	16	32.0	3	32.9	2	2.3	0	5.8	1
core	354	16.6	2	18.2	1	60795	2686	31.5	6	132334	4494	9411	439	33564	1759	55.2	8	1855	136	3.5	1	117.1	6	239.9	19	30.8	2	32.0	2	2.2	0	6.8	3

Table B23: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.4	0	2.7	1	0.0	0	14.1	1	62.1	0.0	23.5	0.2	0.0	4.8	7.8	1.1	0.0	0.0	99.6	24	70	6
0.3	0	3.0	1	0.4	0	15.9	1	61.9	0.0	23.7	0.2	0.0	4.9	8.0	1.1	0.1	0.0	99.9	24	70	6
1.0	1	3.0	1	0.3	0	17.4	1	61.4	0.0	23.4	0.2	0.0	4.8	8.0	1.1	0.0	0.0	99.1	23	70	6
0.8	1	2.8	1	0.1	0	15.4	1	61.7	0.0	23.6	0.2	0.0	4.8	8.0	1.1	0.1	0.1	99.6	23	70	6
1.0	1	2.5	1	0.6	1	15.8	2	61.9	0.0	23.7	0.2	0.0	4.8	8.0	1.1	0.0	0.0	99.8	23	70	6
0.7	1	2.9	1	0.0	0	15.8	1	61.8	0.0	23.5	0.2	0.0	4.9	7.9	1.1	0.0	0.0	99.4	24	70	6
0.7	1	2.5	1	0.4	0	15.6	1	61.6	0.0	23.7	0.2	0.0	5.0	7.9	1.1	0.0	0.0	99.5	24	70	6
0.5	1	2.6	1	0.0	0	14.6	1	61.7	0.0	23.7	0.2	0.0	5.0	7.9	1.1	0.0	0.1	99.8	24	70	6
0.1	0	3.1	1	0.2	0	14.7	2	61.6	0.0	23.8	0.2	0.0	4.9	7.9	1.1	0.0	0.0	99.6	24	70	6
0.4	0	2.9	1	0.4	0	15.0	1	61.6	0.0	23.6	0.2	0.0	4.9	7.8	1.1	0.0	0.0	99.2	24	70	6
0.5	0	2.3	1	0.3	0	14.2	2	60.8	0.0	23.2	0.2	0.0	4.8	7.9	1.1	0.0	0.0	97.9	24	70	6
0.8	1	2.7	1	0.4	0	12.7	2	62.2	0.0	23.6	0.2	0.0	5.0	7.8	1.1	0.0	0.0	100.0	25	69	6
0.8	1	2.6	1	0.0	0	13.6	1	61.7	0.0	23.6	0.2	0.0	5.0	8.0	1.1	0.0	0.0	99.5	24	70	6
0.8	1	2.7	1	0.0	0	14.6	2	61.8	0.0	23.6	0.2	0.0	5.0	7.9	1.1	0.1	0.0	99.7	24	69	6
0.3	0	2.9	1	0.3	0	14.2	2	62.4	0.0	23.8	0.2	0.0	4.9	8.0	1.1	0.0	0.0	100.6	23	70	7
0.3	0	2.9	1	0.3	0	14.1	1	62.4	0.0	23.2	0.2	0.0	4.5	8.2	1.2	0.0	0.0	99.7	22	72	7
0.9	1	2.6	1	0.0	0	15.3	2	62.7	0.0	23.2	0.2	0.0	4.4	8.2	1.2	0.0	0.1	100.0	21	72	7
0.8	1	2.9	1	0.2	0	13.7	2	62.6	0.0	23.4	0.2	0.0	4.5	8.1	1.2	0.0	0.0	100.0	22	71	7
0.7	1	2.8	1	0.2	0	13.0	1	62.3	0.0	23.3	0.2	0.0	4.6	8.0	1.2	0.1	0.1	99.8	22	71	7
0.2	0	2.5	1	0.0	0	14.0	2	62.3	0.0	23.4	0.2	0.0	4.7	7.9	1.2	0.0	0.1	99.8	23	70	7
0.7	1	3.5	1	0.0	0	15.2	3	62.1	0.0	23.6	0.2	0.0	4.8	7.9	1.1	0.0	0.0	99.8	23	70	6
0.3	0	2.8	1	0.0	0	14.4	2	62.0	0.0	23.6	0.2	0.0	5.0	7.8	1.1	0.0	0.0	99.7	24	69	6
0.9	1	3.5	1	0.0	0	14.9	1	62.1	0.1	23.6	0.2	0.0	4.8	7.9	1.1	0.0	0.0	99.7	23	70	7
0.4	1	2.8	1	0.5	1	15.1	2	62.2	0.0	23.6	0.2	0.0	4.7	8.1	1.2	0.0	0.0	100.1	23	71	7
0.6	1	3.1	1	0.2	0	15.1	2	61.9	0.0	23.5	0.2	0.0	4.8	8.0	1.1	0.0	0.1	99.8	23	70	7
1.0	1	3.1	1	0.0	0	14.2	2	62.0	0.1	23.7	0.2	0.0	4.8	8.1	1.2	0.0	0.0	100.1	23	70	7
0.7	1	3.0	1	0.2	0	14.4	2	62.2	0.0	23.4	0.2	0.0	4.8	8.1	1.2	0.0	0.0	99.9	23	70	7
0.1	0	3.1	1	0.8	1	14.0	1	61.9	0.0	23.3	0.2	0.0	4.7	7.9	1.1	0.0	0.0	99.2	23	70	7
1.6	1	3.2	1	0.2	0	14.0	2	61.9	0.0	23.7	0.2	0.0	4.7	8.0	1.2	0.0	0.0	99.7	23	70	7
0.7	1	1.9	1	0.2	0	14.9	1	61.7	0.0	23.4	0.2	0.0	4.8	8.0	1.2	0.1	0.0	99.3	23	70	7
0.9	1	2.9	1	0.5	1	13.1	2	62.0	0.0	23.5	0.2	0.0	4.7	7.9	1.2	0.0	0.0	99.6	23	70	7
0.1	0	3.4	1	0.3	0	14.9	1	62.1	0.0	23.4	0.2	0.0	4.7	8.2	1.2	0.0	0.0	99.8	23	71	7
0.3	0	2.3	1	0.1	0	14.4	1	61.9	0.0	23.4	0.2	0.0	4.7	7.9	1.2	0.0	0.0	99.4	23	70	7
0.3	1	2.6	1	0.4	1	14.1	2	62.2	0.0	23.7	0.3	0.0	4.8	8.0	1.2	0.0	0.0	100.1	23	70	7
0.7	1	3.4	1	0.4	1	13.9	1	62.2	0.0	23.5	0.2	0.0	4.8	8.0	1.2	0.0	0.0	99.8	23	70	7
0.8	1	2.5	1	0.3	0	13.3	2	62.0	0.0	23.6	0.2	0.0	4.7	8.0	1.2	0.1	0.0	99.8	23	70	7
0.3	0	2.1	1	0.4	0	14.4	1	61.9	0.0	23.6	0.2	0.0	4.7	8.1	1.2	0.1	0.0	99.8	23	70	7
0.8	1	2.8	1	0.2	0	13.3	2	62.2	0.0	23.3	0.2	0.0	4.6	8.0	1.2	0.0	0.0	99.4	22	71	7
0.8	1	2.5	1	0.8	1	13.6	1	61.9	0.0	23.4	0.2	0.0	4.7	8.0	1.2	0.0	0.0	99.5	23	70	7
0.6	1	2.7	1	0.5	1	15.2	2	62.3	0.0	23.5	0.2	0.0	4.8	8.1	1.2	0.0	0.0	100.2	23	70	7
0.5	0	3.1	1	0.2	0	14.8	1	61.8	0.0	23.6	0.2	0.0	4.7	8.1	1.2	0.0	0.1	99.7	23	70	7
0.6	1	2.4	1	0.3	0	13.8	2	62.4	0.0	23.5	0.2	0.1	4.7	8.0	1.2	0.1	0.0	100.2	23	70	7
0.9	1	3.3	1	0.6	1	15.3	2	62.1	0.0	23.5	0.3	0.0	4.6	8.1	1.2	0.0	0.0	100.0	22	71	7
0.3	0	3.1	1	0.0	0	15.7	2	61.9	0.0	23.4	0.2	0.0	4.5	8.3	1.2	0.0	0.1	99.7	22	71	7
1.1	1	2.8	1	0.3	0	13.8	2	62.3	0.0	23.6	0.2	0.0	4.6	8.1	1.2	0.0	0.0	100.0	22	71	7
0.3	1	2.0	1	0.3	0	14.1	2	62.2	0.0	23.4	0.2	0.0	4.7	8.0	1.2	0.0	0.0	99.7	23	70	7
0.3	0	2.7	1	0.5	1	13.8	2	62.4	0.0	23.4	0.2	0.0	4.6	8.0	1.2	0.0	0.0	99.9	22	71	7
0.4	0	2.7	1	0.3	0	14.5	1	62.0	0.0	23.5	0.2	0.0	4.6	8.0	1.3	0.0	0.0	99.6	23	70	7
0.7	1	3.1	1	0.3	0	13.6	2	62.3	0.0	23.3	0.2	0.0	4.7	8.1	1.2	0.0	0.0	99.8	22	71	7
0.5	1	2.9	1	0.2	0	13.4	1	62.4	0.0	23.5	0.2	0.0	4.6	8.1	1.3	0.0	0.1	100.2	22	71	7
0.7	1	3.0	1	0.7	1	15.0	2	62.4	0.0	23.5	0.2	0.0	4.6	8.1	1.2	0.1	0.0	100.2	22	71	7
0.5	1	3.5	1	0.2	0	14.9	2	62.4	0.1	23.3	0.2	0.0	4.5	8.3	1.2	0.0	0.0	100.0	21	72	7
0.5	1	2.5	1	0.3	0	13.4	2	62.4	0.0	23.4	0.2	0.0	4.5	8.0	1.3	0.0	0.0	99.8	22	71	7
0.8	1	3.4	1	0.5	1	13.9	1	62.4	0.0	23.4	0.2	0.0	4.6	7.9	1.3	0.0	0.0	99.7	22	70	7
0.9	1	3.4	1	0.1	0	14.8	2	62.5	0.0	23.5	0.2	0.0	4.5	8.1	1.3	0.0	0.0	100.1	22	71	7
0.8	1	3.3	1	0.5	1	13.3	1	62.9	0.0	23.2	0.2	0.0	4.4	8.2	1.3	0.0	0.0	100.2	21	72	7
0.5	1	3.1	1	0.2	0	15.7	2	62.5	0.0	23.4	0.2	0.0	4.4	8.1	1.3	0.0	0.0	99.9	22	71	7
1.6	1	2.9	1	0.5	1	14.1	1	62.5	0.0	23.3	0.2	0.0	4.6	8.1	1.3	0.0	0.0	100.0	22	71	7
0.6	1	2.8	1	0.2	0	13.7	1	62.7	0.1	23.2	0.2	0.0	4.6	8.1	1.2	0.0	0.0	100.0	22	71	7
1.0	1	2.7	1	0.2	0	15.2	1	62.7	0.0	23.2	0.2	0.0	4.4	7.9	1.3	0.0	0.0	99.9	22	71	8
0.3	0	2.7	1	0.5	1	14.2	1	62.5	0.0	23.2	0.2	0.0	4.5	8.2	1.3	0.0	0.0	99.9	21	71	7
0.4	1	2.4	1	0.5	1	14.7	2	62.3	0.0	23.2	0.2	0.0	4.4	8.0	1.3	0.0	0.0	99.4	22	71	8
0.5	1	3.0	1	0.2	0	13.5	1	62.6	0.0	23.1	0.2	0.0	4.5	8.1	1.3	0.0	0.0	99.8	22	71	7
0.6	1	3.7	1	0.7	1	13.2	1	62.5	0.0	23.3	0.2	0.0	4.5	8.1	1.3	0.0	0.0	99.8	22	71	7
0.2	0	2.9	1	0.2	0	14.3	1	62.9	0.0	23.1	0.2	0.0	4.5	8.1	1.3	0.0	0.0	100.2	22	71	7
0.9	1	2.8	1	0.2	0	14.5	1	62.5	0.0	23.1	0.2	0.0	4.5	8.0	1.3	0.0	0.0	99.7	22	71	8
0.7	1	3.0	1	0.2	0	14.4	2	62.6	0.0	23.3	0.2	0.0	4.5	8.2	1.3	0.0	0.0	100.1	22	71	7
0.3	0	3.2	1	0.2	0	16.7	1	62.7	0.0	23.1	0.2	0.0	4.4	8.2	1.3	0.0	0.0	99.9	21	72	8
0.2	0	3.2	1	0.2	0	14.4	1	63.3	0.0	22.9	0.2	0.0	4.2	8.2	1.4	0.0	0.0	100.1	20	72	8
0.6	1	2.9	1	0.2	0	15.0	2	62.8	0.0	22.9	0.2	0.0	4.1	8.3	1.4	0.0	0.0	99.6	20	72	8
0.0	0	2.5	1	0.5	1	13.1	1	62.8	0.0	23.2	0.2	0.0	4.3	8.1	1.3	0.1	0.0	100.0	21	71	8
1.0	1	3.5	1	0.2	0	12.9	1	63.0	0.0	23.3	0.2	0.0	4.5	8.0	1.3	0.0	0.0	100.3	22	71	8

grain 25 - Line 1

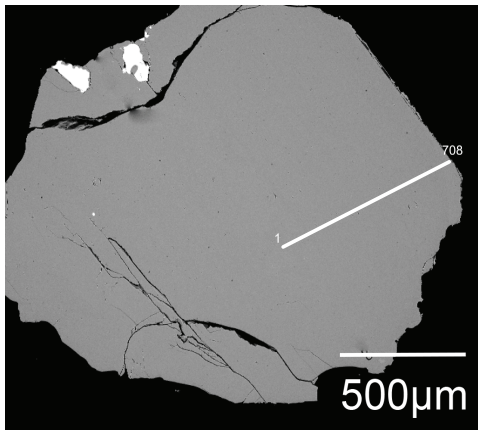


Fig. B21. BSE image of plagioclase grain 25 with trace element line 1 (by LA-ICP-MS) indicated.

grain 25 - Line 2

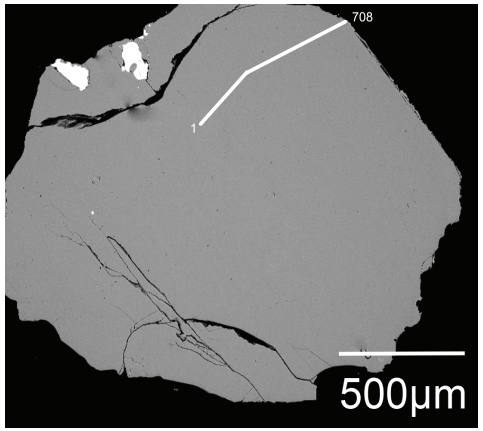


Fig. B22. BSE image of plagioclase grain 25 with trace element line 2 (by LA-ICP-MS) indicated.

Table B23: continued

core	359	18.3	2	19.4	1	62577	2609	33.8	7	138034	5226	9520	331	33207	1707	55.6	11	6296	2352	3.9	1	118.1	5	259.1	24	32.5	2	35.4	2	2.0	0	6.3	2	0.7	1	2.9	1	0.6	1	15.3	1	62.5	0.0	23.3	0.2	0.0	4.6	8.1	1.3	0.1	0.0	100.1	22	70	8
core	364	20.5	2	18.3	1	61195	3418	35.9	9	134428	7674	9457	572	33727	2996	53.6	10	11778	2435	4.1	1	114.7	8	244.0	17	32.4	3	33.5	2	2.2	0	5.0	2	0.5	1	2.3	1	0.3	1	15.5	2	62.5	0.0	23.3	0.2	0.0	4.5	8.0	1.3	0.0	0.0	99.9	22	70	8
core	369	19.6	2	19.9	1	65386	3090	30.9	7	143637	6500	10124	438	35380	2084	54.3	8	2418	313	3.5	1	120.1	6	270.4	28	32.5	2	35.1	2	2.4	0	6.7	2	0.3	0	3.6	1	0.2	0	16.3	2	62.5	0.0	23.3	0.2	0.0	4.5	8.1	1.4	0.0	0.0	100.0	22	71	8
core	374	20.5	2	19.6	1	63494	3474	27.3	7	139459	7443	10004	505	35552	2823	50.9	9	1937	176	3.3	1	117.4	7	263.7	21	33.2	3	32.8	3	2.3	0	7.0	2	0.8	1	3.2	1	0.4	1	15.8	2	62.6	0.0	23.1	0.2	0.0	4.4	8.0	1.4	0.0	0.0	99.8	22	70	8
core	379	21.1	2	18.9	1	63548	2501	29.1	6	141599	6640	9942	497	33674	2035	56.8	8	1880	147	3.6	1	117.6	5	280.4	23	35.9	3	32.5	2	2.6	1	6.8	2	1.0	1	3.1	1	0.6	1	16.2	2	63.1	0.0	23.4	0.2	0.0	4.4	8.1	1.4	0.0	0.0	100.5	21	71	8
core	384	19.6	2	18.5	2	60513	3113	26.6	8	133586	7619	9366	500	32999	1939	51.9	6	1820	135	3.4	1	111.3	7	261.6	30	32.3	3	34.8	3	2.4	1	4.6	1	0.4	0	2.0	1	0.2	0	15.2	2	62.7	0.0	22.8	0.2	0.0	4.4	8.0	1.4	0.1	0.0	99.5	21	71	8
core	389	19.3	2	18.6	1	59669	2697	30.8	7	132561	5130	9448	418	33644	1841	52.1	8	1784	124	3.5	1	110.8	5	243.0	16	30.0	2	30.3	2	2.1	0	6.6	2	0.2	0	2.6	1	0.6	1	15.4	1	62.8	0.0	23.2	0.2	0.0	4.4	8.1	1.3	0.1	0.0	100.1	21	71	8
core	394	18.8	1	19.8	1	64709	8233	31.4	8	135566	5878	9635	415	33956	1796	58.4	13	1912	122	3.2	0	109.2	5	253.6	20	32.8	2	31.2	3	2.3	0	5.7	2	0.6	1	3.2	1	0.2	0	14.2	2	62.6	0.0	23.4	0.2	0.0	4.4	8.1	1.4	0.0	0.0	100.1	21	71	8
core	399	20.0	2	19.3	1	60435	3372	28.0	6	133190	6466	9649	453	35073	2088	53.0	7	1849	118	3.2	1	107.0	6	252.4	24	30.3	2	31.4	3	2.5	0	6.4	2	0.3	0	3.3	1	0.4	1	14.2	1	63.1	0.0	23.3	0.2	0.0	4.5	8.1	1.4	0.0	0.0	100.7	22	71	8
core	404	18.9	2	19.4	1	59906	1953	31.2	6	131531	4717	9374	326	32916	1935	48.2	10	1749	139	2.9	1	106.6	6	241.8	16	29.3	2	30.4	2	2.4	0	5.4	2	0.0	0	3.6	1	0.2	0	15.5	2	63.0	0.0	23.2	0.2	0.0	4.4	8.1	1.4	0.0	0.0	100.3	21	71	8
core	409	20.5	2	18.9	1	60209	2893	22.7	6	131498	6333	9406	508	32248	2230	50.1	11	1724	128	3.6	1	106.7	7	232.4	19	28.7	3	31.6	2	2.3	1	6.2	2	0.3	0	2.4	1	0.7	1	14.0	1	62.5	0.0	23.3	0.2	0.0	4.5	8.1	1.3	0.0	0.0	100.1	22	71	8
core	414	21.6	2	19.2	1	63903	6183	29.1	5	134620	5359	9659	438	32367	2462	47.7	8	1903	147	2.7	0	106.0	5	241.6	14	30.6	2	32.1	3	2.3	1	4.7	2	0.5	1	3.3	1	0.2	0	14.2	1	62.7	0.0	23.3	0.2	0.0	4.5	8.1	1.4	0.0	0.0	100.2	22	70	8
core	419	18.7	2	19.6	1	61454	3119	33.2	9	135820	7792	9842	558	32496	2512	53.2	8	1798	109	3.6	1	106.0	6	231.8	20	28.9	2	31.7	3	2.0	0	6.6	2	0.3	0	2.8	1	0.6	1	14.9	2	62.8	0.0	23.3	0.2	0.0	4.4	8.3	1.3	0.0	0.0	100.2	21	71	8
core	424	19.9	2	18.9	1	59928	3354	28.6	7	130326	7680	9702	580	30996	2387	52.4	7	1919	207	3.4	1	100.5	7	219.3	22	29.3	3	28.4	2	2.3	0	6.4	2	0.0	0	3.1	1	0.3	0	14.0	2	62.1	0.0	23.2	0.2	0.0	4.3	8.0	1.4	0.0	0.0	99.3	21	71	8
core	429	20.4	2	19.3	1	61074	3263	28.8	6	133335	6870	9803	502	32819	2410	57.9	10	1826	145	3.4	1	102.7	6	239.0	18	29.3	3	29.1	3	2.1	1	6.9	2	0.6	1	2.8	1	0.4	1	15.3	2	62.7	0.0	23.3	0.1	0.0	4.4	8.1	1.4	0.0	0.0	100.1	21	71	8
core	434	22.2	2	20.4	1	63912	2981	34.0	5	137814	6250	10208	522	34533	1876	58.1	8	1897	146	3.7	1	109.1	5	227.3	20	29.6	2	30.6	3	2.3	1	4.8	2	0.2	0	2.4	1	0.2	0	15.2	1	63.1	0.0	23.2	0.2	0.0	4.4	8.1	1.4	0.0	0.0	100.4	21	71	8
core	439	20.5	3	19.7	1	62250	3472	34.4	7	134545	6314	9983	529	32771	1917	53.6	12	1912	120	3.7	1	104.7	6	225.7	17	27.8	2	30.9	2	1.8	0	7.1	3	0.7	1	3.2	1	0.4	1	13.9	2	63.0	0.0	23.3	0.2	0.0	4.5	8.1	1.3	0.0	0.0	100.5	22	71	8
core	444	20.9	2	19.5	1	58759	2255	20.9	4	131712	5748	9890	390	33167	2275	51.3	8	1807	163	3.7	1	100.5	6	206.9	14	28.3	3	28.0	2	2.0	1	7.3	2	0.2	0	3.2	1	0.2	0	14.1	1	62.7	0.0	23.4	0.2	0.0	4.4	8.1	1.3	0.0	0.0	100.1	21	71	8
core	449	20.3	2	20.4	1	62597	3365	28.3	7	134845	5722	10024	434	33448	2130	53.8	7	1879	186	3.6	1	98.3	5	207.9	17	26.0	2	28.8	2	1.8	0	5.5	2	0.0	0	2.9	1	0.3	0	14.5	2	62.9	0.0	23.2	0.2	0.0	4.4	8.1	1.4	0.0	0.0	100.2	21	71	8
core	454	19.7	2	19.6	1	60924	3800	23.1	3	132462	9383	9910	556	32341	1928	38.7	8	1737	162	3.8	1	98.6	7	204.8	15	27.0	2	27.9	3	2.0	0	6.1	2	0.1	0	2.8	1	0.0	0	14.4	1	62.8	0.0	23.3	0.2	0.0	4.3	8.2	1.3	0.0	0.0	100.2	21	72	8
core	459	20.6	2	20.2	1	60248	2886	27.0	7	130447	5653	9846	500	31398	2009	46.2	7	1756	125	3.3	1	97.1	5	201.9	20	25.6	2	25.4	1	2.0	0	4.5	2	0.5	1	2.7	1	0.2	0	13.8	1	62.9	0.0	23.2	0.1	0.0	4.4	8.2	1.4	0.0	0.0	100.2	21	71	8
core	464	20.8	2	20.3	1	60067	3434	26.5	9	132034	7481	9815	639	31999	1541	46.5	8	1698	198	3.4	1	93.8	6	211.6	19	25.8	3	26.5	3	1.9	0	6.2	2	1.1	1	2.8	1	0.3	0	14.4	2	63.2	0.0	23.4	0.2	0.0	4.4	8.0	1.3	0.0	0.0	100.5	21	71	8
core	469	20.3	2	20.3	2	60181	3514	31.4	9	129526	8128	10045	593	32150	2348	51.2	8	1844	150	3.6	1	92.0	7	205.2	17	26.2	2	27.1	3	2.1	0	5.8	2	0.5	1	2.2	1	0.4	0	14.9	1	62.6	0.0	23.1	0.2	0.0	4.6	8.1	1.3	0.0	0.1	99.9	22	71	8
core	474	22.5	2	22.3	1	64236	3859	32.1	8	139259	7750	10720	560	33284	2216	43.3	10	1849	134	4.0	1	97.2	6	210.8	21	26.5	2	28.8	3	2.2	0	7.5	2	0.5	1	2.9	1	0.2	0	15.0	1	63.3	0.0	23.0	0.2	0.0	4.4	8.3	1.4	0.0	0.0	100.5	21	71	8
core	479	22.2	2	20.3	1	59168	2823	30.2	6	129846	5747	9931	459	31023	1800	46.3	9	1765	137	3.6	1	92.3	4	193.8	19	25.5	2	26.2	2	1.9	0	4.3	2	0.6	1	3.0	1	0.0	0	12.9	1	63.1	0.0	23.0	0.2	0.0	4.6	8.1	1.3	0.1	0.0	100.5	22	70	8
core	484	19.5	2	20.6	1	61432	3200	24.6	6	134892	6413	10269	670	32677	2125	47.2	7	1842	184	3.9	1	94.3	6	208.4	21	25.2	2	28.0	2	1.9	1	5.2	2	0.6	1	3.0	1	0.4	1	15.0	2	63.1	0.0	23.4	0.2	0.0	4.3	8.1	1.4	0.0	0.0	100.5	21	71	8
core	489	23.0	2	21.0	1	62420	2910	27.2	6	135517	6262	10223	479	32904	1836	54.2	10	1766	147	4.3	1	97.1	4	174.9	15	25.0	2	28.8	2	1.9	0	7.0	2	0.1	0	3.2	1	0.0	0	14.6	2	63.3	0.0	23.2	0.2	0.0	4.4	8.0	1.4	0.0	0.0	100.6	21	71	8
core	494	22.7	2	21.0	1	61814	1529	23.6	6	134981	3352	10130	295	31556	1479	44.3	8	1773	92	3.4	1	92.2	4	188.7	14	24.9	2	27.2	2	1.8	0	5.4	2	0.2	0	2.5	1	0.2	0	14.9	1	63.2	0.0	23.3	0.2	0.0	4.4	8.1	1.4	0.1	0.0	100.5	21	71	8
core	499	21.8	3	21.6	1	62610	3686	28.1	7	136099	7184	10388	571	31226	2351	48.5	7	1915	161	3.6	1	91.0	5	179.2	13	24.4	2	26.4	2	1.9	0	5.7	2	0.8	1	3.1	1	0.0	0	13.9	2	63.2	0.0	23.1	0.2	0.0	4.3	8.1	1.3	0.0	0.0	100.2	21	71	8
core	504	23.6	1	22.3	1	64254	3423	29.6	9	138583	7413	10599	535	33879	2005	51.0	8	1916	180	3.8	1	95.4	7	178.5	11	26.9	2	26.9	3	2.1	0	5.2	2	0.5	1	3.6	1	0.2	0	15.5	2	63.3	0.0	23.3	0.1	0.0	4.4	8.0	1.4	0.1	0.0	100.6	21	71	8
core	509	21.0	2	20.9	1	60039	2900	27.0	6	129442	5380	9917	388	29950	1478	41.9	8	1677	147	3.4	1	86.7	3	162.8	10	24.1	2	25.7	2	1.7	0	4.4	1	0.6	1	2.8	1	0.2	0	13.8	1	62.9	0.0	23.3	0.2	0.0	4.4	8.0	1.3	0.0	0.0	100.2	22	71	8
core	514	25.6	7	22.1	1	61299	2469	26.1	6	137232	4693	10366	395	33178	2038	44.5	8	1696	126	3.4	1	85.3	3	159.9	15	24.3	2	26.0	2	1.8	0	4.9	2	0.5	1	3.0	1	0.3	0	14.6	2	63.4	0.0	23.3	0.2	0.0	4.3	8.2	1.4	0.0	0.0	100.7	21	71	8
core	519	23.1	2	22.0	1	62102	3048	20.2	6	137651	6486	10332	588	32956	2171	46.3	10	1685	141	3.7	1	88.1	6	162.9	15	25.1	2	25.7	2	2.1	1	5.1	2	0.2	0	2.5	1	0.0	0	14.7	2	63.0	0.0	23.0	0.2	0.0	4.2	8.1	1.4	0.0	0.1	99.9	20	72	8
core	524	23.2	3	21.7	1	61462	2579	26.6	6	132283	5611	10021	412	30885	1370	46.8	6	1647	171	3.2	1	83.1	5	147.7	16	25.9	3	27.1	2	2.4	0	4.6	2	1.3	1	2.7	1	0.6	1	15.9	2	63.3	0.0	23.0	0.2	0.0	4.3	8.1	1.4	0.0	0.0	100.3	21	71	8
core	529	21.3	1	20.8	1	59135	2720	25.1	7	129858	6197	9921	579	30436	1830	49.5	7	1659	142	3.3	1	76.9	4	147.6	14	23.3	2	25.6	2	1.7	1	4.4	1	0.2	0	1.7	1	0.2	0	13.8	1	63.6	0.1	23.1	0.2	0.0	4.2	8.1	1.4	0.1	0.0	100.8	20	71	8
core	534	23.7	3	22.7	1	63232	2774	27.2	6	137459	6645	10547	467	32202	1896	48.9	7	1774	137	4.4	1	81.7	3	138.6	12	24.4	2	25.7	2	1.6	0	4.5	2	0.4	0	2.4	1	0.5	1	15.7	1	63.3	0.0	23.0	0.2	0.0	4.2	8.0	1.4	0.0	0.0	100.1	21	71	8
core	539	22.2	2	22.4	1	62477	2099	28.5	4	137181	4845	10328	433	34031	2040	48.5	9	1823	89	3.7	1	80.6	4	134.3	16	24.2	2	27.5	2	1.7	0	5.7	2	0.2	0	1.9	1	0.2	0	15.9	1	63.8	0.0	23.3	0.2	0.0	4.1	8.2	1.5	0.1	0.0	101.2	20	72	8
core	544	23.5	2	22.6	1	60182	2213	28.0	9	134015	5966	10388	370	32805	1394	41.2	9	1707	106	4.1	1	78.4	4	150.3	16	24.7	2	26.8	2	1.7	0	5.0	2	0.2	0	2.3	1	0.2	0	13.8	1	63.7	0.0	22.7	0.2	0.0	4.2	8.1	1.4	0.0	0.0	100.4	20	71	8
core	549	22.5	2	22.2	1	59966	3127	25.5	6	131962	5225	10034	482	31580	2300	52.2	8	1731	124	3.8	1	73.3	5	121.2	15	24.8	2	24.5	2	1.7	1	4.6	2	0.1	0	1.6	1	0.0	0	14.8	1	63.5	0.0	23.0	0.2	0.0	4.3	8.2	1.4	0.0	0.0	100.6	21	71	8
core	554	22.8	2	21.9	1	59053	3020	22.7	5	130546	6678	9741	442	31292	2031	48.5	8	1677	117	4.1	1	72.3	3	124.4	15	24.2	3	26.1	3	1.6	0	5.2	1	0.8	1	2.4	1	0.2	0	15.1	1	63.1	0.0	22.8	0.2	0.0	4.3	8.2	1.5	0.0	0.0	100.0	21	71	8
core	559	22.5	2	22.0	1	59740	2923	20.2	5	130363	5785	10032	493	31684	2208	48.7	9	1725	101	3.9	1	72.0	2	116.9	10	23.8	2	25.9	2	1.8	0	4.9	2	0.8	1	2.7	1	0.5	1	14.4	1	63.0	0.1	22.7	0.2	0.0	4.3	8.2	1.4	0.1	0.0	100.0	21	71	8
core	564	23.8	2	23.4	1	64636	2603	24.8	6	142130	5501	11027	415	33413	1820	57.5	10	1950	175	4.3	1	78.4	3	119.2	11	24.1	2	28.3	1	1.6	0	4.2	2	0.7	1	2.1	1	0.4	1	15.1	2	63.5	0.0	23.1	0.2	0.0	4.3	8.2	1.4	0.0	0.0	100.7	21	71	8
core	569	24.9	3	22.3	1	60100	2576	25.8	6	132073	5485	10273	398	29634	1699	46.2	9	1775	132	3.8	1	68.4	3	112.1	11	23.4	2	25.2	2	1.5	0	6.5	2	0.3	0	2.1	1	0.2	0	13.5	1	63.5	0.0	22.6	0.2	0.0	4.1	8.2	1.5	0.1	0.0	100.1	20	72	8
core	574	23.1	2	22.9	1	62015	3609	23.9	6	134492	6964	10339	651	31468	1979	42.6	7	1753	167	3.7	1	68.5	4	110.8	11	23.3	2	23.8	2	1.8	0	4.6	2	0.8	1	1.8	0	0.5	1	15.1	1	63.6	0.0	22.9	0.1	0.0	4.2	8.1	1.5	0.0	0.0	100.4	20	71	9
core	579	21.6	3	23.0	1	60375	2417	30.4	6	133044	5817	10394	378	31078	1609	45.3	10	1781	139	3.7	1	63.6	4	101.3	10	22.9	2	24.0	2	1.9	0	5.4	2	0.3	0	1.6	1	0.8	1	14.3	1	63.2	0.0	22.8	0.2	0.0	4.1	8.1	1.5	0.0	0.0	100.0	20	72	9
core	584	23.8	2	23.6	1	62367	3102	23.8	5	137108	6606	10838	519	32688	1713	50.5	9	1780	133	4.0	1	66.5	5	105.0	9	23.5	2	26.9	2	1.5	0	5.3	2	0.3	0	2.1	1	0.4	1	16.7	2	63.5	0.0	22.9	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.4	21	71	8
core	589	22.1	3	23.5	1	62705	3321	20.9	6	140048	8186	10940	619	33061	2291	45.8	8	1822	175	4.2	1	63.3	4	101.4	14	24.3	2	26.6	2	1.7	0	4.8	2	0.3	0	2.6	1	0.2	0	15.9	1	63.3	0.0	22.8	0.2	0.0	4.2	8.2	1.5	0.0	0.0	100.3	20	71	8
core	593	25.3	2	22.8	1	61078	2975	25.5	6	136760	6845	10759	541	31766	2192	49.0	12	1763	152	4.0	1	63.4	5	96.9	11	23.1	2	24.0	2	1.7	1	4.6	1	0.5	1	1.9	1	0.2	0	15.2	2	63.1	0.0	22.9	0.2	0.0	4.2	8.2	1.4	0.0	0.0	100.1	20	71	8
core	598	21.5	3	23.1	1	62417	2909	26.8	6	137325	6946	10830	534	30957	2241	43.5	10	1646	161	3.9	1	57.7	4	77.4	10	22.6	1	23.8	2	1.6	0	4.1	1	0.3	0	2.0	1	0.4	1	14.8	1	63.5	0.0	23.0	0.2	0.0	4.1	8.1	1.5	0.0	0.0	100.4	20	71	8
core	603	23.2	2	22.8	1	61397	3062	25.7	5	131576	5597	10689	444	30915	1961	42.2	8	1645	166	4.2	1	54.1	3	84.2	9	22.0	3	22.5	2	1.7	0	5.0	2	0.5	0	1.8	1	0.5	1	14.4	1	63.2	0.0	22.9	0.1	0.0	4.2	8.1	1.5	0.1	0.0	100.1	20	71	9
core	608	23.8	3	22.5	1	65395	7896	26.2	5	132054	6871	10923	582	30305	1686	37.9	8	1707	159	4.3	1	57.7	4	75.4	9	24.8	3	25.2	2	1.4	0	5.3	2	0.6	1	1.3	1	0.4	1	15.1	1	63.3	0.0	23.0	0.2	0.0	4.3	8.1	1.5	0.1	0.0	100.6	21	71	9
core	613	23.0	3	23.2	1	62701	3243	30.0	5	136971	7750	11002	598	32464	2207	48.3	9	1712	158	4.4	1	59.4	4	69.1	9	22.7	2	23.8	3	1.7	0	4.9	1	0.5	1	1.4	1	0.3	0	15.8	2	63.3	0.0	22.8	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.1	20	71	9
core	618	20.6	2	21.4	1	60043	2491	25.2	7	131528	4720	10602	426	30217	1665	40.0	8	1599	152	3.9	0	54.5	4	67.9	8	22.5	2	23.1	3	1.5	0	3.5	1	0.5	1	2.3	1	0.4	1	15.5	1	63.4	0.0	23.1	0.2	0.0	4.2	8.2	1.5	0.0	0.0	100.7	20	71	9
core	623	22.9	2	22.1	1	61319	2608	22.0	5	134097	5199	10967	519	30771	1804	48.5	10	1720	125	3.9	1	53.8	3	59.0	10	19.9	1	22.3	2	1.5	0	4.5	2	0.2	0	1.5	1	0.0	0	14.5	2	63.2	0.0	23.2	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.4	21	71	8
core	628	20.3	2	21.0	1	60726	2663	21.1	5	131696	6338	10861	421	29194	1492	40.3	8	1426	121	4.2	1	52.6	2	52.2	6	18.4	1	20.8	2	1.1	0	4.5	2	0.3	0	1.0	0	0.2	0	13.2	2	63.3	0.0	23.0	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.3	20	71	9
core	633	21.7	2	20.8	1	62724	1804	18.6	7	133652	3673	11445	262	27384	969	38.0	9	1751	90	4.3	1	51.9	3	45.4	8	18.7	2	19.7	2	1.4	0	4.2	1	0.5	1	1.5	1	0.4	1	15.9	2	63.3	0.1	22.8	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.1	21	71	8
core	638	22.3	3	20.3	1	62515	2822	19.5	6	133271	5631	11279	579	29001	1760	41.6	9	1521	118	3.8	1	51.3	3	44.2	5	17.7	2	19.3	2	1.6	0	5.5	3	0.8	1	1.5	0	0.4	1	13.8	1	63.3	0.0	23.2	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.6	20	71	9
core	643	21.9	2	20.4	1	67362	5989	24.8	5	135906	6400	11782	550	30108	2025	33.4	9	1619	101	5.0	1	51.9	4	43.4	7	17.8	2	19.8	2	1.2	0	3.0	1	0.3	0	1.2	1	0.5	1	17.1	2	63.4	0.0	23.0	0.2	0.0	4.1	8.2	1.5	0.0	0.0	100.4	20	71	9
core	648	20.7	3	19.5	1	60919	1620	29.0	7	131404	3992	11653	340	27927	1522	37.6	6	1550	120	4.7	1	48.9	3	46.5	8	17.4	1	17.2	2	1.3	0	4.0	2	0.5	1	1.1	1	0.0	0	14.0	1	63.5	0.0	23.0	0.2	0.0	4.1	8.2	1.6	0.0	0.0	100.5	20	71	9
core	653	20.5	2	19.0	1	61909	1856	27.8	7	131924	4049	11794	371	27979	1339	35.9	8	1598	120	4.4	1	49.0	3	40.6	7	16.8	2	18.7	2	1.4	0	3.0	1	0.3	0	1.2	1	0.2	0	14.2	1	63.3	0.0	23.1	0.2	0.0	4.1	8.1	1.5	0.0	0.0	100.3	20	71	9
core	658	18.8	2	18.4	1	63606	3170	20.2	6	135761	5932	11799	581	28489	1529	32.1	5	1628	168	4.9	1	52.3	3	43.2	6	19.0	2	20.3	2	1.5	0	3.8	2	0.3	0	1.6	1	0.4	1	14.7	2	63.2	0.0	22.8	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.0	20	71	9
core	663	20.6	3	17.3	1	63030	3023	19.0	5	136144	5566	11732	529	28960	1666	29.2	7	1563	158	4.4	1	54.3	2	31.0	6	17.3	2	21.1	3	1.3	0	3.9	2	1.0	1	1.3	1	0.2	0	15.1	2	63.7	0.0	22.9	0.2	0.0	4.0	8.1	1.6	0.0	0.0	100.4	19	71	9
core	668	15.5	1	16.1	1	62745	3284	24.0	7	132141	4549	11315	348	28508	1369	40.6	8	1484	121	4.1	1	58.3	3	34.8	5	17.0	1	18.1	2	1.5	0	4.2	2	0.3	0	1.9	0	0.3	0	15.1	1	63.2	0.0	22.8	0.2	0.0	4.0	8.2	1.6	0.0	0.0	100.0	19	72	9
rim	673	14.9	2	16.0	1	62127	3516	20.4	5	133335	6558	11661	600	28980	2505	36.4	9	1661	269	4.2	1	61.9	4	30.6	5	15.5	2	18.0	2	1.2	0	4.3	2	0.9	1	1.7	1	0.2	0	15.9	2	63.9	0.0	22.8	0.2	0.0	3.9	8.1	1.6	0.0	0.0	100.5	19	72	9
rim	678	14.3	2	15.2	1	63829	2835	21.9	6	133460	5101	11625	461	29581	2043	33.4	7	1471	74	4.3	1	64.5	4	33.2	5	16.2	2	17.0	1	1.4	0	3.7	1	0.6	1	1.5	0	0.0	0	15.0	1	63.4	0.0	22.9	0.1	0.0	4.0	8.1	1.6	0.0	0.0	100.2	19	71	9
rim	683	14.8	2	14.7	1	62577	2767	18.6	5	135044	6108	11955	578	29589	1436	38.6	7	1409	129	5.4	1	68.9	5	31.2	7	15.8	2	17.6	2	1.3	0	4.0	1	0.2	0	1.7	1	0.0	0	15.0	2	63.8	0.0	23.1	0.2	0.0	4.1	8.1	1.6	0.0	0.0	100.8	20	71	9
rim	688	13.1	2	12.9	1	61934	2960	26.5	6	133133	6528	11739	548	29924	2083	37.5	6	1524	97	4.6	1	73.3	4	36.3	6	15.8	1	16.2	1	1.1	0	4.6	2	0.7	1	1.6	1	0.0	0	14.8	2	63.8	0.0	23.1	0.2	0.0	4.2	8.1	1.6	0.1	0.1	101.1	20	71	9
rim	693	11.1	2	11.5	1	63061	6199	21.3	5	127594	5004	11719	485	28449	2091	32.7	7	1436	142	4.1	1	76.3	5	39.3	6	14.3	1	16.2	1	1.2	0	4.1	1	0.4	0	1.9	1	0.2	0	13.6	1	63.8	0.0	22.9	0.2	0.0	3.8	8.3	1.6	0.0	0.0	100.6	19	72	9
rim	698	12.0	1	11.1	1	63256	3034	21.9	6	136313	5279	12210	531	29142	2367	36.7	7	1505	107	5.2	1	85.7	5	36.4	6	15.1	2	16.2	1	1.6	0	3.3	1	0.3	0	1.3	0	0.2	0	14.9	1	63.7	0.0	22.9	0.1	0.0	3.8	8.3	1.6	0.0	0.0	100.5	18	72	9
rim	703	10.1	1	9.8	1	62200	2877	14.6	5	129376	5931	12081	505	27476	1696	38.7	8	1431	121	4.8	1	90.5	5	48.2	8	15.2	2	15.3	1	1.2	0	3.6	1	0.0	0	2.8	1	0.4	0	14.0	2	64.1	0.0	22.9	0.2	0.0	3.8	8.4	1.6	0.0	0.0	100.9	18	73	9
rim	708	8.9	1	8.8	1	61363	2252	20.7	6	129303	4443	12209	444	26672	1716	37.3	8	1582	124	5.2	1	99.4	6	79.9	13	13.5	2	15.0	1	1.1	0	3.3	1	0.0	0	3.0	1	0.2	0	13.3	1	64.0	0.0	22.8	0.2	0.0	3.8	8.3	1.7	0.0	0.0	100.7	18	72	9

Table B23: Plagioclase grain 25 - Line 2

	Distance	Li^6 ppm	2SD	Li^7 ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	1	17.9	2	18.4	2	62663	5269	41.5	9	129185	11319	7480	701	36708	3016	68.1	15	2084	168	2.8	1	136	10	245	26	35.2	3	37.1	4	2.6	0	7.0	2
core	5	20.4	2	19.9	2	63341	3612	39.3	9	138135	7404	7422	486	37712	2248	56.2	10	2241	189	3.0	0	146	8	256	19	35.1	3	37.1	3	2.5	0	6.6	2
core	10	22.3	3	19.9	1	67196	3993	49.2	7	145702	7086	7983	445	38095	2101	76.6	11	2305	168	2.9	1	155	8	277	18	37.7	2	39.2	3	3.0	1	8.1	2
core	15	20.2	3	19.3	2	64138	4916	32.5	6	136931	9012	7661	504	36148	3171	68.6	10	2122	179	2.7	0	139	9	258	26	34.5	3	36.2	3	2.3	1	8.3	2
core	20	20.4	2	20.4	1	65686	2728	30.9	7	144350	7308	8464	375	37913	2360	72.6	10	2249	196	3.4	0	153	9	275	23	35.2	2	37.0	3	2.5	0	8.2	2
core	25	17.9	2	19.2	2	61297	3799	38.4	7	134652	7628	7499	393	34716	2602	81.8	9	2044	175	2.5	0	132	10	244	20	30.3	2	33.8	3	2.2	0	6.4	1
core	30	20.3	3	19.7	1	65441	2310	39.9	7	144971	6472	8101	414	36952	1866	78.8	12	2183	167	3.2	0	145	6	260	14	34.6	2	38.9	3	2.7	0	7.0	2
core	35	20.8	2	19.3	1	64596	3690	29.6	6	145352	7979	7963	456	37192	2608	77.1	11	2313	207	2.9	0	144	7	272	23	35.3	3	40.9	3	2.5	0	7.5	2
core	40	18.4	2	19.4	1	63635	3712	40.5	9	146573	10005	7761	486	39346	2932	64.8	9	2157	191	3.0	1	147	10	259	27	33.7	3	39.6	3	2.8	1	9.5	2
core	45	20.9	3	19.1	2	63926	4206	41.5	6	142198	8761	7721	452	37092	2171	75.7	10	2236	205	2.8	1	145	9	247	20	36.6	3	40.5	2	2.6	0	7.1	2
core	50	18.8	2	17.9	1	61397	2971	43.0	7	137523	6735	7358	383	37513	2277	71.6	11	2232	184	2.6	0	140	8	242	20	36.4	3	38.7	3	2.2	1	8.4	2
core	55	19.6	3	18.5	1	62596	3721	41.0	12	143199	8027	7520	369	39120	2747	71.6	13	2219	214	3.5	1	143	9	253	22	37.2	4	38.5	3	2.8	0	7.7	2
core	60	19.3	2	19.0	1	62427	3288	40.0	7	140878	6535	7708	434	39843	2230	64.0	10	2294	230	2.4	1	145	8	263	20	36.4	3	40.4	3	3.0	0	6.6	2
core	65	20.1	2	19.0	1	64522	3475	34.8	7	147561	6776	7986	461	38440	1958	71.7	13	2368	158	3.5	0	149	9	256	20	38.0	2	41.8	3	3.1	0	6.3	2
core	70	19.3	2	19.9	2	63209	3357	37.3	7	144531	6865	7863	411	39753	2019	69.1	10	2256	178	2.8	1	145	9	265	18	35.3	2	39.0	3	2.8	0	6.8	2
core	75	20.2	2	18.2	1	61604	2487	37.5	9	141400	6035	7508	376	37701	2662	53.8	10	2225	125	2.7	1	137	8	247	19	35.5	3	36.2	4	2.2	0	7.5	1
core	80	18.5	1	19.3	1	62442	2053	42.2	7	145737	4901	7515	303	39057	1419	56.0	10	2395	122	3.0	1	148	6	259	20	35.2	2	39.3	2	2.4	0	8.9	2
core	85	19.9	2	19.8	2	60366	3314	39.2	6	139163	7309	7395	395	37361	2386	65.1	12	2263	143	3.0	1	140	7	249	19	35.6	3	39.0	3	2.6	0	7.7	2
core	90	19.3	2	18.5	1	62944	2825	46.4	7	144800	5907	7685	328	38865	2057	76.2	11	2191	156	3.3	1	144	7	251	16	36.7	3	41.2	3	2.9	0	6.5	2
core	95	21.3	2	18.9	2	62693	3817	39.5	10	142933	7624	7800	494	38501	2431	58.0	11	2408	236	2.7	1	141	9	251	17	35.5	3	38.4	3	2.3	1	9.0	2
core	100	18.5	2	18.7	1	62151	3173	37.7	6	144507	6919	7803	364	38559	2374	63.2	12	2386	142	2.9	1	147	7	253	26	36.1	3	39.4	3	2.4	1	7.3	2
core	105	20.4	1	19.9	1	68133	3154	42.5	9	150787	6390	7866	336	38726	1756	61.5	12	2404	174	3.3	1	150	7	260	16	36.9	3	40.5	3	2.7	0	7.5	2
core	110	20.3	3	19.4	1	65548	3889	49.8	10	146820	9295	7853	407	37567	2725	71.2	12	2293	216	2.7	0	146	8	258	23	35.5	3	37.2	3	2.5	1	8.8	2
core	115	17.5	2	18.4	1	60261	1916	40.4	6	137931	5545	7616	229	37418	2349	61.6	7	2201	170	2.7	1	139	5	239	19	33.5	3	35.6	3	2.0	0	6.4	2
core	120	19.1	2	20.4	2	62836	2897	36.7	6	145629	7172	8116	439	39644	2995	62.4	8	2422	222	2.8	0	144	8	248	20	35.8	3	38.4	3	2.2	0	9.0	2
core	125	19.3	3	19.1	2	62154	3933	35.3	6	141103	7219	7722	405	39103	2340	65.0	8	2230	228	3.0	0	137	9	247	19	32.8	3	38.9	3	2.3	1	6.7	2
core	130	19.6	2	18.5	1	62584	4292	46.5	10	142608	9813	7904	602	39600	3430	61.6	9	2377	236	3.0	1	137	10	244	25	34.1	3	37.2	3	2.7	0	7.7	2
core	135	18.0	2	21.4	2	65677	3133	41.0	7	152303	8547	8382	539	40029	2437	74.4	14	2397	129	3.3	0	140	7	257	20	35.9	3	39.8	3	2.7	1	8.8	2
core	140	20.7	2	19.4	2	62584	3619	41.9	9	141954	6941	7714	381	36097	1724	72.7	11	2246	179	2.7	0	136	7	248	18	33.1	2	37.3	3	2.7	0	8.1	2
core	145	19.9	2	19.3	1	63810	3666	38.6	8	143730	8238	7991	424	36808	2534	57.8	9	2346	206	3.0	1	137	10	238	17	34.5	3	36.7	3	2.5	1	8.1	3
core	150	20.5	2	19.6	1	64339	2864	41.5	8	148265	8272	8146	488	38863	2085	55.9	9	2461	166	3.2	0	136	8	251	20	33.6	2	38.0	2	1.8	0	6.3	2
core	155	20.2	3	19.3	1	62530	2707	39.1	8	141746	6115	7902	371	38157	1805	57.6	8	2281	190	2.9	1	133	7	233	15	31.7	3	35.7	3	2.4	0	5.7	1
core	160	22.8	3	20.2	1	65033	3604	42.3	7	150436	7120	8110	393	39344	2215	62.5	8	2622	313	3.5	0	145	9	241	18	35.3	2	38.7	4	2.3	1	8.0	2
core	165	18.6	2	18.7	1	62488	4044	33.8	7	142085	7635	7738	346	37805	2521	61.8	9	2316	232	3.1	1	135	8	229	23	34.2	3	35.5	3	2.9	1	8.0	2
core	170	19.2	2	18.4	1	62099	3412	31.3	6	142935	8591	7983	435	37805	2484	54.0	9	2254	206	3.1	1	135	10	231	17	32.4	2	36.9	4	2.2	1	6.4	2
core	175	18.0	2	18.6	1	61572	3452	28.0	6	139889	7287	7906	424	35630	2295	61.3	7	2230	219	3.3	1	130	7	224	18	32.4	3	35.2	3	2.5	1	6.5	2
core	180	19.3	3	18.6	2	61124	3980	44.1	10	140256	10083	7812	565	36392	2821	54.0	10	2341	268	2.8	1	128	10	233	22	31.8	3	34.2	2	2.4	1	6.4	2
core	185	20.4	3	17.9	1	60942	3415	40.9	8	137653	7525	7803	499	37145	2073	56.6	10	2321	177	3.5	1	127	7	229	25	32.3	2	32.4	2	2.3	1	6.4	2
core	190	21.3	3	20.0	1	65999	3335	34.8	7	149647	7321	8395	392	40423	2358	61.2	10	2242	178	3.6	0	135	8	253	26	33.9	3	33.9	3	2.3	0	6.7	2
core	195	19.4	2	19.9	1	65394	6040	48.4	20	145184	6319	8279	492	37231	1782	59.1	12	2291	156	3.1	1	132	7	226	21	32.0	3	34.7	3	2.7	1	6.9	2
core	199	18.8	2	18.4	1	61120	2828	36.6	7	142058	5642	7901	325	36978	2148	54.9	11	2052	118	3.2	1	129	6	224	15	30.8	2	34.9	2	2.1	0	7.7	2
core	204	20.7	2	19.8	1	62489	2670	36.2	8	143958	7517	8175	399	36996	2493	65.9	8	2338	135	3.1	1	127	6	224	20	32.1	4	33.5	2	2.1	1	6.9	3
core	209	19.7	2	19.2	1	64331	3969	27.5	7	138508	8481	8252	513	35422	2344	55.4	13	2343	239	2.8	0	128	10	215	18	31.4	3	31.6	3	2.0	0	8.4	3
core	214	18.5	2	19.2	1	62949	2633	32.6	7	140910	6748	8259	348	36015	2006	46.2	12	2216	144	3.1	0	127	8	218	14	30.7	3	34.2	2	2.4	1	4.6	1
core	219	18.7	2	18.5	1	62055	2802	39.5	8	138690	6724	8133	377	36935	2103	53.2	9	2282	169	2.9	1	126	7	211	15	30.9	2	34.5	2	2.9	1	6.2	2
core	224	20.7	2	19.7	1	64048	2504	42.0	7	143119	5226	8141	351	37486	1959	55.9	8	2307	165	3.4	1	129	6	237	21	33.7	3	35.6	3	2.8	1	6.4	2
core	229	19.5	2	18.7	1	62975	3682	38.7	7	140169	6973	8119	394	35957	2340	53.4	11	2226	212	2.8	1	126	7	222	22	31.9	3	33.8	2	2.5	0	7.0	2
core	234	19.1	3	18.5	1	61950	2378	40.1	8	140806	4229	7958	274	36488	1857	64.7	9	2291	149	3.6	1	129	5	206	19	32.8	2	35.1	2	2.5	1	7.4	2
core	239	16.9	2	18.0	1	58649	3870	33.7	7	137003	9965	7648	570	34664	2909	56.9	8	2019	149	2.8	1	121	8	207	15	31.5	3	32.7	3	2.8	0	5.6	2
core	244	18.7	2	19.3	1	63402	2034	35.7	7	146275	4275	8444	332	35750	1594	63.6	12	2149	153	2.9	1	129	6	225	20	32.9	3	32.0	2	2.6	0	6.1	2
core	249	19.6	3	19.1	1	61939	2531	39.3	8	140115	6434	8049	329	37491	1584	53.4	6	2287	167	3.3	1	121	6	215	15	30.3	3	32.4	2	2.1	0	7.1	2
core	254	18.6	2	19.8	1	63207	1894	39.8	8	143721	4557	8468	288	35567	1415	59.9	14	2217	181	3.4	1	123	5	242	22	33.8	2	32.7	2	2.0	0	6.7	2
core	259	20.7	3	20.1	1	65150	3387	38.7	8	147586	7035	8926	398	36644	2796	47.9	9	2291	175	3.2	1	121	6	232	18	33.7	2	35.5	3	2.1	1	5.7	2
core	264	19.0	2	18.8	1	62832	2438	34.4	8	142322	5499	8541	313	36681	1754	58.3	11	2146	135	3.4	1	119	5	245	16	33.7	2	34.6	3	2.1	0	6.2	2
core	269	21.8	3	19.3	1	62573	2710	35.8	6	142136	6641	8399	339	36105	2229	59.0	9	2215	181	2.8	0	120	6	210	12	31.8	2	33.8	2	2.5	0	7.1	2
core	274	20.9	4	18.7	1	61486	3064	31.0	9	137658	7036	8324	433	34253	2235	57.1	12	2085	164	3.0	1	115	6	220	16	32.5	3	35.7	4	2.3	0	8.6	2
core	279	19.5	2	18.7	1	61381	1834	35.7	10	137199	4050	8055	286	34889	2311	61.2	13	2217	160	3.2	1	114	4	227	13	32.3	2	32.8	4	2.3	1	5.3	2
core	284	19.6	2	19.7	1	63822	2797	33.7	5	143763	6115	8498	305	36684	1998	52.2	10	2264	186	3.8	1	118	4	241	23	32.8	2	35.1	3	2.2	1	7.0	2
core	289	20.4	2	22.2	3	65467	3165	39.6	11	147355	6650	8770	409	37776	1890	56.4	11	2387	172	3.1	1	124	5	263	18	34.9	3	36.8	3	2.6	1	6.6	2
core	294	18.3	2	18.6	1	61013	3971	38.7	8	141313	8973	8053	505	35610	2667	54.6	14	2151	211	3.4	1	119	8	229	22	31.1	3	34.5	3	2.8	1	5.7	2
core	299	20.3	2	19.6	1	63730	2917	37.3	9	144223	5748	8421	366	37730	1390	54.2	7	2218	180	3.0	1	121	5	243	19	34.6	3	36.7	2	2.5	0	8.5	2
core	304	17.9	2	19.3	1	62417	2874	31.7	8	141648	6108	8248	315	35925	1671	62.7	9	2144	160	3.6	1	113	5	256	20	32.3	2	36.1	3	2.9	0	6.2	2
core	309	19.8	3	20.4	2	62130	3852	39.2	6	138280	7700	8338	501	35224	2404	59.9	11	2180	169	3.3	1	113	7	232	22	30.5	3	32.9	2	2.1	0	5.8	2
core	314	20.9	2	19.6	1	61801	1989	37.6	8	140001	5909	8538	353	34719	1788	50.1	8	2278	124	3.1	1	114	4	244	17	29.2	2	31.7	2	2.7	0	5.4	1
core	319	19.6	2	18.8	1	61168	3219	32.7	7	136238	7116	8582	413	32443	1609	53.6	7	2140	195	3.8	1	108	8	251	23	28.5	2	30.6	3	2.1	0	5.3	2
core	324	21.3	2	19.5	1	63711	3191	38.0	7	142723	7667	8940	413	36864	2635	48.4	11	2346	170	3.7	1	116	7	253	22	29.8	2	32.5	3	1.8	0	7.9	2
core	329	22.3	3	19.6	1	63934	2845	38.1	10	143090	6930	9010	317	36196	1749	52.6	8	2244	198	3.5	1	117	7	255	17	32.1	3	32.6	2	2.0	0	6.0	2
core	334	20.0	2	19.8	1	63696	2381	34.5	8	144366	5817	9142	506	36732	2464	55.0	9	2237	164	3.8	1	114	4	270	27	33.1	2	34.7	3	2.1	0	6.0	2
core	339	20.6	2	19.5	1	61526	3494	38.0	7	140838	7707	8379	526	33755	2713	53.7	11	2291	190	3.4	1	111	6	252	25	30.4	2	32.9	3	2.5	1	5.5	1
core	344	21.5	3	21.0	1	65136	3102	38.9	11	147345	6007	8883	298	37041	1783	62.0	12	2365	188	3.2	1	118	6	268	22	33.5	3	36.4	3	2.5	1	8.2	2
core	349	23.7	2	20.2	1	61445	2821	38.5	6	142877	6483	8781	411	35533	1753	55.7	8	2445	198	3.4	1	117	5	259	19	35.6	3	34.7	3	2.4	0	7.6	2

Table B23: continued

core	359	22.2	2	20.8	1	65523	2838	37.1	8	148169	6659	9022	377	36743	2422	55.9	9	2314	232	3.3	1	113	7	291	23	34.5	2	34.9	3	2.6	0	6.8	2	0.5	1	3.0	1	0.0	0	17.0	2
core	364	21.1	2	21.9	1	67176	2771	37.2	7	152218	6865	9285	438	36236	1854	51.0	10	2399	155	3.9	1	118	6	306	21	36.3	3	36.9	3	2.7	0	7.1	2	0.7	1	3.3	1	1.4	1	17.4	2
core	369	21.0	2	20.3	1	62890	3121	28.9	7	142677	5965	8829	407	35516	1727	50.9	8	2180	161	3.7	1	109	7	257	11	32.0	3	33.3	2	2.2	0	7.4	2	0.3	0	2.5	1	1.2	1	14.3	1
core	374	20.1	1	20.7	1	61967	2965	25.7	5	141434	7038	8638	387	34147	1906	53.5	9	2233	181	3.8	1	109	6	243	16	28.8	3	32.8	3	2.2	0	5.3	2	0.7	1	2.5	1	0.0	0	15.7	1
core	379	21.2	2	21.0	1	65282	3201	29.8	9	142958	7365	9060	465	33907	2169	55.0	10	2288	199	3.3	1	111	6	289	24	31.4	3	32.8	3	2.1	0	5.5	2	0.3	0	2.6	1	0.2	0	14.1	2
core	384	21.2	3	20.9	1	63400	3787	28.3	8	140275	5781	9079	498	35201	2299	57.1	8	2083	162	3.6	1	108	6	293	19	31.3	3	33.6	2	2.6	0	7.1	1	0.8	1	3.1	1	0.8	1	15.2	2
core	389	20.3	3	20.6	1	62274	2657	38.4	8	142415	4976	8913	305	34847	1877	57.0	9	2242	196	4.0	1	107	5	281	17	31.2	2	34.3	3	2.1	1	6.2	2	0.9	1	2.2	1	0.0	0	15.7	2
core	394	22.6	2	21.0	1	63989	2715	33.4	6	145750	6204	8869	409	35548	1629	61.3	9	2099	155	3.5	1	109	4	265	21	34.5	2	35.3	2	2.6	1	7.3	2	0.6	1	2.1	1	0.0	0	15.6	2
core	399	21.1	2	21.8	1	65822	2431	42.1	10	146476	5469	9008	324	36030	2338	50.2	10	2359	235	3.6	0	109	6	304	24	34.5	2	35.1	3	2.8	1	5.0	2	0.2	0	3.8	1	0.6	1	17.4	2
core	404	19.7	2	20.1	2	59623	4211	34.1	8	133824	9502	8327	533	32200	2551	45.2	7	2075	227	3.5	0	94	6	246	21	30.8	3	30.1	2	2.1	0	5.9	2	0.9	1	2.5	1	0.5	1	14.7	2
core	409	21.0	2	22.5	1	66285	3345	31.1	8	149397	7295	9219	456	35970	2376	60.2	9	2452	150	4.1	1	107	5	267	19	31.7	2	35.3	3	2.0	0	7.2	2	0.4	0	3.4	1	0.8	1	16.6	2
core	414	22.5	2	20.9	1	61856	1883	33.7	8	141435	4398	8754	303	34242	1938	50.5	8	2260	188	4.2	1	103	4	256	16	32.1	3	29.9	2	1.9	0	7.1	2	1.3	1	2.8	1	0.2	0	15.4	2
core	419	21.8	1	21.8	1	63982	2496	30.0	10	147412	5405	9144	316	36634	2092	58.3	8	2166	136	3.3	0	107	6	270	18	32.8	2	32.4	3	2.2	0	7.8	2	0.2	0	2.9	1	0.0	0	15.0	2
core	424	21.9	3	22.6	1	66436	2735	39.9	8	149616	6251	9508	410	36757	2405	61.0	8	2312	157	3.5	1	110	5	269	21	32.0	3	33.0	2	2.3	1	6.9	2	0.5	1	3.9	1	0.4	1	16.2	1
core	429	20.7	2	22.0	2	65319	4172	30.8	8	143066	9062	8894	553	36034	2838	53.8	8	2108	183	4.0	0	104	8	248	28	30.8	3	32.4	3	2.1	0	4.7	2	1.1	1	2.9	1	0.0	0	16.9	1
core	434	23.1	2	21.4	1	64112	3181	24.2	6	147062	6724	8878	463	34625	2018	55.7	11	2179	212	3.6	1	103	6	249	18	29.5	3	33.8	3	1.9	0	6.2	2	0.3	0	3.1	1	0.6	1	15.4	1
core	439	23.4	2	22.4	2	65438	2723	32.1	7	145210	7109	9037	358	35934	2117	51.4	9	2193	177	3.9	1	99	4	239	19	30.5	2	31.1	2	2.5	0	5.2	2	0.9	1	2.4	1	0.2	0	15.0	1
core	444	21.5	2	21.6	1	63443	3276	35.6	8	141436	6455	8765	313	35693	2118	45.9	10	2211	172	3.8	1	95	5	241	18	28.3	2	30.6	2	2.2	1	6.6	2	0.6	1	2.0	1	0.4	1	15.2	1
core	449	23.9	3	22.5	1	64034	3716	33.9	8	145651	7966	9128	523	37082	2327	49.4	11	2285	187	4.1	1	101	7	242	23	30.4	2	32.4	3	2.0	0	7.6	3	0.5	1	2.9	1	0.4	1	15.9	2
core	454	21.6	2	21.5	1	61509	1739	26.9	6	141222	4573	8977	414	34561	1738	49.2	7	2166	175	3.6	1	94	3	239	20	27.2	2	30.2	2	2.2	0	5.5	2	0.2	0	2.6	1	0.6	1	14.6	1
core	459	24.3	6	20.9	1	61327	3400	28.7	7	138940	7779	8859	573	32523	2164	45.2	8	1984	149	3.5	1	89	6	210	21	29.1	2	28.4	2	1.8	0	6.1	1	0.3	0	2.5	1	0.0	0	14.9	1
core	464	23.5	2	22.3	1	64812	2524	29.5	8	146199	4780	9232	407	35554	1699	47.7	8	2305	183	3.4	1	94	4	241	20	27.3	2	28.8	2	2.0	0	6.3	2	0.8	1	3.1	1	0.6	1	15.0	2
core	469	22.9	2	22.1	1	63547	2728	27.1	6	144888	5187	9193	397	34469	2082	46.2	7	2278	205	4.1	1	91	4	233	18	28.1	2	26.4	2	2.0	0	5.0	2	0.3	1	2.7	1	0.2	0	15.1	1
core	474	23.8	2	23.4	1	66003	3676	31.2	8	148056	5748	9188	304	36952	1805	45.8	7	2346	471	4.0	1	94	5	210	14	27.6	2	29.0	2	2.1	0	5.8	2	0.4	0	2.7	1	0.2	0	15.6	2
core	479	22.0	2	21.7	1	61660	1863	23.7	5	139822	4686	8868	376	33095	2215	51.9	11	2111	91	4.5	1	90	4	193	18	28.0	2	26.7	2	2.0	0	4.3	1	0.6	1	2.6	1	0.5	1	15.4	2
core	484	22.9	2	23.3	3	62551	2270	32.7	7	141078	5980	8997	326	32010	1120	46.1	9	2071	149	3.6	1	87	5	207	9	27.5	2	29.1	2	1.8	0	4.3	2	0.7	1	2.1	1	0.6	1	14.4	1
core	489	22.5	2	23.0	1	64640	2315	28.8	7	146522	4941	9275	325	34555	1599	46.5	8	2092	178	3.8	1	91	6	206	16	27.4	3	27.7	3	1.9	0	5.5	1	0.7	1	2.6	1	0.2	0	16.0	1
core	494	22.6	3	23.1	1	65298	2971	35.6	10	146022	4808	9504	317	34436	2536	48.6	8	2151	162	3.7	1	88	3	208	13	25.4	2	27.4	2	2.0	0	5.4	2	0.3	0	2.9	1	0.4	1	15.7	2
core	499	21.5	2	22.2	2	62305	3845	29.0	9	139671	8913	9000	545	32677	1861	44.2	10	2041	163	3.6	1	81	5	174	18	25.4	3	26.4	2	2.2	0	5.0	2	0.5	1	2.6	1	0.2	0	13.5	2
core	504	24.3	3	23.6	1	64819	2194	32.6	8	145772	5661	9463	415	34392	2347	54.0	8	2139	143	4.1	1	86	5	189	16	27.2	2	28.5	3	1.8	0	6.4	2	0.5	1	2.6	1	0.7	1	14.9	2
core	509	24.7	2	23.3	1	66301	3886	32.2	8	148326	8131	9396	519	34780	2384	48.4	11	2196	244	3.6	0	85	5	185	18	27.2	3	27.3	3	1.8	0	5.1	2	0.2	0	2.4	1	0.2	0	15.9	2
core	513	22.3	2	22.8	2	62884	2561	47.3	32	139407	5138	9089	367	35223	1826	47.7	8	2058	183	4.2	1	78	3	163	17	26.5	2	27.9	2	1.7	0	4.9	2	0.3	1	2.9	1	0.6	1	15.2	1
core	518	23.7	2	24.0	1	66357	2796	37.5	10	151108	5851	9660	468	37789	2358	50.8	10	2383	170	3.9	1	87	4	172	18	27.3	3	28.4	3	2.1	0	4.7	2	0.7	1	1.9	1	0.2	0	17.0	2
core	523	23.1	3	23.3	2	62756	4051	40.2	9	141653	7104	9018	495	33602	2221	36.3	9	2226	204	3.8	0	80	5	151	15	28.3	3	24.5	2	2.1	0	4.6	1	0.3	0	2.7	1	0.2	0	14.8	2
core	528	22.1	2	22.4	1	63560	2984	28.1	7	144205	6265	9025	413	33594	2211	55.4	11	2123	156	4.2	1	77	4	162	18	25.8	2	26.8	2	2.2	1	6.3	2	0.8	1	2.3	1	0.4	1	16.7	1
core	533	23.0	2	22.8	1	62539	2439	29.6	6	142079	6454	9061	459	35096	1882	44.7	9	2215	220	4.1	1	74	4	147	11	24.5	3	27.0	2	1.4	0	4.7	2	1.1	1	2.9	1	0.2	0	15.2	1
core	538	24.5	2	23.1	2	63628	3354	31.1	9	143678	8191	9299	431	35557	2807	51.2	7	2067	139	4.3	1	76	4	136	12	25.4	2	26.2	2	1.7	1	4.3	2	0.6	1	2.4	1	0.0	0	15.7	1
core	543	22.5	2	23.4	1	63414	2742	29.9	6	142172	5414	9236	343	35542	1849	44.4	8	2197	198	4.2	1	76	4	145	16	27.2	2	26.8	2	1.8	0	6.0	2	0.9	1	2.3	1	0.0	0	15.8	2
core	548	23.5	3	22.0	1	62896	1628	28.2	7	141092	4818	9121	285	34635	1852	47.2	7	2132	174	4.5	0	74	4	132	15	26.3	2	27.0	2	2.1	0	6.8	2	0.8	1	2.3	1	0.2	0	15.2	2
core	553	24.9	2	23.6	1	66667	2464	22.8	8	148514	5498	9483	272	36306	2346	44.2	6	2240	220	3.5	1	75	4	146	11	24.4	2	29.3	2	1.7	0	4.8	1	0.8	1	2.0	1	0.2	0	16.9	3
core	558	24.1	3	22.4	1	65013	4150	24.3	7	143207	4808	9195	315	34583	1748	50.5	8	2102	149	3.8	0	70	4	120	11	24.2	1	27.5	2	2.1	0	6.4	2	0.7	1	2.0	1	0.8	1	16.0	1
core	563	21.4	2	21.7	1	61618	2243	26.4	8	141346	5148	9249	351	33181	1626	46.4	6	2104	171	4.3	1	68	3	114	10	24.7	2	27.1	2	1.6	0	4.8	2	0.2	0	1.5	1	0.2	0	14.6	1
core	568	21.4	3	21.4	1	61883	3384	25.8	5	140258	7627	9222	537	33525	1859	39.8	9	2229	193	3.8	1	69	4	111	14	24.5	2	23.4	3	1.8	0	3.7	2	1.1	1	2.0	1	0.3	0	14.9	2
core	573	22.4	3	21.9	2	62140	3658	27.7	8	139330	8258	9218	544	34740	2638	38.2	7	2135	187	4.3	1	66	5	114	11	24.1	2	24.4	2	2.0	0	8.0	2	0.3	0	2.5	1	0.4	1	15.2	1
core	578	20.0	2	21.5	1	63167	2513	29.0	5	144216	6077	9435	334	34234	1863	44.3	9	2220	198	4.1	1	68	4	108	11	23.5	2	25.5	3	1.5	0	4.6	1	0.3	0	1.8	1	0.2	0	15.4	1
core	583	22.2	2	21.0	1	64645	2396	21.3	6	145864	5115	9587	376	35309	1751	57.0	13	2177	158	3.9	1	66	3	111	10	24.6	2	26.9	2	1.7	1	5.9	2	0.5	1	2.2	1	0.8	1	16.8	2
core	588	21.9	3	20.7	1	63001	2292	28.0	6	141592	5379	9417	364	33032	1607	42.2	7	2118	148	3.9	1	66	3	90	11	23.4	2	26.7	2	1.9	1	5.0	1	0.6	1	2.0	1	0.4	1	16.2	1
core	593	20.8	3	19.2	1	61639	3392	29.9	7	140638	8322	9432	502	32500	2247	42.9	8	2084	181	4.2	1	62	4	96	11	23.0	2	25.5	3	1.6	0	4.1	2	0.0	0	2.0	1	0.3	0	15.7	2
core	598	20.5	2	20.0	1	67114	3674	28.6	8	146478	8284	10232	522	33097	2646	48.2	9	2374	169	4.4	1	66	4	94	9	21.9	2	25.3	2	1.3	0	6.2	2	0.5	1	1.7	1	0.3	1	16.7	2
core	603	21.0	3	19.3	1	65659	3751	25.3	6	143188	8139	10466	649	33842	2150	43.8	9	2172	187	4.4	1	65	5	83	10	24.0	2	23.7	2	2.0	0	4.7	1	0.3	0	2.7	1	0.0	0	15.7	1
core	608	20.2	2	18.4	1	64160	3334	30.9	8	144532	7023	10254	475	33337	1943	44.3	8	2143	231	4.3	1	64	4	81	13	23.0	1	24.8	2	1.9	0	3.9	2	0.2	0	1.6	1	0.0	0	15.9	1
core	613	16.6	2	17.8	1	63473	2458	22.4	6	140479	5413	9905	448	31512	2348	48.7	8	2067	168	5.0	1	64	4	70	9	23.3	2	21.0	2	1.7	0	5.4	2	1.0	1	1.8	0	0.2	0	15.9	2
core	618	17.5	2	17.9	1	65704	2434	27.8	7	144302	4864	10203	463	33159	2036	50.0	8	2091	136	4.5	1	65	3	57	8	22.5	2	21.4	2	1.9	0	4.0	2	0.8	1	2.0	1	0.4	1	16.7	2
core	623	16.3	2	16.7	1	63792	2504	23.7	6	143138	6259	9948	445	32031	1710	34.9	6	2020	188	4.0	1	65	3	71	8	21.3	2	21.4	2	1.6	0	4.8	2	0.5	1	1.6	0	0.2	0	15.6	1
core	628	15.3	2	15.1	1	63724	2782	21.2	6	143355	6317	9876	479	32912	2076	47.2	9	2088	201	4.5	1	64	4	56	8	19.2	2	20.8	3	1.1	0	4.1	1	0.2	0	1.6	1	0.2	0	16.0	2
core	633	16.0	2	15.7	1	64681	2048	29.8	5	144192	5284	9990	263	32477	1686	31.0	6	1970	133	4.4	1	68	3	57	8	19.3	1	21.4	2	1.5	0	4.4	2	0.3	0	2.1	1	0.4	1	14.9	1
core	638	16.2	2	15.0	1	66233	2695	25.7	7	143901	5224	10291	429	32066	2253	37.0	8	2174	147	4.4	0	69	4	52	8	18.8	2	20.8	2	1.6	0	4.5	2	0.2	0	1.4	0	0.2	0	15.1	1
core	643	13.7	1	15.0	1	65445	2854	29.2	7	145410	6474	10493	524	32074	1886	37.5	8	2131	169	4.5	1	68	5	46	6	20.8	2	20.6	2	1.8	0	4.0	2	0.6	1	2.2	1	0.0	0	15.4	1
rim	648	12.8	2	13.2	1	62477	3551	20.9	6	138111	8096	9829	494	30857	2172	38.0	8	1916	175	4.6	0	63	4	46	6	19.1	2	18.7	2	1.3	0	3.0	1	0.6	1	1.6	1	0.1	0	15.3	1
rim	653	12.4	2	12.7	1	63314	2654	28.0	6	139849	3544	9917	313	30053	1973	34.1	7	1859	136	4.5	1	68	3	40	7	18.1	2	20.2	2	1.3	0	4.4	2	0.3	0	1.6	0	0.6	1	14.0	2
rim	658	12.7	2	12.9	1	65863	3675	19.7	5	142569	6752	10179	399	30547	1761	36.0	9	1821	187	4.9	1	71	5	42	7	18.9	2	20.0	2	1.6	0	3.8	2	0.3	0	1.7	1	0.0	0	15.5	1
rim	663	11.3	1	11.1	1	63211	2919	25.6	6	139255	5311	10157	454	30025	2038	29.0	8	1951	177	4.9	1	71	3	40	5	18.8	2	19.2	2	1.2	0	4.6	2	0.3	0	1.3	1	0.4	1	15.7	1
rim	668	11.8	1	11.4	1	62820	2515	28.7	7	139785	6427	10144	418	29879	1653	40.4	9	1941	127	4.3	1	75	5	45	7	18.6	2	18.2	2	1.3	0	2.9	1	0.5	1	2.7	1	0.0	0	14.3	1
rim	673	11.5	2	10.9	1	64110	2823	26.1	7	141868	6448	10579	532	30424	1691	35.1	6	1917	123	4.8	1	83	4	48	7	15.2	2	19.6	2	1.7	0	5.7	2	0.2	0	2.4	1	0.4	0	16.5	1
rim	678	10.4	2	10.7	1	65328	2798	24.4	6	148884	7538	10889	461	33942	1710	48.4	9	1945	151	4.6	1	94	6	53	8	17.7	2	19.2	2	1.0	0	4.9	2	0.5	1	2.8	1	0.0	0	16.2	1
rim	683	10.4	2	10.1	1	67832	2948	26.9	8	148854	7783	11089	533	32172	2476	39.4	8	2021	194	4.9	1	102	6	64	9	17.7	2	19.9	2	1.2	0	4.8	2	0.3	0	2.4	1	0.0	0	15.7	1
rim	688	9.0	1	9.4	1	65953	2173	29.5	7	147706	5126	10779	331	33533	1685	38.5	9	1897	126	5.2	1	109	7	78	15	16.8	2	19.2	2	1.4	0	2.6	1	0.6	1	3.2	1	0.6	1	16.4	2
rim	693	8.2	2	8.5	1	66400	3474	18.5	4	144339	6300	10568	459	31475	2151	34.9	8	2026	208	5.2	1	116	7	108	14	16.8	2	17.8	2	1.2	0	5.9	2	0.2	0	3.8	1	0.0	0	15.0	2
rim	698	6.5	2	8.2	0	66513	2682	26.6	7	146190	5360	10560	437	33282	2089	45.8	10	1986	124	4.5	1	128	6	155	17	17.1	2	18.4	1	1.2	0	4.1	2	0.3	0	4.0	1	0.0	0	16.2	2
rim	703	7.2	2	7.8	1	63266	3504	23.6	5	138978	8047	9838	541	31784	2247	37.4	8	2076	149	4.3	1	128	7	203	16	19.6	2	21.5	2	1.7	0	3.0	1	0.5	1	3.4	1	0.2	0	15.0	2
rim	708	7.7	2	7.0	0	67697	3659	26.3	8	146566	7896	10209	541	33439	2571	46.7	12	2356	222	4.5	1	141	10	267	18	24.0	3	24.1	2	1.7	0	5.6	2	0.5	1	4.0	1	1.0	1	16.8	2

Table B23: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD
0.4	0	2.9	1	0.3	0	16.1	2
0.4	0	3.2	1	0.0	0	18.7	2
0.6	1	2.9	1	0.7	1	17.9	2
0.7	1	3.8	1	0.3	0	17.1	2
1.1	1	3.4	1	0.4	1	16.9	2
0.8	1	2.4	1	0.3	0	16.2	2
0.4	0	2.4	1	0.3	0	16.7	1
0.5	1	3.2	1	0.4	0	16.8	2
0.6	1	4.0	1	0.2	0	16.9	2
0.8	1	3.1	1	0.0	0	16.1	1
0.7	1	3.2	1	0.6	1	16.4	2
1.2	1	3.2	1	0.6	1	15.7	1
0.6	1	3.6	1	0.6	1	17.5	2
0.9	1	3.5	1	0.3	0	16.2	2
0.9	1	2.8	1	0.5	1	17.0	2
0.7	1	1.9	1	0.4	1	15.7	1
0.9	1	3.0	1	0.5	1	15.8	1
0.4	1	3.6	1	0.3	0	15.3	1
0.4	0	3.5	1	0.0	0	15.0	1
0.5	0	3.1	1	0.2	0	15.6	1
0.7	1	3.2	1	0.0	0	16.1	1
0.6	1	2.8	1	1.0	1	16.9	2
0.6	1	2.9	1	0.4	1	16.5	2
1.1	1	2.6	1	0.5	1	15.0	1
0.5	1	3.2	1	0.7	1	16.0	2
1.0	1	2.7	1	0.2	0	14.7	2
0.7	1	3.0	1	0.6	1	15.7	2
0.5	1	2.9	1	0.2	0	15.7	2
0.3	0	3.7	1	0.2	0	16.1	2
1.1	1	2.9	1	0.6	1	15.5	1
0.8	1	3.3	1	1.1	1	16.0	1
0.7	1	3.5	1	0.2	0	15.3	1
0.3	0	3.0	1	0.2	0	15.9	2
1.1	1	2.7	1	0.5	1	15.1	1
1.3	1	3.3	1	0.1	0	16.0	2
1.0	1	3.3	1	0.5	1	16.2	1
0.6	1	3.5	1	0.5	1	15.4	2
1.1	1	2.9	1	0.0	0	15.8	2
0.3	0	3.5	1	0.4	1	17.1	2
0.6	1	3.6	1	0.6	1	15.2	1
0.3	0	3.6	1	0.2	0	14.8	1
0.8	1	3.1	1	0.8	1	16.2	1
0.6	1	3.2	1	0.8	1	16.3	2
0.5	1	2.6	1	0.2	0	16.1	1
0.3	0	3.0	1	0.8	1	15.9	1
0.7	1	3.5	1	0.2	0	16.3	2
0.2	0	2.6	1	0.4	1	15.7	2
1.3	1	3.7	1	0.0	0	13.7	1
0.8	1	3.9	1	0.2	0	14.5	1
0.9	1	3.4	1	0.2	0	14.4	2
0.5	0	3.0	1	0.4	1	14.5	1
0.2	0	3.3	1	0.4	1	14.5	1
0.7	1	3.5	1	0.4	0	13.9	2
0.8	1	2.5	1	0.0	0	14.6	2
0.3	0	3.0	1	0.3	0	14.0	1
1.0	1	2.8	1	0.2	0	14.1	2
0.5	1	2.8	1	0.2	0	14.1	1
0.7	1	2.4	1	0.2	0	15.4	2
0.1	0	3.8	1	0.8	1	15.3	1
0.5	0	3.0	1	0.0	0	13.4	2
0.5	1	3.2	1	0.0	0	15.6	2
0.2	0	2.8	1	0.0	0	15.5	1
0.3	0	2.9	1	0.0	0	15.2	2
0.8	1	3.2	1	0.2	0	13.9	1
0.6	1	2.9	1	0.4	1	15.0	2
0.7	1	3.2	1	0.0	0	16.2	2
0.8	1	2.7	1	0.4	1	14.2	2
0.4	0	2.5	1	0.4	1	15.5	1
1.2	1	2.5	1	0.0	0	15.3	2
0.2	0	2.9	1	0.2	0	17.0	2
0.7	1	3.8	1	0.4	0	16.1	2

Table B24: Plagioclase grain 25 - Lithium isotopes

MEASURED			background		Results (BLK + tau corr.)										
	^{7}Li (V)	^{6}Li (cps)	^{6}Li (V)	^{7}Li (V)	^{6}Li (cps)	^{7}Li/^{6}Li	SE	SD	1 RSD	n	D time (min)	std drift ^{7}Li/^{6}Li	δ^{7}Li (‰) rel GOR132-G	2 σ	2 σ
1	0.00571	22400	0.00036	0.0000401	218	16.0141	0.0146	0.1700	910	135	8.2	-0.5	-3.0	2.4	2.4
2	0.00342	13429	0.00021	0.0000381	212	15.9538	0.0130	0.1495	816	135	5.0	2.0	-6.0	2.2	2.2
3	0.00462	18155	0.00029	0.0000382	211	15.9161	0.0124	0.1384	781	123	4.2	-1.3	-8.0	2.1	2.1
4	0.00826	32315	0.00052	0.0000365	195	15.9409	0.0100	0.1159	628	135	4.8	0.4	-6.9	2.0	2.0
5	0.01009	39446	0.00063	0.0000368	187	15.9308	0.0104	0.1205	656	135	4.4	-0.5	-7.6	2.1	2.1
6	0.00896	35095	0.00056	0.0000329	178	15.9313	0.0122	0.1396	768	131	4.4	0.9	-7.4	2.1	2.1
7	0.01164	45677	0.00073	0.0000362	181	15.8936	0.0096	0.1110	603	135	4.2	-0.6	-9.6	1.8	1.8
8	0.01133	44694	0.00072	0.0000344	185	15.7986	0.0092	0.1056	582	133	4.0	0.4	-15.6	1.9	1.9
9	0.01096	43197	0.00069	0.0000328	174	15.7918	0.0095	0.1080	605	130	5.2	-0.1	-15.9	2.0	2.0
10	0.00977	38605	0.00062	0.0000292	175	15.8134	0.0103	0.1167	652	131	4.8	0.9	-14.2	1.9	1.9
11	0.00913	36086	0.00058	0.0000354	176	15.7881	0.0093	0.1069	587	135	4.2	-0.2	-15.5	1.8	1.8
12	0.01118	44160	0.00071	0.0000310	165	15.8262	0.0085	0.0984	539	133	4.7	1.2	-12.6	1.8	1.8
13	0.01165	46065	0.00074	0.0000310	173	15.8130	0.0090	0.0980	568	119	4.0	-0.4	-13.0	2.0	2.0
14	0.01124	44324	0.00071	0.0000344	163	15.8386	0.0085	0.0993	538	135	4.6	-1.0	-12.1	2.0	2.0
15	0.01093	43082	0.00069	0.0000305	162	15.8492	0.0085	0.0987	534	135	4.7	0.7	-11.6	1.9	1.9

Table B24: continued

δ^{7}Li (‰) rel IRMM-016	RepRate Hz	integr.time (s)		distance	Li	2 σ	d^{7}Li	2 σ
5.9	26	1.049	rim	20	9.4	1	5.9	2.4
2.9	29	1.049	rim	20	14.7	1	2.9	2.2
0.9	42	1.049	rim	20	14.7	1	0.9	2.1
2.0	42	1.049	core	65	20.4	1	2.0	2.0
1.3	38	1.049	core	100	22.5	1	1.3	2.1
1.5	38	1.049	core	85	16.7	1	1.5	2.1
-0.7	38	1.049	core	167	23.4	1	-0.7	1.8
-6.7	38	1.049	core	235	23.4	1	-6.7	1.9
-7.0	38	1.049	core	290	21.8	1	-7.0	2.0
-5.3	33	1.049	core	340	20.3	1	-5.3	1.9
-6.6	33	1.049	core	405	19.3	1	-6.6	1.8
-3.7	33	1.049	core	460	19.1	1	-3.7	1.8
-4.1	33	1.049	core	535	18.6	1	-4.1	2.0
-3.2	33	1.049	core	610	18.7	1	-3.2	2.0
-2.7	33	1.049	core	670	19.9	1	-2.7	1.9

grain 25 - Isotopes

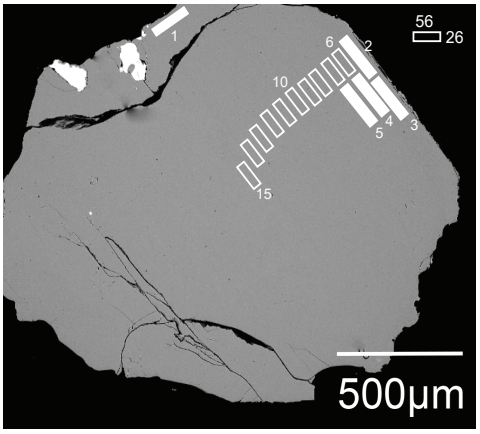


Fig. B23. BSE image of plagioclase grain 25 with Fs-LA-MC-ICP-MS lines indicated.

Table B25: Plagioclase grain 27 - Line 1

	Distance	Li[e] ppm	2SD	Li' ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	2	21.5	2	21.5	2	54954	2847	19.5	6	110307	4716	13125	497	22885	2504	44.2	17	1224	104	4.7	1	49.4	3	27.7	6	13.7	2	16.7	2	1.4	0	2.5	1
core	7	27.3	3	22.5	2	56531	2866	20.8	6	115409	5705	14073	686	23274	1590	28.4	11	1280	103	5.1	1	53.4	3	31.7	6	14.7	1	17.5	2	1.1	0	3.2	1
core	12	24.0	3	22.7	2	57948	4658	19.1	8	117850	8491	13903	973	25342	2633	34.0	9	1247	139	6.2	1	53.2	5	26.1	6	15.2	2	17.6	2	1.3	0	2.4	1
core	17	27.6	5	21.9	2	54716	2415	13.4	6	115338	5367	13224	586	21403	1593	22.1	9	1203	118	3.9	1	50.8	3	29.2	7	15.5	1	17.9	2	1.5	0	2.9	1
core	22	24.7	3	22.8	1	57129	2970	20.1	6	121055	5471	13557	611	25181	1640	43.4	9	1277	145	4.5	1	54.9	4	33.6	7	18.4	2	21.0	1	1.4	0	3.0	1
core	27	24.0	3	22.5	1	54099	2414	21.7	10	116703	5879	12716	562	24594	2342	44.8	10	1253	129	4.9	1	54.3	4	27.2	6	17.0	1	19.3	2	1.3	0	1.8	1
core	32	26.3	4	21.8	1	54725	3543	22.2	8	118464	7143	12498	723	24994	2722	36.5	10	1253	136	4.4	1	55.8	5	38.4	9	19.9	2	21.1	2	1.1	0	3.3	1
core	37	27.5	5	23.2	2	57444	3954	19.6	6	122128	8560	13078	939	25057	2574	35.8	12	1262	83	4.0	1	58.5	5	39.4	8	19.3	2	22.2	2	1.3	0	3.6	1
core	41	23.1	3	22.3	1	57256	2980	21.8	5	121670	6082	13055	628	24723	1588	38.5	16	1438	184	4.1	1	57.4	4	36.7	9	19.9	2	20.8	2	1.8	0	4.7	2
core	46	23.9	3	22.4	1	54039	2539	26.8	7	117044	4900	12604	566	24673	1816	31.8	9	1276	138	3.5	1	56.7	4	30.6	7	19.7	1	20.2	2	1.6	0	3.2	1
core	51	24.4	4	23.6	2	57302	3102	23.0	6	123702	6775	13166	691	27154	2518	44.1	10	1369	97	4.7	1	60.6	4	35.9	6	21.0	2	20.7	2	1.4	0	4.1	2
core	56	23.2	3	23.1	2	56583	2600	23.1	8	121575	5583	13057	602	27179	2169	38.3	9	1355	200	4.6	1	63.4	5	36.9	8	21.9	2	20.3	1	1.6	0	3.7	1
core	61	27.3	3	23.5	2	57289	3880	33.1	10	126571	8630	13541	930	28173	2379	40.4	12	1446	159	4.4	1	63.7	5	46.3	6	22.3	2	21.7	2	1.5	0	3.6	1
core	66	23.2	3	22.8	2	54280	3653	25.6	6	119094	7661	12523	847	24300	2241	34.4	10	1342	147	3.8	1	57.4	5	38.1	7	19.6	2	20.1	2	1.4	0	3.9	2
core	71	25.3	3	23.3	1	55760	2328	22.7	8	121474	5024	12847	554	25576	1906	39.3	11	1322	150	4.2	1	60.3	5	46.4	7	19.1	1	21.0	2	1.3	0	3.1	1
core	76	24.1	3	22.0	1	53757	2126	15.9	6	117682	4545	12224	494	24661	2197	35.1	11	1343	130	3.7	1	54.1	4	36.7	7	17.5	2	18.9	2	1.2	0	2.9	1
core	81	24.7	3	22.4	1	54326	2528	20.4	6	117943	4668	12877	623	24687	2602	32.5	12	1260	111	5.1	1	59.4	4	35.5	7	19.6	2	19.2	2	1.5	0	3.9	1
core	86	24.7	3	22.6	1	55638	2857	19.2	6	119782	5836	12935	757	25833	2000	27.6	9	1307	156	3.5	1	58.0	4	46.9	8	19.6	2	19.4	2	1.2	0	3.8	1
core	91	22.5	2	22.7	2	55329	3049	21.5	5	119853	6868	12913	840	24097	2031	34.7	9	1316	145	4.4	1	62.5	5	41.8	8	19.4	2	19.3	2	1.2	0	4.9	2
core	96	23.1	3	22.6	2	54287	4215	22.4	7	119385	8995	12779	927	26514	1799	38.1	9	1270	166	4.2	1	62.9	6	40.8	9	19.3	2	18.8	1	1.3	0	3.7	1
core	101	24.9	4	23.1	2	53785	2295	19.6	7	120367	5343	12631	502	25407	3041	37.4	10	1218	173	3.9	1	59.2	5	44.0	7	18.8	2	19.1	1	1.6	0	3.4	1
core	106	25.6	4	23.8	2	56274	2750	15.2	6	121387	4850	12743	555	26864	2277	30.2	7	1229	126	4.6	1	65.0	5	47.2	7	18.2	2	20.5	1	1.5	0	3.8	1
core	111	24.7	4	22.2	2	54664	3484	19.2	6	120266	7459	12654	822	27023	1739	24.4	10	1316	124	3.4	1	60.5	6	42.4	7	17.4	2	19.8	2	1.3	0	3.5	2
core	116	24.0	3	23.0	1	55773	2133	27.1	10	121137	4642	12645	478	26539	2244	36.5	12	1302	144	4.6	1	63.8	5	52.2	9	19.0	2	20.8	2	1.6	0	3.6	1
core	121	23.2	3	24.8	1	58962	2531	21.4	5	127220	4225	13278	543	27734	2123	36.0	9	1342	210	4.3	1	68.5	5	52.5	8	18.9	2	20.7	2	1.6	0	2.5	1
core	126	24.6	4	24.2	1	55307	2481	18.3	6	121131	5741	13009	780	26306	2334	31.1	9	1279	138	4.2	1	65.9	3	39.8	8	17.6	2	19.9	2	1.5	0	3.9	1
core	131	23.4	3	23.9	2	54565	2469	24.8	5	119394	4967	12719	598	25452	1413	29.1	9	1211	172	4.0	1	63.9	4	38.0	7	18.3	2	19.8	1	1.5	0	2.2	1
core	136	28.3	4	23.7	2	56931	2939	19.0	5	124683	5689	13398	768	26365	2629	25.9	9	1288	144	4.2	1	72.0	5	49.8	8	18.2	2	20.2	1	1.5	0	3.0	1
core	141	25.3	5	23.1	2	56084	3190	25.3	7	122419	5759	12959	789	26898	1808	33.1	9	1310	161	4.4	1	66.6	5	44.2	8	18.4	2	19.4	2	1.6	0	3.1	1
core	146	23.5	3	23.6	2	54801	3564	18.3	7	120543	7115	12667	698	26786	2167	37.6	6	1317	115	5.0	1	66.9	7	45.6	6	17.3	2	19.6	2	1.4	0	3.5	1
core	151	25.4	3	24.6	2	57436	3850	27.8	9	127260	7866	13239	841	28544	2500	34.6	12	1301	151	4.3	1	70.7	6	49.6	9	17.1	2	19.8	2	1.6	0	3.7	1
core	156	26.2	3	23.5	1	55328	2614	15.2	6	122161	5731	12741	574	25470	1603	32.7	12	1331	149	4.0	1	69.6	4	49.6	11	17.6	1	18.8	2	1.5	0	3.3	2
core	161	23.3	3	23.3	2	55255	3254	29.7	6	120108	7135	12521	731	28491	4653	23.7	8	1304	157	4.5	1	69.5	7	47.0	6	18.7	3	20.5	2	1.7	0	4.1	1
core	166	26.2	4	24.4	2	55561	2717	15.5	7	122513	5046	12981	612	27782	2536	41.1	14	1238	96	4.2	1	68.1	5	46.3	9	18.0	1	21.2	2	1.7	0	3.7	1
core	171	25.8	3	23.1	2	55408	3269	21.2	6	121265	7174	12901	726	24017	2177	35.4	11	1297	173	4.0	1	67.8	5	50.0	10	18.6	2	20.1	2	1.5	0	4.4	1
core	176	27.9	4	24.9	2	57129	2427	20.1	8	125056	5311	13284	638	26078	2370	38.2	12	1309	139	4.8	1	72.3	4	48.5	9	20.1	2	20.2	2	1.4	0	3.9	1
core	181	22.5	3	23.2	1	54326	2322	20.5	9	119837	4373	12529	497	25599	2156	44.1	16	1153	177	3.4	1	70.7	6	50.3	6	18.8	1	21.2	2	1.2	0	4.0	1
core	186	26.6	3	23.5	2	53747	2164	20.0	7	115948	5097	12200	449	24679	1472	34.1	9	1177	132	3.4	1	68.0	5	40.2	6	16.7	2	19.8	1	1.2	0	4.6	1
core	191	27.9	5	26.0	3	56121	2234	18.2	7	122613	4994	12708	503	25502	2213	43.4	9	1219	137	3.7	1	71.0	7	48.9	5	17.6	2	19.6	1	1.5	0	3.8	1
core	196	26.3	3	23.3	1	53579	3043	22.1	7	118803	6443	12203	687	25714	1943	38.7	15	1191	115	3.6	1	71.7	4	46.9	7	17.9	2	19.6	1	1.4	0	3.7	1
core	201	22.6	2	23.3	2	53607	2790	16.7	8	117946	6738	12037	621	24903	1580	34.2	9	1206	159	3.3	1	77.2	6	48.3	7	17.7	1	19.5	2	1.7	0	2.8	1
core	206	24.1	4	23.6	2	55345	2853	22.3	8	120983	6219	12436	637	26870	1873	31.1	11	1256	145	4.2	1	73.0	4	53.7	8	19.0	2	21.3	1	1.6	0	4.1	1
core	211	25.8	4	25.0	2	59778	3406	21.1	9	130966	5115	13159	523	27124	2228	36.8	13	1397	167	3.4	1	74.1	5	50.4	7	20.5	2	22.6	2	1.5	0	3.3	1
core	216	26.3	3	23.5	1	56144	2685	24.4	7	121461	3776	12474	376	27414	2463	39.2	11	1278	133	3.3	1	74.2	5	58.4	11	18.5	2	21.1	2	1.6	0	3.5	1
core	221	25.7	4	23.3	2	55745	3458	24.9	8	123036	6956	12723	746	28044	2427	50.5	8	1229	146	3.8	1	71.6	6	54.9	8	19.3	2	20.2	2	1.6	0	4.3	1
core	226	25.9	4	24.7	2	56392	2971	25.4	7	121218	6194	12502	644	27401	1749	48.0	13	1296	162	3.7	1	70.4	5	60.6	9	19.0	2	21.2	3	1.4	0	4.0	1
core	231	25.4	4	24.4	2	55835	2799	21.4	7	121920	6086	12351	459	26867	2177	42.0	10	1305	156	4.4	1	70.3	5	55.4	9	19.0	2	20.6	2	1.4	0	4.2	2
core	236	26.6	3	22.4	1	54371	2817	21.8	8	117555	5294	12267	464	25270	1795	40.2	11	1255	157	3.2	1	72.0	5	58.6	10	17.6	2	21.9	1	1.3	0	3.7	1
core	241	23.8	4	22.8	1	55118	2532	20.3	7	122434	6366	12674	587	27321	2346	35.4	12	1177	164	3.8	1	76.4	6	61.8	10	18.8	2	20.3	2	1.5	0	3.2	1
core	246	23.4	3	22.8	2	54740	2612	17.8	5	119610	5559	12926	769	26475	2105	43.3	8	1168	138	4.3	1	75.1	5	64.9	12	17.9	2	19.4	1	1.4	0	3.3	1
core	251	22.6	3	22.9	2	55095	2627	19.8	7	119524	6057	12685	717	25362	2362	30.4	7	1226	108	3.4	1	73.6	7	58.0	10	16.8	2	20.5	2	1.3	0	2.9	1
core	256	26.8	4	23.4	1	56167	2661	17.9	7	122573	6158	13282	657	25789	2362	39.6	10	1219	152	4.1	1	75.1	6	62.4	10	16.4	2	18.8	2	1.2	0	4.7	2
core	261	23.0	5	22.9	1	54900	3206	24.0	7	117577	5716	13125	746	25261	1935	33.5	10	1059	156	3.7	1	71.4	5	59.7	9	16.6	2	18.7	2	1.3	1	2.5	1
core	266	25.1	3	25.9	3	58093	3222	15.9	6	121579	6560	13701	616	23713	2166	30.9	10	1118	110	4.0	1	76.5	7	69.5	12	15.7	2	20.0	2	1.2	0	3.4	1
core	271	24.9	3	23.6	2	55591	3117	21.7	6	119794	5333	13584	626	23838	2138	34.5	11	1274	94	3.5	1	76.5	5	56.8	10	16.0	2	18.0	1	1.0	0	2.7	1
core	276	24.8	4	22.9	2	55966	2965	13.7	5	119565	5652	13417	764	22593	2132	27.6	9	1116	152	3.8	1	78.2	5	58.3	8	14.7	1	16.3	1	1.4	0	4.0	1
core	281	23.2	3	23.1	2	57753	2790	19.8	6	123832	5842	14255	604	24086	1939	34.6	8	1187	116	5.7	1	75.5	7	70.9	8	16.0	2	17.3	2	1.2	0	2.7	1
core	286	23.4	3	22.6	1	55943	1809	17.7	8	120051	3262	13401	511	23910	2269	27.0	8	1103	134	4.7	1	78.3	5	70.1	8	16.2	2	18.8	1	1.3	0	3.3	1
core	291	24.2	2	23.0	2	56665	2899	16.5	6	121098	6120	13952	805	24618	2077	30.6	7	1136	120	4.4	1	79.3	6	64.3	10	15.5	2	18.8	1	1.4	0	3.2	2
core	296	24.2	3	21.7	2	54266	2700	23.4	9	117526	5150	13295	769	22364	1577	34.9	9	1059	128	3.3	1	80.4	5	76.2	8	16.8	2	16.7	1	0.9	0	2.7	1
core	301	20.2	3	21.9	1	55899	2415	11.6	6	120331	6231	13422	680	26139	2095	36.4	9	1060	94	3.5	1	78.9	6	63.5	6	16.9	2	17.3	2	1.2	0	3.3	1
core	306	26.7	5	21.8	1	56464	2772	14.7	4	124830	5964	13492	791	26577	2097	25.9	8	1237	140	3.7	1	84.6	7	77.9	9	19.6	2	19.4	2	1.3	0	3.1	1
core	311	21.3	3	21.5	2	53447	2088	22.1	8	117761	5003	12730	426	26189	1735	38.6	11	1172	131	4.8	1	82.6	6	72.7	12	16.7	2	18.7	1	1.1	0	2.7	1
core	316	25.3	5	21.3	2	56010	3187	17.4	5	123334	6714	13212	579	27575	2472	40.3	9	1224	161	4.6	1	86.1	6	84.3	13	19.4	2	19.7	2	1.6	0	3.0	1
core	321	21.8	3	21.7	2	56164	3077	21.5	7	123839	7037	13081	677	25732	2009	35.1	10	1216	143	4.0	1	86.7	6	93.6	12	20.2	2	19.9	2	1.4	0	4.2	2
core	326	21.8	3	22.5	2	55114	3313	25.9	7	123449	6985	13075	741	27756	2475	39.1	14	1195	127	3.3	1	85.5	6	85.4	12	18.7	2	20.7	2	1.3	0	4.1	1
core	331	19.8	3	19.9	1	53104	2069	14.3	4	117978	4826	12000	418	24649	1608	31.5	6	1190	103	3.5	1	84.2	6	83.5	8	19.2	2	20.1	2	1.4	0	4.0	1
core	336	22.1	4	20.0	1	54740	2387	16.5	6	120321	4761	12444	492	25855	2127	36.3	11	1156	157	3.4	1	89.3	5	85.6	7	19.7	2	20.4	2	1.8	0	4.1	2
core	341	20.4	3	20.6	1	56367	3709	19.4	4	123581	7947	12687	760	27364	2427	43.4	11	1255	118	3.8	1	89.0	8	76.5	7	19.5	2	21.8	3	1.5	0	4.1	1
core	346	22.6	3	19.7	1	56133	3093	17.2	8	124182	7229	12577	796	27474	2741	32.3	9	1275	167	4.8	1	87.4	8	86.1	12	19.1	2	21.6	2	1.8	0	4.7	2

Table B25: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.1	0	1.2	0	0.6	0	14.0	1														
0.3	0	1.1	0	0.0	0	15.1	1														
0.2	0	1.5	0	0.0	0	15.5	2														
0.4	0	0.9	0	0.1	0	14.5	1														
0.6	0	1.3	0	0.1	0	17.1	1														
0.3	0	1.3	0	0.1	0	14.4	2														
0.3	0	1.7	1	0.1	0	14.4	1														
1.0	1	1.6	0	0.4	0	14.6	1														
0.3	0	1.5	0	0.1	0	15.1	1														
0.5	0	1.8	0	0.7	1	14.8	2														
0.4	0	1.6	0	0.3	0	15.2	1														
0.3	0	0.8	0	0.2	0	14.6	2														
0.7	0	1.8	1	0.4	0	14.9	1														
0.3	1	1.9	1	0.2	0	13.5	2														
0.4	0	1.8	0	0.1	0	14.0	2														
0.1	0	1.3	0	0.4	0	13.7	1														
0.4	0	1.6	0	0.1	0	14.3	1														
0.5	1	1.8	1	0.3	0	14.0	1	62.5	0.1	22.4	0.2	0.0	4.1	7.8	1.7	0.0	0.0	98.7	20	70	10
0.4	0	1.3	0	0.5	0	13.3	1														
0.9	1	2.0	1	0.0	0	12.0	1	62.3	0.1	22.5	0.2	0.0	4.2	7.9	1.6	0.0	0.0	98.7	21	70	9
0.4	0	1.4	0	0.4	0	13.4	1														
0.2	0	1.5	0	0.2	0	13.4	1	62.6	0.0	22.6	0.2	0.0	4.0	7.8	1.6	0.1	0.0	99.0	20	71	9
0.3	0	1.8	0	0.0	0	13.5	1														
0.4	0	1.5	0	0.5	0	14.5	1	62.6	0.0	22.2	0.2	0.0	3.9	8.0	1.6	0.0	0.0	98.6	19	71	10
0.9	1	1.6	0	0.2	0	14.6	1														
0.4	0	1.6	0	0.5	0	12.9	1	62.6	0.1	22.5	0.2	0.0	4.0	7.9	1.7	0.0	0.0	98.9	20	70	10
0.3	0	1.4	1	0.4	0	13.7	1														
0.1	0	2.0	0	0.4	0	13.3	1	62.5	0.1	22.4	0.2	0.0	4.0	8.1	1.7	0.0	0.0	98.9	19	71	10
0.2	0	1.4	0	0.2	0	14.2	2														
0.2	0	1.4	0	0.5	0	13.8	1	62.6	0.1	22.1	0.2	0.0	4.0	7.9	1.6	0.0	0.0	98.5	20	71	10
0.3	0	1.9	1	0.5	1	13.8	1														
0.4	1	1.8	0	1.0	1	15.0	1	62.6	0.1	22.4	0.2	0.0	4.1	7.9	1.7	0.0	0.0	98.8	20	70	10
0.2	0	1.9	1	0.4	1	14.1	1														
0.3	0	1.7	1	0.0	0	15.1	1	62.5	0.0	22.4	0.2	0.0	3.9	7.9	1.7	0.0	0.0	98.6	19	70	10
0.8	1	1.8	0	0.3	0	13.6	1														
0.4	0	1.6	1	0.1	0	14.0	1	62.4	0.0	22.4	0.2	0.0	4.0	7.8	1.6	0.0	0.0	98.4	20	71	10
0.5	0	2.0	1	0.3	0	13.8	1														
0.2	0	1.7	0	0.1	0	13.0	1	62.4	0.0	22.5	0.2	0.0	4.1	7.8	1.6	0.0	0.0	98.7	20	70	9
0.2	0	2.0	0	0.2	0	13.9	1														
0.2	0	1.7	0	0.6	1	12.0	2	62.4	0.1	22.4	0.2	0.0	4.0	7.9	1.6	0.0	0.0	98.5	20	71	9
0.8	0	1.8	0	0.1	0	12.9	2														
0.7	1	2.5	1	0.3	0	13.8	1	62.5	0.0	22.7	0.2	0.0	4.2	8.0	1.6	0.0	0.0	99.0	20	70	9
0.2	0	2.2	0	0.2	0	16.0	1														
0.8	0	1.3	0	0.6	0	13.3	1	62.7	0.0	22.3	0.2	0.0	4.0	8.0	1.6	0.0	0.0	98.8	19	71	10
0.5	1	2.2	1	0.2	0	14.5	2														
0.3	0	2.0	1	0.2	0	13.4	2	62.4	0.1	22.2	0.2	0.0	3.8	7.9	1.7	0.0	0.0	98.4	19	71	10
0.2	0	1.6	1	0.4	0	13.8	1														
0.5	0	1.8	0	0.3	0	12.8	1	62.6	0.1	22.4	0.2	0.0	4.0	7.9	1.6	0.1	0.0	98.8	20	71	10
0.4	0	1.9	0	0.7	1	13.4	1														
0.4	0	1.9	1	0.3	0	12.8	2	62.5	0.1	22.4	0.2	0.0	3.9	7.9	1.7	0.0	0.0	98.6	20	71	10
0.3	0	1.8	0	0.0	0	12.6	1														
0.4	0	2.5	1	0.1	0	14.1	1	62.6	0.1	22.3	0.2	0.0	3.9	7.8	1.7	0.0	0.0	98.6	19	71	10
0.5	1	2.1	1	0.1	0	12.5	1														
0.6	0	1.9	0	0.1	0	12.6	1	62.1	0.1	22.4	0.2	0.0	4.0	7.8	1.6	0.1	0.0	98.3	20	70	9
0.4	0	2.1	0	0.5	0	13.3	1														
0.0	0	1.9	1	0.5	0	13.8	1	62.4	0.1	22.4	0.2	0.0	4.0	7.8	1.6	0.0	0.0	98.4	20	70	10
0.3	0	1.9	0	0.0	0	13.9	1														
0.6	0	1.9	0	0.1	0	13.0	1	62.7	0.1	22.2	0.2	0.0	3.9	7.9	1.7	0.0	0.0	98.7	19	71	10
0.5	0	1.6	0	0.5	1	12.8	1														
0.2	0	2.2	0	0.5	1	13.3	1	62.4	0.1	22.4	0.2	0.0	4.1	7.9	1.6	0.0	0.0	98.5	20	71	9
0.5	1	2.2	1	0.2	0	13.7	2														
0.5	1	2.2	1	0.0	0	13.8	1	62.3	0.0	22.5	0.2	0.0	4.1	7.7	1.6	0.0	0.0	98.4	20	70	9
0.8	1	2.0	1	0.0	0	13.7	1														
0.3	0	2.5	1	0.6	1	14.1	2	62.2	0.1	22.3	0.2	0.0	4.1	7.8	1.6	0.0	0.0	98.2	20	70	9
0.5	1	2.2	1	0.1	0	13.7	2														
0.3	0	2.2	1	0.7	1	14.1	1	62.8	0.0	22.4	0.2	0.0	4.1	7.7	1.6	0.0	0.0	98.8	20	70	10
0.4	0	2.1	0	0.2	0	12.9	1														
0.1	0	2.4	1	0.4	0	12.7	1	62.4	0.1	22.5	0.2	0.0	4.2	7.8	1.5	0.0	0.0	98.7	21	70	9
0.5	0	2.6	1	0.4	0	14.0	2														
0.5	0	1.8	0	0.6	0	14.5	1	62.3	0.0	22.6	0.2	0.0	4.2	7.8	1.5	0.0	0.0	98.6	21	70	9

grain 27 - Line 1

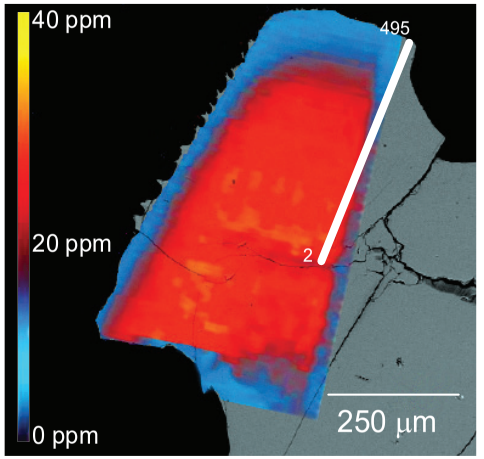


Fig. B24. BSE image of plagioclase grain 27 with trace element line 1 (by LA-ICP-MS) indicated.

grain 27 - Line 2

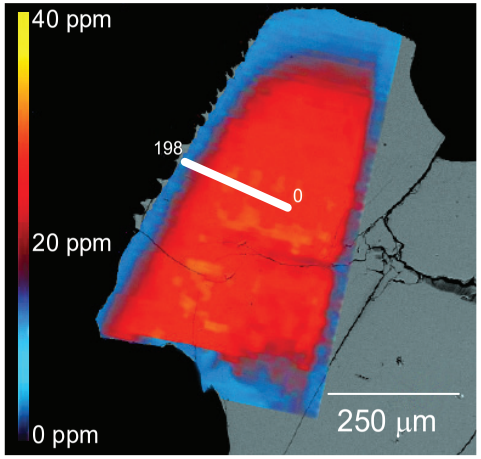


Fig. B25. BSE image of plagioclase grain 27 with trace element line 2 (by LA-ICP-MS) indicated.

Table B25: continued

core	351	21.2	3	20.1	1	55762	1857	19.8	10	124866	5602	13056	495	27626	1916	36.8	9	1234	111	4.6	1	92.3	5	83.9	9	20.5	1	22.3	2	1.7	0	4.1	2	0.4	0	2.1	0	0.6	1	13.9	1										
core	355	20.5	2	18.7	2	56249	3537	28.1	8	121424	7024	12695	688	26395	2052	36.5	10	1203	145	4.0	1	90.6	8	78.3	8	20.1	2	20.3	2	1.4	0	4.2	1	0.5	0	2.4	1	0.0	0	14.0	2	62.7	0.0	22.3	0.1	0.0	3.8	7.9	1.7	0.0	0.0	98.6	19	71	10
core	360	19.0	3	19.1	2	53529	3468	16.2	5	117858	6219	12202	657	26343	1823	33.2	10	1218	151	3.4	1	87.2	7	73.6	10	17.9	2	18.7	2	1.5	0	2.9	1	0.3	0	2.3	1	0.4	0	13.4	1														
core	365	18.6	3	18.3	1	54912	2155	21.1	9	123160	5148	12470	510	28116	2185	46.0	10	1218	131	4.1	1	95.6	7	71.6	10	19.3	2	22.7	2	1.8	0	4.9	1	0.6	1	2.4	1	0.4	0	13.3	1	62.8	0.0	22.4	0.2	0.0	3.8	7.8	1.6	0.1	0.0	98.7	19	71	10
core	370	20.2	3	18.6	2	56305	3134	17.9	5	124910	6710	12579	647	27886	2298	50.1	15	1252	124	3.2	1	99.0	6	81.8	13	18.8	2	17.9	2	1.4	0	3.9	1	0.4	0	2.8	1	0.4	0	13.9	1														
core	375	19.5	3	17.8	1	55740	3032	22.6	8	124640	7553	12667	787	27316	2065	32.9	8	1241	147	3.8	1	94.2	7	73.4	8	18.1	3	19.8	2	1.4	0	5.3	1	0.3	0	2.7	1	0.1	0	12.9	1	62.6	0.1	22.2	0.1	0.0	3.8	7.8	1.7	0.0	0.0	98.3	19	71	10
core	380	17.9	3	18.5	4	56221	1985	18.4	6	121962	5021	12439	547	26688	1974	36.6	13	1321	178	5.0	1	99.3	6	71.0	8	18.1	2	18.9	2	1.5	0	4.1	1	0.5	0	2.3	1	0.3	0	13.5	1														
core	385	21.6	3	16.1	1	54235	2224	16.7	8	120459	5134	12141	509	25433	2005	37.6	8	1114	144	3.6	1	99.8	7	71.5	11	16.5	2	18.8	1	1.3	0	3.3	1	0.8	0	2.9	0	0.5	1	13.1	1	62.6	0.0	22.1	0.2	0.0	3.7	8.0	1.7	0.0	0.0	98.4	18	72	10
core	390	15.6	4	15.8	1	54717	3577	24.1	8	121214	7991	12304	780	26645	1993	33.3	11	1171	145	4.3	1	101.5	7	80.7	11	17.0	1	19.9	2	1.4	0	3.3	1	0.4	0	2.1	0	0.5	0	12.6	2														
rim	395	17.2	3	15.6	1	56620	3450	17.9	7	125852	8804	12901	880	27619	2654	40.7	14	1331	233	3.7	1	108.9	9	90.1	14	17.1	2	19.9	2	1.1	0	4.8	1	0.3	1	2.5	1	0.1	0	13.0	1	62.8	0.1	22.1	0.2	0.0	3.6	7.9	1.7	0.1	0.0	98.5	18	72	10
rim	400	18.0	3	15.3	1	56327	2372	22.0	7	124053	5162	12508	534	26652	2152	46.6	11	1225	130	3.5	1	106.9	6	77.5	11	17.4	1	20.3	2	1.4	0	3.6	2	0.3	0	2.6	1	0.6	0	13.3	2														
rim	405	18.4	2	15.0	2	54854	2723	23.3	8	119449	6210	12220	658	26318	1810	44.1	12	1203	109	4.0	1	105.1	7	81.4	14	16.7	1	19.4	2	1.5	0	2.7	1	0.3	0	2.7	0	0.4	0	12.6	1	63.1	0.0	22.1	0.2	0.0	3.6	7.9	1.7	0.0	0.0	98.7	18	72	10
rim	410	14.8	2	13.9	1	52597	2020	21.8	8	115682	3585	12054	371	26293	2396	35.8	12	1123	110	4.2	1	101.4	5	82.0	11	17.1	2	19.1	2	1.5	0	3.4	1	0.2	0	2.6	0	0.4	0	13.2	1														
rim	415	16.9	3	13.7	1	53717	2066	14.7	5	119361	5404	12754	525	24961	1801	38.6	11	1173	103	5.1	1	97.9	7	101.2	12	15.7	2	19.4	2	1.4	0	3.1	1	0.5	0	3.0	1	0.1	0	13.3	1	62.5	0.1	22.3	0.2	0.0	4.2	7.8	1.6	0.0	0.0	98.6	21	70	9
rim	420	13.5	3	14.6	2	57854	2957	18.1	7	123426	6147	13531	703	27207	3090	42.7	11	1183	131	4.5	1	110.3	8	109.5	15	18.0	2	19.9	2	1.4	0	3.0	1	0.4	0	2.7	1	0.5	0	13.2	1														
rim	425	13.2	3	12.6	1	57144	3585	17.6	6	122569	7063	13616	744	27068	1914	45.3	11	1341	179	3.3	1	112.6	8	116.5	10	15.9	1	19.3	2	1.5	0	3.0	1	0.5	1	3.2	1	0.3	0	12.5	1	62.4	0.1	22.6	0.1	0.0	4.2	7.8	1.6	0.0	0.0	98.8	21	70	9
rim	430	14.1	3	11.1	1	55127	2938	16.5	6	120326	5256	13573	654	26192	2947	36.6	8	1179	118	4.4	1	114.7	8	125.1	11	17.4	2	20.1	2	1.5	0	3.5	1	0.3	0	2.8	1	0.1	0	13.2	1														
rim	435	14.4	2	12.7	1	56660	3769	17.2	5	122732	7531	13249	860	25404	1755	41.0	12	1214	147	4.5	1	113.1	7	124.5	15	16.9	2	20.4	2	1.2	0	3.2	1	0.6	1	2.9	1	0.6	1	13.3	1	62.6	0.1	22.5	0.2	0.0	4.0	7.8	1.6	0.0	0.0	98.7	20	71	9
rim	440	13.2	2	11.5	1	54182	2415	18.2	7	116584	4972	12676	502	24688	2019	35.7	12	1142	129	4.2	1	113.3	10	120.2	12	16.2	2	18.0	1	1.3	0	4.2	1	0.1	0	2.7	1	0.3	0	12.0	1														
rim	445	11.2	2	10.6	1	55912	3056	14.6	4	119187	5778	13033	558	25400	1995	28.0	7	1282	104	4.6	1	113.8	8	128.8	13	17.8	2	19.6	2	1.4	0	3.8	1	0.4	0	2.7	1	0.5	0	12.3	1	62.3	0.0	22.5	0.2	0.0	4.2	7.8	1.6	0.0	0.0	98.6	21	70	9
rim	450	12.4	2	10.2	1	54872	2335	23.0	8	118815	4133	13121	472	25619	1767	30.7	11	1129	131	3.9	1	114.9	7	148.6	15	14.9	1	17.5	1	1.0	0	2.7	1	0.7	1	3.5	1	0.2	0	13.2	1														
rim	455	10.0	2	9.3	1	53773	2812	22.4	8	115944	6311	13246	695	25326	2025	35.4	12	1202	124	4.5	1	107.6	6	131.7	13	16.1	2	16.8	2	1.1	0	4.1	1	0.6	0	2.7	1	0.1	0	12.2	1	62.1	0.0	22.6	0.2	0.0	4.2	7.7	1.5	0.0	0.0	98.4	21	70	9
rim	460	10.9	2	9.9	1	56696	2534	18.3	7	122338	5863	14385	737	26221	2182	35.4	9	1307	139	5.0	1	125.1	7	148.6	14	16.1	2	18.0	1	1.2	0	3.0	1	0.4	0	3.0	1	0.1	0	12.9	1														
rim	465	10.5	3	10.4	1	56949	3172	21.6	6	121468	6726	13973	821	26170	2503	45.2	12	1252	147	5.6	2	123.5	7	140.1	15	16.5	2	19.0	2	1.1	0	3.5	1	0.1	0	3.1	1	0.2	0	13.2	1	62.2	0.1	22.5	0.2	0.0	4.2	7.8	1.5	0.0	0.0	98.6	21	70	9
rim	470	9.7	3	8.5	1	52719	2587	19.1	6	113388	5872	13019	636	24476	1936	36.0	10	1279	102	4.7	1	121.1	9	145.2	16	13.7	1	17.4	1	1.3	0	2.5	1	0.1	0	3.1	1	0.3	0	13.0	1														
rim	475	9.7	2	7.6	1	54798	2546	20.1	7	115624	5887	13423	665	25491	1684	27.4	10	1085	175	3.7	1	117.8	10	149.5	12	15.4	2	17.4	1	1.0	0	2.8	1	0.1	0	2.7	0	0.3	0	12.2	1	62.3	0.0	22.6	0.2	0.0	4.2	7.8	1.6	0.0	0.0	98.8	21	70	9
rim	480	9.6	2	7.5	1	54838	3201	15.1	5	116622	8054	13588	1026	25976	2095	34.5	10	1299	230	4.8	1	123.3	9	168.3	14	14.9	2	17.3	2	1.1	0	2.8	1	0.5	1	2.9	1	0.1	0	13.0	1														
rim	485	7.1	2	7.0	1	55825	2625	18.2	6	115314	4697	13735	624	23336	1847	44.3	15	1179	135	4.3	1	122.6	8	163.7	14	15.3	2	17.6	2	1.1	0	3.5	1	0.6	1	3.2	1	0.1	0	12.1	1	62.6	0.1	22.3	0.2	0.0	4.0	7.8	1.6	0.0	0.0	98.6	20	70	10
rim	490	8.9	2	6.5	1	55508	2877	19.0	5	117851	5451	13739	548	24751	2545	30.3	8	1158	110	4.4	1	127.5	7	188.5	20	17.0	1	19.1	1	0.9	0	2.7	1	0.3	0	3.0	1	0.2	0	12.9	1														
rim	495	8.3	3	6.2	1	55740	2453	23.9	6	114368	4288	13319	543	23675	2134	33.2	10	1239	174	3.9	1	122.6	8	175.8	19	15.3	2	17.2	2	1.4	0	3.4	1	0.2	0	3.2	1	0.2	0	14.0	1	62.4	0.1	22.6	0.2	0.0	4.1	8.0	1.5	0.0	0.0	98.8	20	71	9

Table B26: Plagioclase grain 27 - Line 2

	Distance	Li⁶ ppm	2SD	Li⁷ ppm	2SD	Na ppm	2SD	Mg ppm	2SD	Al ppm	2SD	K ppm	2SD	Ca ppm	2SD	Ti ppm	2SD	Fe ppm	2SD	Rb ppm	2SD	Sr ppm	2SD	Ba ppm	2SD	La ppm	2SD	Ce ppm	2SD	Pr ppm	2SD	Nd ppm	2SD
core	0	27.8	4	26.5	2	60618	1586	22.3	6	120974	5447	13603	802	28700	1929	27.8	8	1293	234	5.2	1	57.1	5	55.8	6	17.9	3	20.2	1	1.5	1	2.7	1
core	4	25.7	4	24.5	2	56768	3000	21.1	6	118283	4694	12411	590	26743	2393	33.1	10	1140	88	3.9	1	58.8	5	50.2	7	16.8	1	20.2	2	1.4	0	3.8	1
core	9	20.8	2	23.6	1	54584	2416	13.5	6	114936	5575	12367	626	24863	2102	38.7	9	1087	162	4.9	1	57.3	4	53.1	8	16.2	2	19.3	2	1.5	0	3.4	1
core	14	25.6	4	25.3	3	55141	3070	21.5	8	114862	6257	12979	705	23798	2255	42.3	10	1298	156	3.8	1	55.3	4	45.0	6	15.6	2	19.0	2	1.2	0	3.1	1
core	19	24.2	2	24.6	2	59286	3996	22.2	5	120237	6562	13658	695	24972	2027	50.7	11	1289	137	4.2	1	64.7	6	54.5	10	14.7	2	16.8	2	1.2	0	3.0	1
core	24	24.8	4	24.8	2	55395	2321	22.5	6	114909	5432	12815	527	25499	1811	38.4	12	1272	88	4.2	1	65.8	4	65.7	8	15.7	1	16.9	1	1.2	0	3.6	1
core	29	25.4	2	24.2	2	57365	2906	16.0	5	122065	5661	13106	530	25141	2061	33.7	11	1364	136	4.6	1	67.5	5	85.9	10	16.6	2	17.5	2	1.3	0	3.2	1
core	34	23.1	3	23.2	1	56531	2397	20.5	6	117826	4993	12824	559	25751	1712	42.2	9	1312	132	4.6	1	68.5	4	105.4	14	15.3	2	19.2	1	1.4	0	3.1	1
core	39	26.3	4	26.7	3	57365	3040	21.0	8	122028	5041	12919	564	27806	1972	34.6	11	1304	130	3.8	1	71.6	6	116.3	13	16.8	2	20.7	2	1.8	0	4.6	1
core	43	26.1	4	25.0	2	55667	3951	26.0	7	119375	8176	12547	876	24592	2082	40.9	9	1379	166	3.2	1	72.1	7	108.4	8	19.0	2	19.5	1	1.6	0	4.4	1
core	48	27.0	4	26.5	2	55749	3006	21.8	8	119476	6753	13096	917	26449	1468	46.1	9	1293	120	4.8	1	76.3	6	131.2	14	18.7	2	21.0	1	1.4	0	3.6	1
core	53	23.2	4	25.6	2	54124	2735	21.1	6	117465	6535	12730	692	24189	1386	31.3	7	1287	115	4.4	1	73.2	5	119.7	13	18.4	2	20.5	2	1.2	0	4.0	1
core	58	30.1	4	30.5	5	63382	7017	22.2	7	125854	6517	13298	742	27483	2064	37.4	13	1359	154	3.7	1	75.8	4	132.7	16	19.7	2	22.0	2	1.2	0	3.0	1
core	63	25.7	3	24.5	2	55567	2558	22.2	7	118089	5021	12221	500	25115	1345	40.0	14	1250	109	3.7	1	74.6	5	122.1	13	18.4	1	20.4	2	1.6	0	3.5	1
core	68	27.3	3	25.4	2	56655	2340	23.1	6	119916	5009	12555	430	27188	2154	37.7	7	1319	118	3.6	1	76.1	5	122.0	15	19.0	2	20.9	2	1.3	0	4.2	1
core	73	27.3	4	25.3	3	53335	3507	10.8	4	113541	6629	11797	650	24002	1987	45.0	10	1240	115	3.8	1	73.4	5	123.0	15	17.0	2	20.7	2	1.3	0	2.2	1
core	78	25.3	4	26.0	3	58041	6009	21.3	7	120463	6072	13067	834	26474	1994	54.3	14	1308	136	4.4	1	70.9	5	128.4	12	17.7	2	21.2	2	1.4	0	4.1	1
core	83	23.4	3	27.0	2	60510	4173	14.2	6	121235	6856	13105	909	26678	2572	36.6	12	1352	113	3.7	1	74.0	5	113.9	18	18.8	2	21.2	2	1.6	0	3.5	2
core	88	26.6	4	26.8	3	55143	3159	18.5	6	119669	6416	12716	644	27327	1997	52.2	15	1245	167	4.0	1	75.7	7	111.2	14	17.8	2	20.7	2	1.4	0	4.2	1
core	93	25.9	3	26.1	3	54273	3862	19.5	7	117652	8109	11944	823	25386	2726	36.7	8	1245	83	4.0	1	68.0	5	95.5	9	17.4	2	20.5	2	1.5	0	3.9	1
core	98	26.4	4	31.0	4	57005	4020	25.1	7	125107	9681	12711	958	28809	3008	34.4	8	1265	149	4.4	2	74.4	7	108.5	11	17.6	1	20.2	2	1.5	0	4.2	1
core	103	26.7	3	27.5	3	57790	4660	14.6	4	122970	9384	12570	776	25436	2591	40.4	11	1246	174	3.3	1	70.8	6	97.8	13	18.2	2	20.1	2	1.2	0	3.5	1
core	108	25.6	4	28.4	3	56899	2744	17.8	7	120699	5693	13044	919	27081	2031	37.4	14	1321	121	3.8	1	76.4	6	101.9	12	19.9	2	20.9	2	1.5	0	4.4	1
core	113	27.1	6	27.5	2	57555	5571	17.2	7	115703	6875	13027	1006	26057	2337	40.3	12	1337	147	3.7	1	65.8	5	101.4	13	17.6	1	20.4	2	1.6	0	3.5	1
core	118	28.1	5	26.4	2	57755	3090	19.8	7	123162	6777	12943	721	26422	2129	53.9	12	1360	187	4.9	1	73.9	6	96.9	12	17.8	2	22.1	2	1.2	0	3.6	1
core	123	27.1	3	26.9	3	55776	2257	13.9	5	118847	4790	12788	980	24864	1987	34.1	9	1158	142	2.9	1	69.9	6	94.4	13	17.2	2	20.9	1	1.0	0	2.9	1
core	128	23.1	4	24.4	2	57275	3738	22.5	8	123452	6663	12874	667	27629	2457	41.2	10	1323	145	4.5	1	76.0	5	101.3	13	19.9	2	19.6	2	1.1	0	3.0	2
core	133	28.6	5	23.3	2	56342	3380	22.5	8	119335	6013	12924	749	26784	2421	45.2	11	1233	133	4.4	1	74.0	6	93.1	12	17.9	1	20.6	2	1.2	0	2.5	1
core	138	26.7	3	23.2	2	58305	3362	17.7	6	118340	5122	12326	550	26758	1660	40.0	9	1264	143	4.2	1	71.6	4	85.3	9	17.0	1	20.1	1	1.2	0	4.1	2
core	143	22.0	3	20.8	2	51939	3294	21.2	5	113780	6868	12176	895	24940	2112	37.5	8	1278	139	4.3	1	70.7	5	100.2	13	17.0	2	19.3	2	1.3	0	4.1	1
core	148	24.3	4	20.0	1	54951	3129	19.0	7	118258	7068	12146	741	25985	2927	41.5	15	1266	123	2.6	1	76.4	5	77.4	10	16.5	2	19.7	2	1.7	0	4.5	1
core	153	19.0	2	19.7	2	55426	3646	20.0	6	115614	7902	12324	897	26513	2767	38.4	9	1209	141	4.9	1	74.1	8	79.5	12	17.4	2	20.2	2	1.4	0	3.2	1
rim	158	19.9	5	18.5	2	53553	4399	18.6	5	116444	9569	12153	923	26083	2286	36.4	17	1254	164	4.0	1	76.2	8	75.9	11	17.4	2	19.7	2	1.3	0	4.3	2
rim	163	18.3	3	19.1	1	56631	2782	25.6	7	121602	5248	12985	780	25508	1621	38.9	12	1141	118	3.6	1	78.0	6	88.1	7	18.6	2	19.5	2	1.4	0	3.8	1
rim	168	19.1	3	18.4	3	52952	1876	15.6	6	112733	4106	12093	425	23021	1982	29.9	8	1111	112	2.9	1	81.7	6	86.9	13	15.1	1	18.5	2	1.3	0	3.1	1
rim	173	16.0	3	15.8	2	54061	2974	23.5	7	113164	6334	12576	867	23849	3029	45.1	11	1153	114	3.6	1	94.9	9	126.0	12	18.3	2	19.7	2	1.5	0	3.7	1
rim	178	15.0	4	15.4	3	56366	3639	19.9	7	114917	4857	12458	711	26475	2501	45.3	13	1298	153	4.8	1	104.4	7	145.4	18	18.5	2	20.1	2	1.4	0	2.9	1
rim	183	14.9	3	13.5	2	56962	3194	15.4	7	122642	7152	12934	818	28210	2168	42.3	10	1432	194	3.6	1	118.6	10	180.0	17	19.5	2	21.3	2	1.3	0	4.0	1
rim	188	11.1	3	11.0	1	56011	3689	22.0	7	117213	6524	12423	608	27704	2470	49.0	15	1265	153	2.9	1	128.1	11	205.9	25	18.4	2	21.0	2	1.7	0	4.0	1
rim	193	13.6	4	8.8	1	53544	2472	26.6	7	117763	4694	12608	608	25687	1747	42.2	10	1187	131	3.8	1	125.0	7	231.0	19	18.4	1	21.2	2	1.3	0	4.3	2
rim	198	10.4	3	8.4	2	54626	4160	20.8	9	117478	8104	12295	815	24824	2693	34.0	9	1260	163	4.5	1	126.9	10	244.3	30	18.8	2	22.3	3	1.3	0	3.5	2

Table B26: continued

Sm ppm	2SD	Eu ppm	2SD	Gd ppm	2SD	Pb ppm	2SD	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total	An mol%	Ab mol%	Or mol%
0.4	0	2.5	1	0.5	0	15.7	1	63.5	0.0	23.0	0.1	0.0	4.0	8.3	1.6	0.0	0.0	100.5	19	72	9
0.9	1	1.8	1	0.2	0	14.2	1	63.7	0.0	23.4	0.2	0.0	4.1	8.2	1.5	0.0	0.0	101.2	20	72	9
0.8	1	1.4	0	0.2	0	13.3	2	63.4	0.0	23.4	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.7	20	71	9
0.2	0	1.7	1	0.6	0	14.3	1	63.4	0.0	23.1	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.5	20	71	9
0.2	0	2.3	1	0.5	0	14.6	2	63.5	0.0	23.2	0.2	0.0	4.2	8.0	1.6	0.0	0.0	100.7	20	71	9
0.5	0	1.7	1	0.4	1	13.9	2	63.6	0.0	23.0	0.2	0.0	4.1	8.1	1.5	0.1	0.1	100.6	20	71	9
0.5	0	1.7	0	0.1	0	13.7	2	64.0	0.0	22.8	0.2	0.0	4.0	8.2	1.6	0.0	0.0	100.7	19	72	9
0.2	0	2.0	0	0.7	1	14.8	2	63.7	0.0	23.0	0.2	0.0	4.1	8.2	1.5	0.1	0.0	100.8	20	71	9
0.5	0	2.3	0	0.1	0	14.2	1	63.5	0.1	23.0	0.2	0.0	4.1	8.0	1.6	0.0	0.0	100.4	20	71	9
0.3	0	2.2	0	0.3	0	14.0	1	63.3	0.0	23.4	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.9	21	71	8
0.5	1	2.1	1	0.3	0	14.0	1	63.5	0.0	23.4	0.2	0.0	4.3	8.0	1.5	0.0	0.0	101.0	21	70	9
0.3	0	2.0	1	0.6	1	13.3	1	63.6	0.0	23.0	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.6	21	71	9
0.3	0	2.8	0	0.3	0	14.6	2	63.3	0.0	23.2	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.5	20	71	9
0.8	1	2.6	1	0.4	0	13.9	1	63.6	0.0	23.1	0.2	0.0	4.1	8.1	1.5	0.1	0.0	100.6	20	71	9
0.6	0	2.1	0	0.4	0	14.0	1	64.0	0.0	23.0	0.2	0.0	4.2	8.0	1.5	0.1	0.0	101.0	20	71	9
0.5	0	2.1	1	0.1	0	13.2	1	63.8	0.0	23.0	0.2	0.0	4.1	8.0	1.5	0.0	0.0	100.7	20	71	9
0.4	0	2.6	1	0.3	0	13.3	1	63.2	0.0	22.8	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.0	21	71	9
0.2	0	1.9	1	0.2	0	13.9	2	63.6	0.0	23.0	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.6	21	71	9
0.4	0	2.2	0	0.7	1	13.9	2	63.6	0.0	23.0	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.7	21	71	9
0.5	0	2.0	0	0.3	1	13.9	2	63.6	0.0	22.9	0.2	0.0	4.2	8.2	1.5	0.0	0.0	100.7	20	71	9
0.6	1	2.0	1	0.5	0	15.7	2	63.4	0.0	22.7	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.0	20	71	9
0.4	0	1.5	0	0.1	0	13.9	1	63.1	0.0	22.9	0.2	0.0	4.3	8.1	1.5	0.0	0.0	100.0	21	71	8
0.5	1	2.7	1	0.4	0	14.9	2	63.4	0.0	22.9	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.4	21	71	9
0.5	0	2.0	1	0.3	0	15.0	3	63.7	0.0	22.9	0.2	0.0	4.3	7.9	1.5	0.0	0.0	100.6	21	70	9
0.3	0	2.5	1	0.5	1	15.3	1	63.4	0.0	23.0	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.3	20	71	9
0.4	0	1.6	0	0.4	1	15.1	1	63.5	0.0	23.1	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.6	21	71	9
0.5	0	2.3	1	0.4	0	15.4	2	63.8	0.0	23.0	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.7	20	71	9
0.4	0	2.4	0	0.3	0	14.9	1	63.6	0.0	22.9	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.5	20	71	9
0.5	0	1.9	1	0.2	0	14.4	1	63.4	0.0	22.9	0.2	0.0	4.2	8.0	1.5	0.0	0.0	100.1	20	71	9
0.3	0	2.0	1	0.3	1	13.1	1	63.4	0.0	23.0	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.4	20	71	9
0.5	0	1.8	0	0.6	0	14.3	2	63.5	0.0	22.8	0.2	0.0	4.2	8.0	1.5	0.0	0.1	100.3	21	71	9
0.2	0	2.0	0	0.1	0	14.0	1	63.6	0.0	22.9	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.6	20	71	9
0.3	0	2.1	1	0.5	1	12.9	1	63.8	0.0	22.9	0.2	0.0	4.1	7.9	1.5	0.1	0.0	100.5	20	71	9
0.2	0	1.9	0	0.1	0	14.6	1	63.7	0.0	22.7	0.2	0.0	4.1	8.1	1.5	0.1	0.0	100.3	20	71	9
0.6	1	2.2	1	0.1	0	12.9	1	63.6	0.0	22.9	0.2	0.0	4.2	8.0	1.5	0.1	0.0	100.5	20	71	9
0.4	0	2.3	0	0.2	0	14.4	2	63.7	0.0	22.7	0.1	0.0	4.1	8.0	1.5	0.0	0.0	100.2	20	71	9
0.4	0	2.8	1	0.1	0	13.2	1	63.6	0.0	22.9	0.2	0.0	4.2	8.1	1.5	0.0	0.0	100.4	20	71	9
0.3	1	3.2	1	0.2	0	15.4	2	63.5	0.0	22.9	0.2	0.0	4.3	8.0	1.5	0.0	0.0	100.4	21	71	9
0.2	0	3.4	1	0.3	1	13.3	2	63.7	0.0	22.8	0.2	0.0	4.2	7.9	1.5	0.0	0.1	100.3	20	71	9
0.5	1	3.1	1	0.5	1	12.6	1	63.8	0.0	23.0	0.2	0.0	4.2	8.2	1.5	0.0	0.0	100.8	20	71	9
0.4	0	3.7	1	0.3	0	13.0	1	63.9	0.0	22.8	0.2	0.0	4.0	7.9	1.5	0.1	0.0	100.4	20	71	9

grain 27 - Isotopes

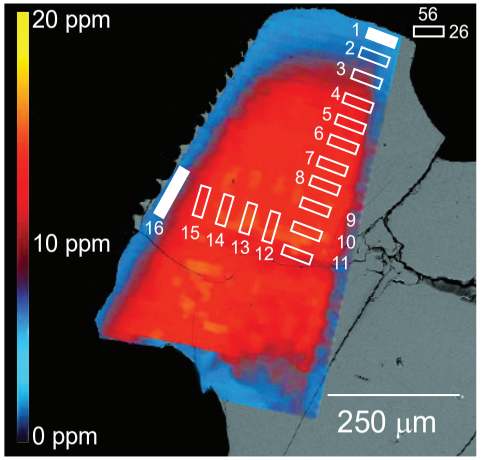


Fig. B26. BSE image of plagioclase grain 27 with Fs-LA-MC-ICP-MS lines indicated.

Table B27: Plagioclase grain 27 - Lithium isotopes

MEASURED			background		Results (BLK + tau corr.)																		
	^{7}Li (V)	^{6}Li (cps)	^{6}Li (V)	^{7}Li (V)	^{6}Li (cps)	^{7}Li/^{6}Li	SE	SD	I RSD	n	D time (min)	std drift ^{7}Li/^{6}Li	δ^{7}Li (‰) rel GOR132-G	2 σ	δ^{7}Li (‰) rel IRMM-016	RepRate Hz	integr.time (s)		distance	Li	2 σ	d^{7}Li	2 σ
1	0.00641	30103	0.00048	0.0000683	356	13.3026	0.0130	0.1228	978	90	9.4	-0.1	-6.3	2.5	2.6	50	1.049	rim	32	10.4	1	2.6	2.5
2	0.00838	39395	0.00063	0.0000688	340	13.2904	0.0121	0.1219	913	100	6.5	-0.3	-7.4	2.3	1.5	33	1.049	rim	74	12.6	1	1.5	2.3
3	0.01160	54475	0.00087	0.0000700	336	13.2909	0.0094	0.0871	706	87	3.9	-0.5	-7.7	2.0	1.2	33	1.049	core	117	18.5	4	1.2	2.0
4	0.01265	59539	0.00095	0.0000667	322	13.2812	0.0095	0.0847	713	80	5.3	-0.1	-8.7	1.9	0.2	29	1.049	core	171	22.5	2	0.2	1.9
5	0.01039	49134	0.00079	0.0000709	319	13.2439	0.0105	0.0993	790	90	4.6	-0.7	-11.9	2.1	-3.0	23	1.049	core	213	22.6	1	-3.0	2.1
6	0.01392	65818	0.00105	0.0000698	319	13.2168	0.0072	0.0750	544	112	4.3	0.3	-14.1	1.7	-5.2	22	1.049	core	261	22.4	1	-5.2	1.7
7	0.01270	60204	0.00096	0.0000659	314	13.1941	0.0095	0.0961	721	103	4.5	0.3	-15.5	2.0	-6.6	19	1.049	core	310	23.5	2	-6.6	2.0
8	0.01195	56727	0.00091	0.0000607	317	13.2018	0.0086	0.0878	649	105	4.2	-0.7	-15.1	2.0	-6.2	18	1.049	core	357	23.1	2	-6.2	2.0
9	0.01111	52702	0.00084	0.0000634	317	13.1855	0.0086	0.0937	655	118	4.1	1.2	-16.1	1.9	-7.2	18	1.049	core	405	22.7	2	-7.2	1.9
10	0.01138	54037	0.00086	0.0000664	320	13.1696	0.0101	0.1005	763	100	4.2	-0.6	-17.0	2.0	-8.1	18	1.049	core	449	22.4	1	-8.1	2.0
11	0.01054	50020	0.00080	0.0000666	319	13.1640	0.0080	0.0872	607	119	4.9	0.9	-17.2	1.8	-8.3	18	1.049	core	495	21.5	2	-8.3	1.8
12	0.01056	50064	0.00080	0.0000676	328	13.1945	0.0113	0.1058	855	88	8.2	-0.2	-14.6	2.1	-5.7	18	1.049	core	195	24.5	2	-5.7	2.1
13	0.01260	59622	0.00095	0.0000644	327	13.2157	0.0106	0.1008	804	89	5.7	-0.5	-13.4	2.1	-4.5	20	1.049	core	174	24.8	2	-4.5	2.1
14	0.01384	65463	0.00105	0.0000671	317	13.2365	0.0089	0.0862	675	95	4.1	0.5	-11.9	2.0	-3.0	22	1.049	core	134	25.4	2	-3.0	2.0
15	0.01362	64185	0.00103	0.0000645	316	13.2564	0.0103	0.1085	773	115	5.0	0.8	-9.7	2.0	-0.8	25	1.049	core	94	28.4	3	-0.8	2.0
16	0.00810	38030	0.00061	0.0000662	303	13.2696	0.0101	0.1103	762	119	4.3	-1.3	-9.0	2.1	-0.1	29	1.049	rim	32	18.4	3	-0.1	2.1

Table B28: EPMA Standards

	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total
Ref value	64.67[2]	0.01[2]	18.90[3]	0.04	0.03	0.02	1.30	15.14			100.11
MCL-1	63.9	0.1	18.7	0.0	0.0	0.0	1.2	15.3	0.2	0.1	99.5
MCL-2	64.0	0.1	18.8	0.0	0.0	0.0	1.3	15.2	0.3	0.0	99.6
MCL-3	64.0	0.0	18.6	0.0	0.0	0.0	1.3	15.2	0.3	0.0	99.3
MCL-4	63.4	0.1	18.4	0.0	0.0	0.0	1.2	15.0	0.3	0.0	98.3
MCL-5	64.5	0.1	18.8	0.0	0.0	0.0	1.2	15.1	0.2	0.1	99.8
MCL-6	64.1	0.1	19.0	0.0	0.0	0.0	1.3	15.3	0.2	0.0	100.0
MCL-7	64.0	0.1	18.7	0.0	0.0	0.0	1.2	15.4	0.2	0.0	99.6
MCL-8	64.4	0.1	18.7	0.0	0.0	0.0	1.2	15.3	0.2	0.0	99.8
MCL-9	63.6	0.0	18.3	0.0	0.0	0.0	1.2	14.9	0.2	0.0	98.3
MCL-10	64.5	0.1	18.8	0.0	0.0	0.0	1.3	15.0	0.2	0.0	99.8

	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total
Ref value	44.00[2]	0.03[2]	36.03[3]	0.62	0.02	19.09	0.53	0.03			100.35
ANO-1	43.9	0.1	36.7	0.5	0.0	19.3	0.5	0.0	0.0	0.1	101.0
ANO-2	44.1	0.1	36.6	0.4	0.0	19.2	0.5	0.0	0.0	0.0	101.0
ANO-3	44.1	0.1	35.9	0.5	0.1	19.6	0.5	0.0	0.0	0.0	100.7
ANO-4	44.2	0.1	36.0	0.5	0.0	19.5	0.5	0.0	0.0	0.0	100.8
ANO-5	43.8	0.1	35.8	0.5	0.0	19.3	0.5	0.0	0.0	0.1	100.1
ANO-6	44.1	0.1	36.0	0.5	0.0	19.5	0.5	0.0	0.0	0.0	100.6
ANO-7	43.8	0.1	36.6	0.5	0.0	19.1	0.5	0.0	0.0	0.0	100.6
ANO-8	44.1	0.1	36.7	0.4	0.0	19.3	0.6	0.0	0.0	0.0	101.3
ANO-9	44.0	0.1	35.9	0.5	0.1	19.3	0.5	0.0	0.0	0.0	100.3
ANO-10	44.2	0.1	36.0	0.5	0.0	19.5	0.5	0.0	0.0	0.0	100.8
ANO-11	43.8	0.1	36.0	0.5	0.0	19.5	0.5	0.0	0.0	0.1	100.5
ANO-12	44.0	0.1	36.0	0.5	0.0	19.4	0.5	0.0	0.0	0.0	100.5

	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total
Ref value	51.60[2]	0.05[2]	30.91[3]	0.46	0.14	13.64	3.45	0.18			100.43
LAB-1	51.8	0.1	31.1	0.5	0.2	13.3	3.8	0.1	0.0	0.0	100.9
LAB-2	51.6	0.1	30.5	0.4	0.1	13.1	3.6	0.1	0.0	0.0	99.6
LAB-3	51.7	0.1	31.0	0.4	0.1	13.2	3.8	0.1	0.0	0.0	100.5
LAB-4	51.6	0.1	31.2	0.5	0.1	13.3	3.8	0.1	0.0	0.0	100.8
LAB-5	51.6	0.1	30.6	0.4	0.1	13.3	3.8	0.1	0.0	0.0	100.2
LAB-6	51.2	0.1	30.2	0.4	0.1	13.2	3.7	0.1	0.0	0.0	99.1
LAB-7	51.5	0.1	30.4	0.5	0.1	13.2	3.7	0.1	0.0	0.0	99.8
LAB-8	51.9	0.1	30.7	0.5	0.1	13.1	3.7	0.1	0.1	0.1	100.4

	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total
Ref value	64.67[2]	0.01[2]	18.90[3]	0.04	0.03	0.02	1.30	15.14			100.11
MCL-1	63.9	0.1	18.6	0.0	0.0	0.0	1.2	15.3	0.2	0.0	99.3
MCL-2	63.7	0.1	18.5	0.0	0.0	0.0	1.3	15.2	0.2	0.0	98.9
MCL-3	63.7	0.0	18.6	0.0	0.0	0.0	1.2	15.1	0.3	0.0	99.0
MCL-4	63.8	0.0	18.6	0.0	0.0	0.0	1.2	15.1	0.2	0.1	99.1
MCL-5	63.8	0.1	18.6	0.0	0.0	0.0	1.3	15.4	0.2	0.0	99.5
MCL-6	63.8	0.0	18.4	0.0	0.0	0.0	1.3	15.2	0.2	0.0	99.0
MCL-7	64.0	0.1	18.6	0.0	0.0	0.0	1.2	15.3	0.3	0.0	99.6
MCL-8	64.0	0.1	18.5	0.0	0.0	0.0	1.3	15.1	0.3	0.0	99.3

	SiO_2	TiO_2	A_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total
Ref value	44.00[2]	0.03[2]	36.03[3]	0.62	0.02	19.09	0.53	0.03			100.35
ANO-1	43.7	0.1	36.0	0.5	0.0	19.4	0.5	0.0	0.0	0.0	100.2
ANO-2	43.7	0.1	35.8	0.5	0.1	19.4	0.5	0.0	0.0	0.0	100.2
ANO-3	43.7	0.0	35.7	0.5	0.0	19.3	0.5	0.0	0.0	0.0	99.9
ANO-4	43.8	0.0	35.8	0.5	0.0	19.4	0.5	0.0	0.0	0.1	100.1
ANO-5	43.7	0.1	36.3	0.5	0.0	19.4	0.5	0.0	0.0	0.0	100.5
ANO-6	43.6	0.1	35.6	0.4	0.0	19.3	0.5	0.0	0.0	0.0	99.5
ANO-7	43.4	0.1	35.3	0.5	0.0	19.4	0.5	0.0	0.0	0.1	99.3
ANO-8	43.7	0.0	35.9	0.5	0.0	19.3	0.6	0.0	0.0	0.0	99.9

	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	Na_2O	K_2O	BaO	SrO	Total
Ref value	51.60[2]	0.05[2]	30.91[3]	0.46	0.14	13.64	3.45	0.18			100.43
LAB-1	51.5	0.1	30.8	0.5	0.1	13.2	3.9	0.1	0.0	0.0	100.2
LAB-2	51.2	0.1	30.2	0.4	0.1	13.2	3.7	0.1	0.0	0.0	99.1
LAB-3	51.3	0.1	30.9	0.5	0.1	13.4	3.9	0.1	0.0	0.0	100.3
LAB-4	51.4	0.1	30.4	0.4	0.1	13.2	3.9	0.1	0.0	0.0	99.7
LAB-5	51.3	0.1	30.3	0.5	0.2	13.1	3.8	0.1	0.0	0.0	99.4
LAB-6	51.3	0.1	30.4	0.4	0.1	13.2	3.8	0.1	0.0	0.0	99.5
LAB-7	51.3	0.1	30.1	0.5	0.1	13.2	3.8	0.1	0.0	0.0	99.2

	SiO_2	TiO_2	Al_2O_3	FeO	MgO	CaO	$Na2O$	K_2O	BaO	SrO	Total
Ref value	64.67[2]	0.01[2]	18.90[3]	0.04	0.03	0.02	1.30	15.14			100.11
MCL-1	64.4	0.1	18.7	0.0	0.0	0.0	1.2	15.2	0.3	0.0	100.0
MCL-2	64.9	0.1	18.8	0.0	0.0	0.0	1.3	15.1	0.2	0.0	100.4
MCL-3	64.9	0.1	18.9	0.0	0.0	0.0	1.2	14.6	0.3	0.0	100.1
MCL-4	64.8	0.1	18.8	0.0	0.0	0.0	1.3	14.9	0.2	0.0	100.1
MCL-5	65.0	0.1	19.1	0.0	0.0	0.0	1.2	14.8	0.2	0.0	100.5
MCL-6	64.7	0.1	19.0	0.0	0.0	0.0	1.3	15.2	0.3	0.0	100.6
MCL-7	64.9	0.0	19.0	0.0	0.0	0.0	1.3	15.1	0.2	0.0	100.6
MCL-8	64.8	0.1	18.9	0.0	0.0	0.0	1.3	15.1	0.3	0.0	100.4
MCL-9	64.6	0.1	18.9	0.0	0.0	0.0	1.3	15.2	0.3	0.0	100.3
MCL-10	65.1	0.1	19.1	0.0	0.0	0.0	1.2	15.3	0.3	0.0	101.0
MCL-11	64.9	0.1	18.8	0.0	0.0	0.0	1.3	15.1	0.2	0.0	100.4
MCL-12	64.7	0.1	19.0	0.0	0.0	0.0	1.2	15.2	0.2	0.0	100.4
MCL-13	64.9	0.1	18.7	0.0	0.0	0.0	1.2	15.3	0.2	0.0	100.5
MCL-14	65.0	0.0	18.9	0.0	0.0	0.0	1.3	15.1	0.3	0.0	100.6
MCL-15	65.0	0.1	19.0	0.0	0.0	0.0	1.3	15.1	0.3	0.0	100.7
MCL-16	64.9	0.1	18.9	0.0	0.0	0.0	1.3	14.9	0.3	0.0	100.4
MCL-17	64.7	0.1	18.7	0.0	0.0	0.0	1.3	15.2	0.2	0.0	100.2
MCL-18	64.5	0.1	18.8	0.0	0.0	0.0	1.2	15.1	0.2	0.0	99.9
MCL-19	64.3	0.1	18.8	0.0	0.0	0.0	1.3	15.1	0.3	0.0	99.9
MCL-20	64.6	0.1	18.7	0.0	0.0	0.0	1.2	15.0	0.2	0.1	99.9
MCL-21	64.4	0.1	18.6	0.0	0.0	0.0	1.2	15.1	0.4	0.0	99.8
MCL-22	64.4	0.1	18.7	0.0	0.0	0.0	1.2	15.3	0.2	0.0	100.0
MCL-23	64.4	0.0	18.8	0.0	0.0	0.0	1.2	15.1	0.3	0.0	99.7
MCL-24	64.4	0.1	18.8	0.0	0.0	0.0	1.3	15.1	0.3	0.0	99.9
MCL-25	64.6	0.1	18.9	0.0	0.0	0.0	1.2	15.0	0.3	0.0	100.1
MCL-26	64.3	0.1	18.9	0.0	0.0	0.0	1.2	15.1	0.3	0.1	99.9
MCL-27	64.4	0.1	18.8	0.0	0.0	0.0	1.2	15.1	0.3	0.0	100.0
MCL-28	64.4	0.1	18.6	0.0	0.0	0.0	1.2	14.9	0.2	0.0	99.4
MCL-29	64.7	0.1	18.8	0.0	0.0	0.0	1.3	15.0	0.4	0.1	100.3
MCL-30	64.8	0.1	18.8	0.0	0.0	0.0	1.3	15.1	0.3	0.0	100.4
MCL-31	64.8	0.1	18.8	0.0	0.0	0.0	1.3	15.0	0.2	0.1	100.2
MCL-32	64.5	0.1	18.8	0.0	0.0	0.0	1.3	15.1	0.2	0.0	100.0
MCL-33	64.4	0.0	18.9	0.0	0.0	0.0	1.3	15.1	0.2	0.0	99.9
MCL-34	64.7	0.1	18.7	0.0	0.0	0.0	1.3	15.0	0.2	0.0	100.0
MCL-35	64.8	0.1	18.7	0.0	0.0	0.0	1.3	15.1	0.2	0.0	100.3
MCL-36	64.6	0.1	18.8	0.0	0.0	0.0	1.3	15.1	0.3	0.0	100.2
MCL-37	64.6	0.0	18.7	0.0	0.0	0.0	1.2	15.1	0.2	0.0	99.9
MCL-38	64.2	0.0	18.7	0.0	0.0	0.0	1.2	14.9	0.2	0.1	99.4
MCL-39	64.4	0.1	18.9	0.0	0.0	0.0	1.3	14.8	0.3	0.0	99.6

Table B28: continued

	SiO	TiO$_2$	Al$_2$O$_3$	FeO	MgO	CaO	Na$_2$O	K$_2$O	BaO	SrO	Total
Ref value	44.00[5]	0.03[2]	36.03[3]	0.62	0.02	19.09	0.53	0.03			100.35
ANO-1	43.8	0.1	35.9	0.5	0.0	19.4	0.5	0.0	0.0	0.0	100.3
ANO-2	44.1	0.1	35.7	0.5	0.0	19.0	0.5	0.0	0.0	0.1	99.9
ANO-3	44.0	0.1	35.8	0.5	0.0	19.4	0.5	0.0	0.0	0.1	100.3
ANO-4	43.9	0.1	36.1	0.5	0.0	19.3	0.5	0.0	0.0	0.0	100.3
ANO-5	44.1	0.1	35.9	0.5	0.1	19.5	0.5	0.0	0.1	0.0	100.7
ANO-6	44.0	0.1	36.2	0.4	0.0	19.4	0.5	0.0	0.0	0.1	100.8
ANO-7	44.0	0.0	36.0	0.5	0.0	19.5	0.5	0.0	0.0	0.0	100.6
ANO-8	44.1	0.1	36.3	0.4	0.1	19.3	0.5	0.0	0.0	0.0	100.8
ANO-9	44.1	0.1	36.0	0.5	0.0	19.5	0.5	0.0	0.1	0.0	100.7
ANO-10	44.1	0.1	36.0	0.5	0.1	19.3	0.5	0.0	0.1	0.1	100.7
ANO-11	44.1	0.1	35.9	0.4	0.0	19.4	0.5	0.0	0.0	0.1	100.5
ANO-12	44.2	0.1	35.9	0.5	0.0	19.4	0.5	0.0	0.0	0.1	100.7
ANO-13	44.2	0.1	36.0	0.5	0.0	19.4	0.5	0.0	0.0	0.0	100.7
ANO-14	44.1	0.1	36.0	0.4	0.0	19.4	0.5	0.0	0.0	0.1	100.7
ANO-15	43.7	0.1	36.0	0.5	0.0	19.2	0.5	0.0	0.1	0.0	100.1
ANO-16	43.7	0.1	35.9	0.5	0.0	19.2	0.5	0.0	0.1	0.1	99.9
ANO-17	43.9	0.1	35.9	0.5	0.0	19.2	0.5	0.0	0.0	0.0	100.2
ANO-18	43.8	0.1	35.7	0.5	0.0	19.2	0.5	0.0	0.0	0.1	99.8
ANO-19	43.7	0.1	35.5	0.5	0.0	19.2	0.5	0.0	0.0	0.0	99.6
ANO-20	43.8	0.1	36.0	0.5	0.0	19.2	0.5	0.0	0.0	0.0	100.0
ANO-21	43.9	0.0	36.0	0.5	0.0	19.2	0.5	0.0	0.0	0.1	100.2
ANO-22	43.9	0.1	36.0	0.4	0.1	19.2	0.5	0.0	0.0	0.1	100.3
ANO-23	43.8	0.1	36.0	0.5	0.1	19.1	0.5	0.0	0.0	0.0	100.1
ANO-24	43.8	0.1	35.9	0.4	0.0	19.2	0.5	0.0	0.0	0.0	99.9
ANO-25	43.8	0.1	36.1	0.5	0.0	19.2	0.5	0.0	0.0	0.0	100.3
ANO-26	43.6	0.1	35.9	0.4	0.0	19.2	0.5	0.0	0.0	0.1	99.8
ANO-27	43.9	0.1	35.8	0.5	0.1	19.3	0.5	0.0	0.1	0.0	100.3
ANO-28	43.9	0.1	35.8	0.5	0.1	19.3	0.5	0.0	0.1	0.0	100.3
ANO-29	43.9	0.1	36.2	0.4	0.0	19.1	0.5	0.0	0.0	0.0	100.3
ANO-30	43.9	0.1	36.2	0.4	0.0	19.1	0.5	0.0	0.0	0.0	100.3
ANO-31	43.6	0.1	35.9	0.4	0.0	19.2	0.5	0.0	0.0	0.1	100.0
ANO-32	43.9	0.1	36.0	0.5	0.0	19.1	0.5	0.0	0.0	0.1	100.1
ANO-33	43.8	0.1	36.0	0.5	0.1	19.0	0.6	0.0	0.1	0.0	100.2
ANO-34	43.6	0.1	35.8	0.5	0.0	19.4	0.5	0.0	0.0	0.0	99.9
ANO-35	43.9	0.1	36.0	0.5	0.0	19.0	0.5	0.0	0.0	0.1	100.2
ANO-36	43.5	0.1	36.0	0.4	0.0	19.2	0.5	0.0	0.0	0.0	99.8
ANO-37	43.7	0.1	35.8	0.5	0.0	19.0	0.5	0.0	0.0	0.1	99.7
ANO-38	44.1	0.1	35.9	0.5	0.1	19.2	0.5	0.0	0.0	0.0	100.4

	SiO	TiO$_2$	Al$_2$O$_3$	FeO	MgO	CaO	Na$_2$O	K$_2$O	BaO	SrO	Total
Ref value	51.60[5]	0.05[2]	30.91[3]	0.46	0.14	13.64	3.45	0.18			100.43
LAB-1	50.7	0.1	31.1	0.4	0.1	13.9	3.6	0.1	0.0	0.0	100.0
LAB-2	50.9	0.1	31.1	0.4	0.1	14.0	3.5	0.1	0.0	0.0	100.2
LAB-3	50.7	0.1	31.1	0.4	0.1	14.0	3.4	0.1	0.0	0.1	100.1
LAB-4	50.6	0.1	31.3	0.4	0.1	13.9	3.5	0.1	0.0	0.1	100.0
LAB-5	50.9	0.1	31.4	0.4	0.1	14.0	3.4	0.1	0.0	0.1	100.4
LAB-6	50.8	0.1	31.3	0.4	0.1	14.1	3.5	0.1	0.0	0.1	100.5
LAB-7	50.9	0.1	31.2	0.4	0.1	13.9	3.4	0.1	0.0	0.0	100.2
LAB-8	50.8	0.1	31.4	0.4	0.1	14.1	3.4	0.1	0.0	0.1	100.5
LAB-9	50.8	0.1	31.2	0.4	0.1	14.2	3.5	0.1	0.0	0.1	100.4
LAB-10	50.9	0.1	31.1	0.4	0.1	13.9	3.4	0.1	0.0	0.0	100.2
LAB-11	51.0	0.1	31.1	0.4	0.2	13.9	3.4	0.1	0.0	0.1	100.3
LAB-12	50.8	0.1	30.9	0.4	0.2	14.2	3.4	0.1	0.0	0.0	100.1
LAB-13	50.8	0.1	31.1	0.4	0.1	14.1	3.4	0.1	0.0	0.0	100.3
LAB-14	51.0	0.1	31.1	0.4	0.1	14.1	3.4	0.1	0.0	0.1	100.4
LAB-15	50.9	0.1	31.3	0.5	0.1	14.0	3.4	0.1	0.0	0.0	100.4
LAB-16	50.9	0.1	31.1	0.4	0.1	13.8	3.4	0.1	0.0	0.1	100.1
LAB-17	50.5	0.1	31.0	0.4	0.1	13.9	3.5	0.1	0.0	0.0	99.7
LAB-18	50.5	0.1	31.3	0.4	0.2	14.0	3.5	0.1	0.0	0.1	100.0
LAB-19	50.3	0.1	31.1	0.4	0.1	13.9	3.4	0.1	0.0	0.1	99.5
LAB-20	50.5	0.1	30.8	0.4	0.2	13.8	3.4	0.1	0.0	0.0	99.2
LAB-21	50.6	0.1	31.1	0.4	0.2	13.8	3.4	0.1	0.0	0.0	99.6
LAB-22	50.7	0.1	31.2	0.4	0.1	14.0	3.5	0.1	0.0	0.1	100.2
LAB-23	50.6	0.1	31.0	0.4	0.1	13.8	3.4	0.1	0.0	0.0	99.5
LAB-24	50.6	0.1	31.3	0.4	0.1	14.0	3.5	0.1	0.0	0.0	100.1
LAB-25	50.4	0.1	31.3	0.4	0.1	14.0	3.4	0.1	0.1	0.0	100.1
LAB-26	50.5	0.1	31.1	0.4	0.1	13.9	3.5	0.1	0.0	0.0	99.8
LAB-27	50.5	0.1	31.3	0.4	0.1	13.9	3.5	0.1	0.0	0.0	99.9
LAB-28	50.5	0.1	31.2	0.4	0.1	13.8	3.5	0.1	0.0	0.0	99.7
LAB-29	50.5	0.1	31.2	0.4	0.1	13.8	3.5	0.1	0.0	0.0	99.7
LAB-30	50.5	0.1	31.2	0.4	0.2	14.0	3.4	0.1	0.0	0.0	100.1
LAB-31	50.5	0.1	31.2	0.4	0.2	14.0	3.4	0.1	0.0	0.0	100.1
LAB-32	50.7	0.1	31.1	0.4	0.1	13.8	3.4	0.1	0.1	0.1	99.8
LAB-33	50.5	0.1	31.2	0.4	0.1	14.0	3.6	0.1	0.0	0.0	100.0
LAB-34	50.6	0.1	31.2	0.5	0.1	13.8	3.4	0.1	0.0	0.0	99.8
LAB-35	50.6	0.1	31.0	0.4	0.1	14.0	3.5	0.1	0.0	0.0	99.8
LAB-36	50.3	0.1	31.2	0.4	0.1	14.1	3.5	0.1	0.1	0.0	99.9
LAB-37	50.5	0.1	31.1	0.4	0.1	13.9	3.4	0.1	0.0	0.1	99.8
LAB-38	50.4	0.1	31.2	0.5	0.1	13.9	3.5	0.1	0.0	0.1	99.8

	SiO$_2$	TiO$_2$	Al$_2$O$_3$	FeO	MgO	CaO	Na$_2$O	K$_2$O	SrO	BaO	Total
Ref value	44.00[5]	0.03	36.03[3]	0.62	0.02	19.09	0.53	0.03			100.35
ANO-1	44.0	0.0	36.4	0.5	0.1	19.2	0.5	0.0	0.0	0.0	100.7
ANO-2	43.8	0.0	36.4	0.5	0.1	19.1	0.5	0.0	0.0	0.1	100.4
ANO-3	43.9	0.0	36.1	0.5	0.0	19.1	0.6	0.0	0.0	0.0	100.3
ANO-4	44.1	0.0	36.2	0.5	0.1	19.4	0.5	0.0	0.1	0.0	100.8
ANO-5	44.3	0.0	36.4	0.5	0.0	19.2	0.5	0.0	0.0	0.0	100.9
ANO-6	44.0	0.0	36.2	0.5	0.0	19.3	0.5	0.0	0.0	0.0	100.7
ANO-7	44.0	0.1	36.2	0.5	0.0	19.1	0.5	0.0	0.0	0.0	100.5
ANO-8	44.1	0.0	36.1	0.5	0.0	19.1	0.5	0.0	0.0	0.0	100.4
ANO-9	44.1	0.0	36.0	0.5	0.0	19.4	0.5	0.0	0.0	0.0	100.6
ANO-10	44.0	0.0	36.2	0.5	0.1	19.3	0.6	0.0	0.0	0.0	100.7

	SiO$_2$	TiO$_2$	Al$_2$O$_3$	FeO	MgO	CaO	Na$_2$O	K$_2$O	SrO	BaO	Total
Ref value	51.6[2]	0.1[2]	30.9[2]	0.5	0.1	13.6	3.5	0.2			100.4
LAB-1	50.6	0.0	31.2	0.4	0.2	13.9	3.5	0.1	0.1	0.0	100.0
LAB-2	50.6	0.0	31.6	0.4	0.1	13.9	3.5	0.1	0.1	0.0	100.3
LAB-3	51.2	0.0	30.9	0.4	0.1	13.2	3.8	0.1	0.1	0.0	99.9
LAB-4	51.4	0.1	30.9	0.4	0.1	13.3	3.8	0.1	0.1	0.0	100.1
LAB-5	51.3	0.0	30.7	0.4	0.1	13.3	3.7	0.1	0.0	0.0	99.8
LAB-6	51.2	0.1	30.8	0.4	0.1	13.4	3.8	0.1	0.1	0.1	100.0
LAB-7	51.6	0.0	31.0	0.4	0.1	13.5	3.8	0.1	0.1	0.0	100.5
LAB-8	51.4	0.0	31.0	0.4	0.1	13.4	3.9	0.1	0.0	0.0	100.3
LAB-9	51.4	0.0	30.6	0.4	0.1	13.3	3.9	0.1	0.1	0.0	99.9

	SiO$_2$	TiO$_2$	Al$_2$O$_3$	FeO	MgO	CaO	Na$_2$O	K$_2$O	SrO	BaO	Total
	64.7[2]	0.0[2]	18.9[2]	0.0	0.0	0.0	1.3[2]	15.1[2]			100.1
MCL-1	64.6	0.0	18.9	0.0	0.0	0.0	1.2	15.1	0.0	0.2	100.1
MCL-2	64.6	0.0	18.7	0.0	0.0	0.0	1.3	15.0	0.0	0.2	99.9
MCL-3	64.7	0.0	18.9	0.0	0.0	0.0	1.3	15.1	0.0	0.2	100.2
MCL-4	64.9	0.0	18.9	0.0	0.0	0.0	1.3	15.2	0.1	0.2	100.6
MCL-5	64.8	0.0	19.0	0.0	0.0	0.0	1.3	15.1	0.0	0.1	100.3
MCL-6	65.3	0.0	18.8	0.0	0.0	0.0	1.4	15.0	0.1	0.2	100.9
MCL-7	65.1	0.0	18.7	0.0	0.0	0.0	1.3	15.0	0.1	0.2	100.5
MCL-8	65.2	0.0	18.8	0.0	0.0	0.0	1.3	15.1	0.0	0.2	100.6
MCL-9	65.0	0.0	19.1	0.0	0.0	0.0	1.4	15.1	0.1	0.2	100.7

Appendix

Appendix C: Supplementary material for Chapter 4

Table C1: Glassy and crystalised melt inclusion - Lithium concentration and isotopic composition (by SIMS), H_2O and CO_2 data (by FTIR), major element data (by EPMA) and trace elements (by La-ICP-MS)

Sample		MI Type	Li ppm	d^7Li	2 SE	MI thickness (µm)	% of total thickness	Band absorbance (cm−1)	H_2O (wt%)	1 SD	CO_2 (ppm)	1 SD	SiO_2	Na_2O	Al_2O_3	MgO	K_2O	CaO	TiO_2	Cl	FeO	MnO	P_2O_5	Cr_2O_3	Total
11022-g11-MI3-1	glassy	Brown melt inclusions	27.0	-5.1	1.5								77.8	2.6	11.7	0.0	5.2	0.5	0.1	0.1	1.2	0.1	0.0	0.0	99.3
11022-g11-MI3-2	glassy												77.5	2.6	11.6	0.1	5.1	0.6	0.1	0.1	1.2	0.0	0.0	0.0	98.9
11022-g11-MI3-3	glassy																								
11022-g11-MI3-4	glassy																								
11022-g11-MI3-5	glassy																								
11022-g11-MI2-1	glassy	Colourless melt inclusions	46.6	-2.9	1.4								76.2	2.2	11.5	0.0	5.6	0.5	0.1	0.1	1.2	0.1	0.0	0.0	97.5
11022-g11-MI2-2	glassy		62.8	3.3	1.9								77.0	2.1	11.3	0.0	5.4	0.5	0.1	0.1	1.2	0.1	0.0	0.0	97.8
11022-g11-MI2-3	glassy		46.0	-2.7	1.3								76.4	2.2	11.4	0.0	5.5	0.5	0.1	0.1	1.1	0.0	0.0	0.0	97.4
11022-g11-MI2-4	glassy												76.6	2.2	11.5	0.0	5.5	0.6	0.1	0.1	1.3	0.0	0.0	0.0	97.9
11022-g11-MI1-1	glassy	Brown melt inclusions	29.8	-4.8	1.4	125	19.6	0.055	2.8	0.2	191	13	77.2	2.5	11.7	0.0	5.2	0.5	0.1	0.1	1.2	0.0	0.0	0.0	98.7
11022-g11-MI1-2	glassy		30.0	2.8	1.3	125	19.6	0.055	2.8	0.2	191	13	77.9	2.6	11.7	0.0	5.2	0.5	0.1	0.1	1.3	0.0	0.0	0.0	99.5
11022-g11-MI1-3	glassy		29.7	-4.1	1.5	125	19.6	0.055	2.8	0.2	191	13	77.8	2.6	11.9	0.0	5.2	0.6	0.1	0.1	1.2	0.0	0.0	0.0	99.6
11022-g11-MI1-4	glassy					125	19.6	0.055	2.8	0.2	191	13	77.7	2.5	11.6	0.0	5.1	0.5	0.1	0.1	1.2	0.0	0.1	0.0	99.1
11022-g11-MI1-5	glassy					125	19.6	0.055	2.8	0.2	191	13	77.7	2.7	11.7	0.0	5.3	0.5	0.1	0.1	1.2	0.0	0.0	0.0	99.4
11022-g8-MI2-1	glassy	Colourless melt inclusions	79.4	2.9	1.3	71	13.2	0.032	2.9	0.3	332	29	76.4	2.0	11.4	0.1	5.5	0.5	0.1	0.2	1.0	0.0	0.1	0.0	97.2
11022-g8-MI2-2	glassy					71	13.2	0.032	2.9	0.3	332	29	76.2	2.1	11.7	0.0	5.3	0.5	0.1	0.2	1.0	0.0	0.1	0.1	97.4
11022-g8-MI2-3	glassy					71	13.2	0.032	2.9	0.3	332	29	76.7	2.2	11.5	0.0	5.3	0.5	0.1	0.2	1.2	0.1	0.0	0.0	97.8
11022-g8-MI2-4	glassy					71	13.2	0.032	2.9	0.3	332	29	77.3	2.1	11.4	0.0	5.5	0.5	0.1	0.1	1.1	0.1	0.1	0.1	98.3
11022-g14-MI1-1	glassy	Colourless melt inclusions	18.8	-6.7	1.8	150	35.5	0.065	2.8	0.2	416	17	76.8	1.8	11.6	0.1	5.4	0.4	0.1	0.1	1.0	0.1	0.1	0.0	97.6
11022-g14-MI1-2	glassy		18.7	-8.0	1.6	150	35.5	0.065	2.8	0.2	416	17	77.5	1.9	11.7	0.1	5.5	0.5	0.1	0.2	0.9	0.0	0.1	0.0	98.5
11022-g14-MI1-3	glassy					150	35.5	0.065	2.8	0.2	416	17	77.6	1.9	12.1	0.1	5.3	0.5	0.1	0.2	1.1	0.0	0.1	0.0	98.9
11022-g14-MI1-4	glassy					150	35.5	0.065	2.8	0.2	416	17	76.2	1.9	11.7	0.0	5.6	0.4	0.1	0.1	1.0	0.0	0.1	0.0	97.3
11022-g14-MI1-5	glassy					150	35.5	0.065	2.8	0.2	416	17	76.7	2.0	11.6	0.0	5.3	0.4	0.1	0.2	1.0	0.0	0.1	0.0	97.4
11022-g10-MI2-1	glassy	Brown melt inclusions	61.0	-7.1	1.2	77	13.3	0.038	3.1	0.3	319	21	77.2	2.0	11.4	0.0	5.3	0.4	0.1	0.1	0.9	0.1	0.1	0.0	97.6
11022-g10-MI2-2	glassy		61.9	-7.4	1.3	77	13.3	0.038	3.1	0.3	319	21	76.9	2.0	11.4	0.0	5.4	0.5	0.1	0.2	1.0	0.1	0.1	0.0	97.7
11022-g10-MI2-3	glassy												77.2	2.0	11.6	0.1	5.3	0.5	0.1	0.1	1.0	0.1	0.1	0.1	98.1
11022-g10-MI2-4	glassy												76.4	1.9	11.5	0.0	5.2	0.4	0.1	0.1	1.2	0.0	0.2	0.0	97.1
11022-g10-MI3-1	glassy	Brown melt inclusions	59.5	-6.7	1.1	96	13	0.041	3.2	0.4	292	26	77.5	1.9	11.3	0.1	5.3	0.5	0.1	0.1	1.2	0.1	0.0	0.0	98.0
11022-g10-MI3-2	glassy												76.9	2.0	11.3	0.1	5.5	0.5	0.1	0.1	1.2	0.0	0.1	0.0	97.8
11022-g10-MI3-3	glassy												76.8	2.0	11.6	0.0	5.3	0.5	0.2	0.1	1.2	0.0	0.1	0.0	97.7
11022-g1-MI1-1	glassy	Bubble-bearing melt inclusions	62.8	-7.1	1.5	90	13.8	0.061	3.7	0.2	68	15	76.3	1.6	12.0	0.0	5.5	0.5	0.1	0.1	1.3	0.1	0.0	0.0	97.6

Table C1:continued

Li^6	Li^7	B	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	Rb	Sr	Y	Zr	Nb	Mo	Sn	Sb	Te	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
12	13	13	25289	187	62635	355274	44	39293	3334	2	594	bdl	bdl	223	9215	bdl	bdl	3	64	21	bdl	221	8	61	153	51	5	7	0	0	4	105	71	141	15	51	10	0	11	2	11	2	7	1	6	1	6	3	3	1	32	1	29	7
13	13	12	23291	164	56932	355274	24	36697	3069	2	522	bdl	bdl	197	8675	bdl	bdl	3	53	18	3	198	7	55	136	44	4	7	bdl	bdl	4	95	65	128	13	47	9	0	9	1	9	2	6	1	6	1	5	3	3	1	29	0	26	6
13	13	14	25575	182	61398	355274	31	39519	3394	2	580	0	5	220	9180	0	4	3	67	21	bdl	218	8	62	150	49	5	7	0	bdl	4	107	71	139	15	50	11	0	9	2	11	2	7	1	6	1	6	3	3	1	32	0	29	7
16	14	13	26077	185	62195	355274	41	40463	3378	2	595	bdl	bdl	221	9226	0	bdl	6	68	21	5	223	7	61	150	50	5	6	bdl	bdl	4	104	70	140	15	50	11	0	10	2	11	2	6	1	6	1	6	3	3	1	33	1	29	7
14	13	13	25155	164	60702	355274	38	40786	3353	2	563	bdl	bdl	222	9371	0	bdl	6	72	22	bdl	225	7	59	147	51	5	7	0	bdl	4	104	69	137	14	49	11	0	9	2	11	2	6	1	6	1	5	3	3	1	33	0	28	7
20	20	12	23697	186	62325	355274	32	42685	3380	2	610	bdl	bdl	218	9533	bdl	1	bdl	71	21	bdl	219	7	61	151	50	5	7	bdl	bdl	4	106	73	143	15	51	10	0	9	2	11	2	7	1	6	1	6	3	4	2	33	0	29	7
18	21	11	23805	181	61896	355274	34	43537	3754	2	601	bdl	bdl	224	9602	0	bdl	1	65	21	bdl	230	7	62	152	51	5	7	0	bdl	4	109	73	143	15	52	11	0	11	2	11	2	7	1	6	1	6	4	3	2	31	0	29	7
22	22	13	23590	165	62555	355274	27	43373	3682	2	586	0	bdl	226	9540	bdl	bdl	bdl	69	22	bdl	227	7	62	152	50	4	7	0	bdl	4	108	74	144	15	54	11	0	10	2	11	2	6	1	6	1	6	4	2	2	32	0	29	7
24	23	14	23918	179	61684	355274	37	44114	3492	3	603	0	4	219	9602	bdl	bdl	bdl	72	22	bdl	233	7	61	147	50	4	7	bdl	bdl	4	102	72	142	14	50	10	0	9	2	10	2	7	1	6	1	7	3	3	2	34	0	28	7
14	16	12	27440	204	66702	355274	40	41620	3825	2	621	bdl	bdl	231	9836	0	bdl	3	82	22	4	236	8	62	155	52	3	8	bdl	bdl	4	106	74	150	15	52	11	0	10	2	12	2	7	1	6	1	8	4	2	2	33	0	28	8
14	15	12	25418	176	61162	355274	40	39082	3346	2	568	bdl	bdl	213	9263	0	bdl	5	61	22	3	221	7	61	153	50	5	7	bdl	bdl	4	105	72	141	15	52	11	0	10	2	11	2	7	1	6	1	6	3	3	1	33	0	29	7
15	15	13	25516	164	61876	355274	36	39901	3249	2	582	0	bdl	213	9218	bdl	bdl	3	65	21	3	222	8	61	149	51	4	6	bdl	bdl	4	100	73	142	15	53	11	0	10	2	11	2	6	1	7	1	6	4	3	2	32	0	28	7
16	15	13	25050	155	59032	355274	44	39876	3289	2	568	bdl	bdl	216	9433	0	2	2	70	22	bdl	220	7	59	149	46	4	7	0	bdl	4	107	68	133	14	48	9	0	9	2	9	2	7	1	6	1	7	4	3	2	32	0	27	7
34	34	16	23115	195	59008	355274	38	38711	3083	1	551	0	bdl	183	7237	1	bdl	bdl	49	18	bdl	240	2	54	114	41	5	6	0	1	5	14	57	107	11	38	8	0	8	1	9	2	6	1	5	1	6	3	3	2	31	0	30	7
38	37	15	25148	211	66900	355274	23	43353	3431	2	605	bdl	bdl	209	8086	bdl	bdl	bdl	57	19	3	273	2	61	130	46	9	7	bdl	bdl	5	15	62	123	13	41	9	0	8	2	11	2	6	1	7	1	6	4	5	2	36	1	34	8
10	11	19	25079	262	65887	355274	38	41613	3413	2	bdl	bdl	bdl	183	7389	0	1	bdl	46	20	bdl	251	3	59	150	45	6	6	0	bdl	5	40	64	123	13	45	8	0	8	2	10	2	6	1	5	1	6	4	4	2	33	0	37	8
12	10	16	25248	278	65793	355274	40	42712	3401	2	729	bdl	8	181	7381	bdl	bdl	bdl	46	19	3	247	3	59	153	46	6	7	bdl	bdl	5	39	64	124	13	45	9	0	9	1	10	2	6	1	6	1	7	4	3	2	32	0	38	8
13	11	17	26609	290	68064	355274	38	44608	3253	1	715	0	bdl	186	7231	0	bdl	bdl	51	21	bdl	264	4	58	150	43	8	6	bdl	bdl	5	44	64	125	12	43	10	0	8	2	10	2	6	1	6	1	8	4	4	2	33	0	36	9
33	31	16	25207	248	64540	355274	25	41219	3343	3	713	bdl	bdl	180	7524	bdl	bdl	bdl	45	20	bdl	245	2	52	129	43	7	7	bdl	bdl	5	17	58	112	12	42	9	0	8	1	10	2	6	1	5	1	5	3	3	2	32	0	31	8
32	31	16	25259	269	65269	355274	41	42833	3242	1	715	bdl	bdl	188	7518	bdl	1	1	47	19	bdl	247	2	53	132	42	6	7	bdl	bdl	5	16	58	114	12	42	8	0	8	1	9	2	6	1	6	1	5	3	3	2	35	0	34	8
35	33	16	26381	243	66273	355274	34	42281	3257	2	732	bdl	8	184	7779	bdl	bdl	1	50	20	bdl	261	2	54	130	42	6	6	bdl	bdl	5	17	58	117	12	42	9	0	8	1	10	2	6	1	5	1	6	3	3	2	37	0	34	8
35	32	15	25355	252	64084	355274	39	43071	3005	2	704	bdl	bdl	182	7891	bdl	1	bdl	48	17	4	255	3	54	129	41	7	7	0	bdl	5	16	59	114	12	41	9	0	8	1	9	2	6	1	5	1	5	3	4	2	32	0	33	8
32	27	10	23756	177	62274	355274	16	41574	3240	2	747	bdl	bdl	216	8350	1	bdl	bdl	54	19	bdl	199	9	54	151	42	5	5	bdl	bdl	4	137	80	153	15	51	11	0	8	2	9	2	7	1	5	1	6	3	2	2	27	0	25	6
28	32	12	28280	226	71664	355274	41	44016	4357	1	729	bdl	bdl	214	8298	1	bdl	bdl	57	19	bdl	192	7	55	177	49	6	8	bdl	bdl	4	125	84	159	16	54	14	0	10	2	9	2	6	1	6	1	8	3	1	2	34	0	30	7
31	29	12	24092	342	67641	355274	26	38289	3223	2	621	bdl	9	183	7614	bdl	bdl	bdl	58	19	4	194	6	52	158	46	3	5	bdl	4	4	115	74	171	15	53	12	0	10	2	9	2	6	1	4	1	5	3	3	2	32	1	27	6
26	27	21	24297	181	66855	355274	32	44793	3476	2	580	bdl	bdl	216	9687	bdl	bdl	1	58	20	bdl	273	1	60	127	48	7	7	bdl	bdl	6	8	57	111	12	39	8	0	9	2	10	2	6	1	6	1	6	4	4	2	34	0	33	9

Table C1:continued

Sample	MI Type	Li ppm	d^7Li	2 SE	Li^6	Li^7	B	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	Rb	Sr	Y	Zr	Nb	Mo	Sn	Sb	Te	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu
13005-g1-MI1-1	cryst	144.4	-1.6	1.0	75	70	15	27841	177	64479	355274	29	39178	2771	3	541	bdl	bdl	219	8788	bdl	1	bdl	61	23	bdl	235	3	68	148	56	3	7	0	bdl	5	8	66	130	14	47	10	0
13005-g1-MI1-2	cryst				79	81	15	28505	176	63721	355274	30	37537	3048	2	529	0	bdl	222	8693	0	bdl	bdl	61	22	bdl	247	3	64	139	52	4	7	bdl	bdl	6	11	64	127	13	47	10	0
13005-g1-MI1-3	cryst				57	55	15	28600	187	64270	355274	27	37150	2908	2	523	bdl	bdl	226	8735	0	bdl	bdl	59	23	3	200	6	62	140	53	5	8	0	1	5	8	64	127	13	45	10	0
13005-g4-MI1-1	cryst	165.8	-4.2	1.4	85	84	17	26056	160	62882	355274	20	40007	3168	2	546	bdl	bdl	201	8795	0	bdl	3	63	21	3	239	4	57	143	47	4	6	0	bdl	5	36	66	131	14	49	9	0
13005-g4-MI1-2	cryst	190.9	-3.5	1.2	79	76	13	21848	159	57451	355274	34	39477	3351	1	571	bdl	bdl	199	8060	0	bdl	4	57	19	bdl	225	4	54	133	48	3	6	0	bdl	4	42	60	123	13	44	10	0
13005-g4-MI1-3	cryst	205.4	-5.0	1.4	87	83	14	26455	200	65435	355274	35	42977	3635	2	575	bdl	bdl	217	8811	bdl	bdl	2	62	23	4	250	5	61	150	52	5	7	0	1	5	33	69	139	14	51	10	0
13005-g4-MI1-4	cryst	207.9	-6.2	1.2	75	69	16	26937	179	65651	355274	42	41609	2938	2	579	bdl	bdl	222	9311	0	bdl	4	63	22	bdl	216	5	62	155	53	5	6	0	bdl	5	30	70	138	14	51	11	0
13005-g4-MI1-5	cryst				85	90	17	28849	174	67244	355274	31	40138	3869	2	603	bdl	bdl	236	9362	0	bdl	3	66	25	6	252	5	68	156	55	5	8	0	bdl	6	23	75	145	15	54	11	0
13005-g4-MI1-6	cryst				87	86	15	27895	192	64463	355274	37	39051	4063	2	577	bdl	bdl	216	9082	bdl	2	4	59	23	bdl	237	4	63	154	51	6	7	0	bdl	5	24	70	138	14	51	11	0
13005-g4-MI1-7	cryst				83	85	15	27981	188	63520	355274	41	38589	3657	1	583	0	bdl	220	8985	bdl	bdl	3	63	21	bdl	232	5	60	149	50	5	7	bdl	bdl	5	20	69	137	15	50	10	0
13005-g4-MI1-8	cryst				93	86	15	28349	174	64813	355274	41	39125	3592	2	579	bdl	bdl	222	9141	bdl	1	2	68	20	5	240	5	63	150	52	5	7	0	bdl	5	20	70	139	15	52	11	0
13005-g4-MI1-9	cryst				90	87	15	27590	176	63491	355274	32	38988	3550	2	601	0	5	227	9137	0	bdl	5	64	21	7	237	4	60	146	52	4	8	0	bdl	5	15	67	136	14	48	10	0
13005-g6-MI1-1	cryst	325.7	-0.1	1.5	176	169	13	27564	201	67792	355274	32	39745	2135	2	1051	2	bdl	155	7852	bdl	bdl	7	41	18	bdl	206	10	37	161	31	6	6	bdl	2	4	66	69	135	12	42	7	0
13005-g6-MI1-2	cryst				206	190	13	24338	211	77421	355274	44	48606	4752	2	937	1	bdl	159	7323	bdl	bdl	8	48	13	bdl	205	12	37	167	34	4	3	bdl	bdl	3	96	69	137	14	46	7	0
13005-g6-MI2-1	cryst	408.8	-0.9	2.0	122	116	14	29605	253	65507	355274	49	37398	4880	3	992	1	bdl	163	7492	0	1	10	32	19	bdl	188	9	40	165	33	4	4	bdl	bdl	4	49	74	140	14	48	8	0
13005-g6-MI2-2	cryst				114	112	12	28753	267	65860	355274	49	37805	2853	2	970	1	bdl	150	7697	bdl	bdl	7	38	19	3	186	8	40	168	31	4	4	bdl	bdl	4	59	73	138	14	48	8	0
13005-g6-MI2-3	cryst				120	113	12	27607	301	64779	355274	60	39696	2735	3	993	1	bdl	162	8475	0	2	7	45	19	bdl	188	8	41	165	32	4	4	bdl	bdl	4	62	73	138	14	45	8	0
13005-g6-MI2-4	cryst				130	119	13	30540	269	67047	355274	52	37660	3249	2	984	1	bdl	152	7676	bdl	1	10	39	19	bdl	182	8	41	169	34	5	4	0	bdl	4	50	75	143	14	48	9	0
13005-g6-MI2-5	cryst				118	114	13	29215	267	65125	355274	53	36009	2982	3	962	1	bdl	158	7739	bdl	bdl	8	44	19	3	180	8	41	171	32	5	5	0	bdl	4	54	72	137	14	47	9	0
13005-g6-MI-c-1	cryst	25.2	3.2	1.5																																								
13005-g7-MI2-1	cryst	9.38	0.63	18.21	17	18	22	33583	261	66069	355274	36	32671	3784	2	564	bdl	bdl	121	7288	bdl	4	1	57	20	3	115	8	54	122	45	6	8	1	2	2	20	58	112	12	41	7	0
13005-g7-MI2-2	cryst				20	20	16	29926	283	67909	355274	26	40990	2988	2	532	bdl	bdl	152	7200	bdl	bdl	1	39	21	bdl	233	3	47	122	41	4	6	bdl	1	5	18	51	102	10	35	8	0
13005-g7-MI2-3	cryst				19	18	18	34262	278	66921	355274	35	37467	2255	1	521	0	8	162	7129	0	bdl	10	34	22	3	170	3	50	118	47	3	6	1	bdl	3	15	56	108	11	36	7	0
13005-g10-MI1-1	cryst	6.06	1.26	6.10	6	6	49	27498	130	78246	355274	57	62834	1001	1	423	bdl	48	84	3976	0	167	2	33	22	4	306	2	42	138	45	1	6	0	bdl	6	8	46	80	7	23	4	0
13005-g10-MI1-2	cryst				9	12	54	29833	119	74842	355274	48	55987	1321	1	330	bdl	45	74	3339	0	189	4	26	22	bdl	270	3	40	131	38	2	4	bdl	bdl	6	11	39	68	6	21	4	bdl
13005-g10-MI1-3	cryst				79	75	24	14897	105	39680	355274	36	30425	1978	1	407	bdl	23	84	4987	bdl	89	2	24	11	bdl	229	1	36	73	35	3	7	0	bdl	4	13	38	82	9	29	6	0
13005-g10-MI1-4	cryst				63	61	31	15787	81	43108	355274	46	33389	1608	2	876	bdl	24	73	8099	bdl	99	3	21	13	bdl	240	1	32	87	53	3	11	0	bdl	3	12	36	72	7	24	5	0
13005-g12-MI1-1	cryst	11.80	0.49	149.15	13	11	11	27105	272	75957	355274	41	58855	3827	2	672	bdl	6	166	7466	0	bdl	bdl	32	22	bdl	353	1	49	144	39	4	6	0	2	7	7	52	99	10	33	7	0
13005-g12-MI1-2	cryst				23	22	13	23810	286	72764	355274	35	58379	3097	3	610	bdl	bdl	203	7772	0	bdl	bdl	36	17	bdl	370	1	48	134	36	3	6	bdl	bdl	7	7	52	100	10	37	8	0
13005-g13-MI1-1	cryst	12.85	0.90	11.63	9	9	15	44909	291	81482	355274	34	35245	4315	2	733	bdl	1474	196	8920	1	bdl	bdl	49	24	5	180	2	62	153	56	42	8	0	bdl	6	2	53	93	9	30	6	bdl
13005-g13-MI1-2	cryst				22	22	9	24929	215	73212	355274	31	59431	3550	2	601	bdl	151	173	7558	bdl	bdl	31	39	23	bdl	352	1	58	133	45	4	6	1	bdl	7	5	49	93	10	33	8	0
13005-g15-MI1-1	cryst	5.44	1.02	9.80	46	47	15	29592	233	72191	355274	32	49173	2986	2	629	bdl	18	157	7246	bdl	bdl	bdl	34	22	bdl	276	1	55	136	45	5	7	0	bdl	6	5	58	123	13	42	10	0
13005-g15-MI1-2	cryst				77	78	14	20526	201	59500	355274	38	45975	3036	2	560	bdl	59	148	7090	1	bdl	1	44	17	3	270	1	39	109	40	4	6	1	bdl	5	4	46	86	8	26	6	0
13005-g16-MI1-1	cryst	10.12	0.30	107.81	74	72	12	22745	210	60676	355274	44	44332	2429	2	795	0	170	160	7850	bdl	bdl	bdl	43	17	3	239	3	51	132	39	2	4	bdl	bdl	4	17	70	140	15	49	10	0
13005-g16-MI1-2	cryst				46	43	13	34142	180	73378	355274	49	43716	2582	2	801	0	130	158	7571	0	4	bdl	48	24	5	209	3	59	158	39	6	6	bdl	bdl	5	16	76	157	17	57	12	0
13005-g20-MI1-1	cryst	6.43	0.32	81.82	80	79	17	27434	216	69647	355274	30	42145	2970	1	638	bdl	bdl	179	8059	bdl	bdl	bdl	63	21	bdl	246	1	52	121	42	6	7	bdl	3	6	3	59	117	12	42	9	bdl
13005-g20-MI1-2	cryst	6.05	0.35	82.49	80	79	17	25686	227	62648	355274	42	41801	3311	2	648	bdl	bdl	171	7393	bdl	bdl	bdl	48	18	bdl	243	1	52	128	43	5	5	bdl	bdl	6	2	56	113	11	38	9	0
13005-g20-MI1-3	cryst				82	83	23	29128	229	66925	355274	42	41280	3388	2	614	bdl	bdl	183	7717	1	bdl	bdl	50	19	bdl	254	1	54	133	44	9	6	bdl	bdl	6	1	59	118	12	40	9	0
13005-g20-MI1-4	cryst				70	72	18	25206	188	60063	355274	42	40138	3102	2	620	bdl	bdl	173	7255	0	bdl	bdl	45	18	4	233	1	49	111	42	5	7	0	bdl	4	4	54	109	11	38	9	0
13005-g23-MI1-1	cryst	5.65	0.27	102.32	98	94	15	25441	168	62197	355274	29	37520	3407	2	559	0	bdl	192	8354	bdl	2	5	62	20	3	200	6	61	151	48	5	7	bdl	bdl	4	57	67	134	14	49	11	0
13005-g23-MI1-2	cryst	5.88	0.27	92.96	104	97	20	29832	173	68305	355274	26	39024	2915	2	651	0	bdl	239	9041	0	bdl	1	69	22	5	227	6	67	168	52	5	7	0	bdl	6	30	75	149	15	57	12	0
13005-g23-MI1-3	cryst				75	74	17	14968	162	63932	355274	38	58860	1432	3	614	bdl	14	224	7933	bdl	bdl	bdl	60	22	bdl	306	7	56	145	55	6	6	bdl	bdl	2	84	71	143	14	46	9	0
13005-g37-MI1-1	cryst	11.27	0.29	137.48	146	142	8	6652	185	42602	355274	26	39228	1963	2	532	bdl	21	163	7075	bdl	bdl	13	51	10	bdl	210	2	36	75	29	5	5	bdl	bdl	4	19	40	82	9	30	4	0
13005-g38-MI2-1	cryst	5.34	0.42	41.75	42	39	17	23400	140	65083	355274	51	45852	3196	2	667	0	bdl	234	10133	bdl	bdl	3	81	23	bdl	205	11	63	193	51	6	6	0	bdl	4	135	78	154	16	57	11	0
13005-g38-MI2-2	cryst				37	41	16	24635	158	67940	355274	35	47169	3843	1	711	bdl	bdl	247	10328	0	bdl	2	76	23	bdl	213	12	63	204	52	7	6	0	bdl	4	151	85	164	17	60	13	1
13005-g38-MI2-3	cryst				37	41	17	24626	167	67801	355274	47	46712	4040	2	694	0	bdl	244	10237	0	bdl	4	79	22	bdl	210	12	63	201	51	5	7	bdl	bdl	4	147	84	163	17	62	13	1
13005-g43-MI1-1	cryst	10.12	0.91	9.86	58	53	11	19860	158	61476	355274	31	49773	3595	2	507	bdl	11	139	7280	bdl	bdl	27	34	21	bdl	273	1	61	129	50	5	5	0	bdl	4	16	64	125	12	42	9	0

Table C1:continued

Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
9	2	11	2	7	1	7	1	6	4	4	2	29	0	32	9
10	2	11	2	7	1	7	1	6	3	3	1	30	0	30	8
10	2	11	2	7	1	7	1	6	4	4	1	41	0	32	9
9	2	10	2	6	1	6	1	6	3	3	2	33	0	27	8
9	1	9	2	6	1	5	1	5	3	3	1	31	0	26	7
10	2	11	2	7	1	6	1	7	4	3	2	31	0	29	8
10	2	10	2	7	1	6	1	7	3	3	2	30	0	30	8
10	2	12	2	7	1	7	1	6	4	4	2	27	0	32	8
9	2	11	2	7	1	6	1	6	3	5	2	28	0	29	8
11	2	11	2	6	1	7	1	6	4	3	2	28	0	29	8
11	2	11	2	7	1	6	1	7	3	3	2	29	0	30	8
9	2	11	2	6	1	6	1	6	4	3	2	31	0	28	7
6	1	7	1	4	1	4	1	4	2	3	1	27	0	26	6
9	1	7	1	4	1	3	1	5	2	4	2	38	1	31	7
8	1	8	1	4	1	4	1	6	2	2	1	25	0	28	6
7	1	7	1	4	1	4	1	6	2	3	2	25	0	27	6
7	1	7	1	4	1	4	1	5	2	2	1	25	0	28	6
8	1	7	1	5	1	4	1	6	2	2	2	25	0	29	6
7	1	7	1	4	1	4	1	6	3	3	1	25	0	28	6
8	1	9	2	6	1	6	1	6	4	4	1	52	0	32	8
7	1	8	2	5	1	5	1	5	3	3	2	34	bdl	31	8
7	1	8	2	5	1	5	1	6	4	5	2	34	5	30	9
5	1	7	2	5	1	5	1	6	4	4	3	30	0	30	11
5	1	6	1	5	1	4	1	7	4	3	3	34	0	28	9
6	1	6	1	4	0	4	0	3	3	6	1	22	0	22	5
5	1	5	1	4	1	4	0	4	4	5	2	25	0	25	6
7	1	8	2	5	1	5	1	6	4	3	3	45	0	32	7
7	1	9	2	5	1	5	1	6	3	3	3	39	0	31	7
6	1	10	2	7	1	7	1	7	5	4	2	42	1	38	12
7	1	9	2	6	1	5	1	6	3	4	3	47	0	36	9
9	1	10	2	6	1	6	1	5	4	4	4	44	0	35	10
5	1	6	1	4	1	4	1	4	4	3	3	47	0	29	7
9	1	9	2	5	1	5	1	4	3	2	2	39	1	32	8
10	2	11	2	5	1	5	1	8	4	3	2	38	0	32	8
10	1	8	2	7	1	6	1	6	4	5	2	39	0	33	9
7	1	9	2	5	1	5	1	6	3	3	3	31	0	31	8
8	1	9	2	6	1	5	1	6	3	4	2	30	0	32	9
7	1	7	2	6	1	5	1	4	2	2	2	32	1	28	7
8	2	10	2	7	1	6	1	5	3	4	1	28	0	28	7
11	2	11	2	6	1	6	1	6	4	3	2	32	0	30	7
12	2	13	2	5	1	6	1	6	3	1	3	52	0	29	8
6	1	6	2	4	0	4	1	4	2	7	2	22	1	26	5
11	2	11	2	7	1	6	1	7	3	3	2	32	1	27	6
11	2	11	2	6	1	6	1	7	4	3	2	32	0	28	6
11	2	11	2	7	1	7	1	7	4	3	2	34	0	29	7
9	1	10	2	6	1	6	1	6	4	5	2	44	1	28	9

Table C2: Groundmass glass 13005 and 11022 - Lithium concentration and isotopic composition (by SIMS), major element data (by EPMA) and trace elements (by La-ICP-MS).

Sample	d^7Li	2SE	Li ppm	SiO_2	Na_2O	$A_{l2}O_3$	MgO	K_2O	CaO	TiO_2	Cl	FeO	MnO	P_2O_5	Cr_2O_3	Total
13005 glass1-1	9.07	0.73	40.95	76.1	2.3	11.8	0.0	5.4	0.6	0.1	0.1	1.3	0.0	0.0	0.0	97.8
13005 glass1-2				76.2	2.3	11.7	0.0	5.4	0.6	0.1	0.1	1.2	0.0	0.0	0.0	97.6
13005 glass1-3				76.6	2.1	11.7	0.0	5.5	0.5	0.1	0.1	1.3	0.0	0.0	0.0	98.0
13005 glass2-1	18.00	0.50	35.44	76.6	2.4	11.7	0.0	5.3	0.4	0.1	0.1	1.3	0.0	0.0	0.0	98.1
13005 glass2-2	17.83	0.46	33.38	76.4	2.2	11.6	0.0	6.0	0.4	0.1	0.1	1.3	0.0	0.1	0.0	98.2
13005 glass2-3	13.57	0.40	40.85	76.3	2.2	11.7	0.0	6.2	0.5	0.1	0.1	1.2	0.0	0.1	0.0	98.4
13005 glass2-4				76.5	2.2	11.5	0.0	5.8	0.4	0.1	0.1	1.4	0.0	0.0	0.0	98.1
13005 glass4-1	15.23	0.42	36.83	77.0	2.2	11.7	0.0	6.0	0.4	0.1	0.1	1.1	0.0	0.0	0.0	98.6
13005 glass4-2	17.86	0.39	41.62	77.3	2.3	12.0	0.0	5.4	0.5	0.1	0.1	1.3	0.0	0.0	0.0	99.2
13005 glass4-3	17.45	0.63	40.34	76.1	2.2	11.6	0.0	5.8	0.4	0.1	0.2	1.3	0.0	0.0	0.0	97.8
13005 glass4-4				76.7	2.2	12.1	0.0	6.0	0.4	0.1	0.1	1.1	0.0	0.0	0.0	98.7
13005 glass4-5				76.7	2.3	12.0	0.0	5.5	0.4	0.1	0.1	1.3	0.0	0.1	0.0	98.5
13005 glass5-1	14.48	0.40	42.00	77.8	2.2	11.7	0.0	5.8	0.4	0.1	0.1	1.3	0.0	0.0	0.0	99.5
13005 glass5-2	14.78	0.42	37.07	76.3	2.3	11.7	0.1	5.5	0.6	0.1	0.1	1.3	0.1	0.0	0.1	98.1
13005 glass5-3	14.87	0.39	41.69	77.5	2.1	11.5	0.0	5.6	0.4	0.1	0.1	1.2	0.1	0.1	0.0	98.8
13005 glass5-4				77.1	2.3	11.7	0.0	5.6	0.4	0.1	0.1	1.2	0.0	0.0	0.0	98.6
13005 glass5-5				76.3	2.4	11.7	0.0	5.4	0.5	0.1	0.1	1.2	0.1	0.0	0.0	97.9
13005 glass5-6				77.6	2.3	11.8	0.0	5.7	0.5	0.1	0.2	1.3	0.0	0.0	0.0	99.6
13055 glass6-1	13.11	0.49	42.28	76.9	2.3	11.7	0.0	5.6	0.4	0.1	0.1	1.3	0.1	0.0	0.0	98.6
13005 glass6-2	14.67	0.42	42.71	77.7	2.3	11.7	0.0	5.8	0.5	0.1	0.1	1.3	0.0	0.1	0.0	99.6
13005 glass6-3				76.6	2.1	11.7	0.0	5.8	0.4	0.1	0.1	1.2	0.0	0.0	0.0	98.2
13005 glass7-1	17.77	0.56	43.34	76.1	2.3	11.8	0.0	5.4	0.5	0.1	0.2	1.3	0.0	0.0	0.0	97.7
13005 glass7-2	17.42	0.59	39.74	76.8	2.2	11.8	0.0	5.6	0.4	0.1	0.1	1.3	0.0	0.1	0.0	98.4
13005 glass7-3				76.7	2.3	11.9	0.0	5.6	0.5	0.1	0.1	1.3	0.1	0.1	0.0	98.7
13005 glass8-1	15.12	0.62	36.17	76.3	2.4	11.9	0.0	5.6	0.5	0.1	0.1	1.2	0.0	0.1	0.0	98.3
13005 glass8-2	7.61	1.60	32.16	76.1	2.2	11.4	0.0	5.4	0.6	0.1	0.1	1.2	0.0	0.1	0.0	97.2
13005 glass8-3				75.9	2.2	11.6	0.0	5.5	0.5	0.1	0.1	1.3	0.0	0.0	0.0	97.5
13005 glass8-4				76.5	2.3	11.8	0.1	5.5	0.5	0.1	0.1	1.3	0.0	0.0	0.0	98.1
13005 glass9-1	13.47	0.70	43.55	76.6	2.3	11.7	0.0	5.8	0.4	0.1	0.1	1.2	0.0	0.0	0.0	98.4
13005 glass9-2	20.49	0.66	36.44	77.0	2.2	12.0	0.0	6.2	0.4	0.1	0.1	1.2	0.1	0.1	0.0	99.2
13005 glass9-3	20.47	0.99	36.71	77.1	2.3	11.7	0.0	5.5	0.4	0.1	0.1	1.3	0.0	0.0	0.0	98.6
13005 glass9-4				77.1	2.3	11.9	0.0	5.5	0.5	0.1	0.1	1.2	0.0	0.0	0.0	98.8
13005 glass10-1	16.46	0.60	38.44	75.9	2.2	11.8	0.0	5.3	0.5	0.1	0.1	1.3	0.0	0.0	0.0	97.4
13005 glass10-2				76.7	2.2	11.8	0.0	5.5	0.6	0.1	0.1	1.3	0.0	0.0	0.0	98.3
13005 glass10-3	15.00	0.62	40.04	76.6	2.2	11.8	0.0	5.3	0.6	0.1	0.1	1.3	0.0	0.0	0.0	98.0
13005 glass10-4				77.1	2.2	11.6	0.0	5.5	0.5	0.1	0.1	1.3	0.1	0.1	0.0	98.6
13005 glass10-5				77.0	2.3	11.7	0.0	5.4	0.4	0.1	0.1	1.2	0.0	0.0	0.0	98.2
13005 glass10-6				76.5	2.1	11.6	0.1	5.5	0.4	0.1	0.1	1.3	0.0	0.1	0.0	97.9
13005 glass11-1	14.64	0.62	41.11	77.7	2.3	11.8	0.0	5.7	0.5	0.1	0.1	1.4	0.0	0.1	0.0	99.8
13005 glass11-2	10.16	0.76	41.57	76.0	2.3	11.8	0.0	5.3	0.5	0.1	0.1	1.3	0.0	0.0	0.0	97.5
13005 glass11-3	14.49	0.73	27.35	76.2	2.2	11.7	0.0	5.7	0.4	0.1	0.1	1.3	0.0	0.0	0.0	97.9
13005 glass11-4				76.5	2.4	11.8	0.0	5.5	0.5	0.1	0.1	1.3	0.0	0.1	0.0	98.2
13005 glass12-1	14.78	0.61	40.73	76.0	2.3	11.7	0.0	5.4	0.5	0.1	0.1	1.2	0.0	0.0	0.0	97.4
13005 glass12-2	15.18	0.55	43.98	76.0	2.2	11.7	0.0	5.6	0.5	0.1	0.1	1.2	0.0	0.1	0.0	97.5
13005 glass12-3	19.75	0.61	37.07	76.0	2.3	11.5	0.0	5.5	0.6	0.1	0.1	1.3	0.0	0.0	0.0	97.5
13005 glass12-4				76.7	2.2	11.8	0.0	5.3	0.5	0.1	0.1	1.3	0.1	0.0	0.0	98.1
13005 glass12-5				76.9	2.1	11.9	0.0	5.8	0.4	0.1	0.1	1.3	0.0	0.0	0.0	98.7
13005 glass13-1				75.9	2.2	11.7	0.0	5.4	0.5	0.1	0.1	1.2	0.0	0.0	0.0	97.2
13005 glass13-2	10.54	0.57	47.52	76.0	2.3	11.8	0.0	5.3	0.5	0.1	0.1	1.4	0.0	0.0	0.0	97.4
13005 glass13-3				77.7	2.2	11.8	0.0	5.8	0.4	0.1	0.1	1.3	0.0	0.0	0.0	99.4
13005 glass14-1	16.61	0.56	44.23	77.7	2.2	11.6	0.1	5.5	0.5	0.1	0.1	1.2	0.0	0.0	0.0	98.9
13005 glass14-2	19.46	0.63	38.28	76.6	2.2	12.0	0.0	6.0	0.5	0.1	0.1	1.3	0.1	0.1	0.0	99.0
13005 glass14-3	15.13	0.99	22.70	76.5	2.2	11.5	0.0	5.4	0.5	0.1	0.1	1.1	0.0	0.1	0.0	97.5
13005 glass14-4				76.0	2.3	11.6	0.0	5.3	0.5	0.1	0.1	1.2	0.0	0.1	0.0	97.3
13005 glass15-1	13.60	0.56	42.48	75.5	2.3	11.5	0.0	5.5	0.5	0.1	0.1	1.3	0.1	0.0	0.0	97.0
13005 glass15-2	15.60	0.74	39.18	76.1	2.3	12.1	0.0	5.5	0.5	0.1	0.1	1.4	0.0	0.0	0.0	98.2
13005 glass15-3	14.67	0.58	42.59	76.3	2.4	12.1	0.0	5.8	0.4	0.1	0.1	1.2	0.0	0.0	0.0	98.5
13005 glass15-4				75.7	2.3	11.9	0.0	5.4	0.4	0.1	0.1	1.3	0.0	0.0	0.0	97.3
13005 glass16-1	13.77	0.55	43.38	76.1	2.2	11.6	0.0	5.6	0.5	0.1	0.1	1.1	0.0	0.0	0.0	97.4
13005 glass16-2	13.69	1.57	34.83	76.6	2.4	11.5	0.0	5.4	0.6	0.1	0.1	1.3	0.0	0.0	0.0	98.0
13005 glass16-3	19.34	0.74	36.19	77.1	2.3	11.6	0.0	5.4	0.4	0.1	0.1	1.2	0.0	0.0	0.0	98.4
13005 glass16-4				77.6	2.3	11.8	0.0	5.8	0.4	0.1	0.1	1.2	0.0	0.0	-0.1	99.4
13005 glass18-1	14.48	0.56	42.49	76.5	2.3	11.7	0.0	5.2	0.5	0.1	0.2	1.3	0.0	0.1	0.0	97.8
13005 glass18-2				77.3	2.2	11.6	0.0	5.6	0.4	0.1	0.1	1.3	0.0	0.1	0.0	98.9
13005 glass19-1	12.81	0.56	42.38	75.8	2.3	11.7	0.0	5.3	0.5	0.1	0.1	1.2	0.1	0.0	0.0	97.1
13005 glass19-2	9.42	0.67	44.44	76.6	2.3	11.5	0.0	5.4	0.6	0.1	0.1	1.3	0.0	0.0	0.0	98.0
13005 glass19-3	15.02	0.56	41.99	76.3	2.3	11.7	0.0	5.3	0.5	0.1	0.1	1.2	0.1	0.0	0.0	97.7
13005 glass19-4				75.3	2.4	12.0	0.0	5.3	0.5	0.1	0.1	1.3	0.1	0.1	0.0	97.1
13005 glass20-1	18.15	0.55	43.75	75.8	2.2	11.8	0.0	5.2	0.5	0.1	0.1	1.3	0.0	0.1	0.0	97.2
13005 glass20-2	16.85	0.58	38.79	76.3	2.3	11.7	0.0	5.3	0.5	0.1	0.1	1.4	0.0	0.0	0.0	97.7
13005 glass20-3	15.09	0.56	42.01	76.2	2.1	11.5	0.0	5.6	0.5	0.1	0.1	1.3	0.0	0.0	0.0	97.5
13005 glass21-1	17.72	0.60	36.84	77.1	2.2	11.5	0.0	5.8	0.4	0.1	0.2	1.2	0.0	0.1	0.0	98.6
13005 glass21-2	10.06	2.30	31.82	77.7	2.2	11.7	0.0	5.7	0.5	0.1	0.1	1.3	0.1	0.0	0.0	99.2
13005 glass21-3				76.1	2.2	11.6	0.0	5.7	0.5	0.1	0.1	1.3	0.0	0.0	0.0	97.6
13005 glass21-4				77.2	2.3	12.0	0.0	5.6	0.4	0.1	0.1	1.3	0.0	0.0	0.0	99.0

Table C2:continued

Li^{6}	Li^{7}	B	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
38	38	13	22168	192	66553	355274	39	48280	3548	2	590	0	bdl	214	8756	0	3	2	74	25	227	8	63	155	51	5	95	75	143	15	53	11	0	9	2	11	2	7	1	6	1	6	4	37	29	7
46	42	11	22927	375	74774	355274	53	49577	3512	2	656	1	bdl	195	9933	0	5	5	62	33	218	24	72	156	52	6	355	78	131	17	59	12	1	11	2	12	2	7	1	7	1	6	4	37	29	7
42	41	12	20262	329	67416	355274	52	50336	3159	2	642	1	bdl	239	11833	1	bdl	3	46	26	230	14	73	166	52	6	128	80	146	17	57	12	0	12	2	12	3	7	1	7	1	6	4	40	32	7
30	37	12	19580	318	68972	355274	bdl	56827	3214	2	624	0	bdl	189	9146	2	3	3	30	25	232	17	74	165	51	6	123	78	145	16	56	11	0	12	2	12	2	7	1	7	1	6	4	43	30	7
42	43	14	20595	271	63717	355274	bdl	51352	3131	2	609	0	bdl	208	9745	2	bdl	4	45	25	224	12	67	155	51	7	116	73	137	15	54	11	0	10	2	11	2	7	1	6	1	6	4	35	28	7
45	48	12	20414	513	63337	355274	30	48239	3556	2	614	1	bdl	206	13550	0	2	3	96	29	225	14	64	157	52	5	126	72	136	15	50	10	0	10	2	11	2	6	1	6	1	6	4	43	28	7
46	41	12	23783	209	63737	355274	27	46509	3898	2	607	0	bdl	232	9865	0	bdl	2	74	22	233	7	69	166	53	4	89	80	157	17	57	12	0	11	2	12	3	8	1	7	1	7	4	36	32	8
41	37	11	22369	286	68312	355274	42	51113	3151	2	624	1	bdl	207	8573	1	2	3	58	25	229	13	72	164	53	6	112	78	146	16	58	12	0	11	2	12	2	7	1	7	1	6	4	44	30	7
41	42	11	20879	395	65310	355274	45	48347	3405	2	648	2	bdl	218	11850	1	bdl	2	63	27	232	12	73	171	57	7	110	77	145	16	55	11	0	10	2	12	2	7	1	7	1	7	4	42	31	7
37	39	12	21380	264	64748	355274	39	51403	2757	2	620	0	bdl	212	8713	6	bdl	9	51	23	237	10	71	161	52	6	105	78	148	16	55	11	0	11	2	12	2	7	1	7	1	7	4	37	31	7
48	43	12	23337	237	69688	355274	bdl	47731	3554	2	616	bdl	bdl	224	9645	5	3	3	51	25	223	9	69	163	53	5	92	79	149	16	56	12	0	11	2	12	2	7	1	7	1	6	4	36	31	7
49	44	12	21872	283	67014	355274	37	48985	3530	2	632	0	bdl	222	10427	0	2	3	68	25	229	11	70	166	53	5	108	78	151	16	56	11	0	11	2	12	2	7	1	7	1	7	4	39	32	7
48	42	11	22419	207	61836	355274	bdl	49234	3261	2	627	bdl	bdl	214	9293	0	bdl	0	60	24	228	9	65	157	51	5	96	77	146	16	54	11	0	10	2	12	2	7	1	7	1	6	4	37	30	7
39	42	12	22649	205	62726	355274	bdl	49448	3339	2	597	bdl	bdl	218	9517	1	bdl	1	67	26	232	9	63	155	52	6	94	74	142	15	51	10	0	10	2	11	2	7	1	6	1	6	4	41	29	8
43	40	16	14682	653	71467	355274	bdl	47838	2470	2	555	1	bdl	170	8365	1	8	4	62	41	216	20	52	128	50	10	132	53	89	11	38	8	0	7	1	8	1	5	1	5	1	5	3	56	20	5
44	43	10	21375	301	70798	355274	35	50221	3347	2	635	0	bdl	217	9849	1	3	2	56	25	232	12	67	164	55	6	117	75	143	15	54	11	0	10	2	11	2	7	1	7	1	7	4	38	30	7
42	43	10	24108	428	71583	355274	49	48143	7453	2	652	1	bdl	198	9120	1	4	2	51	28	222	37	78	164	54	6	157	83	145	16	56	12	0	11	2	13	3	8	1	7	1	6	4	43	30	6
40	39	11	21700	227	63431	355274	48	49105	2814	2	592	0	bdl	199	8880	0	2	1	57	25	224	10	66	155	51	5	101	74	140	15	52	11	0	10	2	12	2	7	1	7	1	6	4	40	29	7
52	45	12	21072	392	66894	355274	62	49856	2873	2	622	1	bdl	213	14023	1	2	2	52	25	232	12	75	158	54	6	128	79	147	17	57	11	0	12	2	12	3	7	1	7	1	6	4	39	31	7
50	42	13	19821	356	66146	355274	75	51064	3336	2	601	bdl	bdl	192	8916	bdl	3	1	54	31	234	13	65	151	53	6	125	73	139	15	51	11	0	10	2	11	2	7	1	6	1	6	4	45	30	7
47	44	11	22657	231	63857	355274	bdl	48692	3485	2	615	0	bdl	218	9984	0	1	1	75	24	231	9	67	160	55	5	95	76	147	16	53	11	0	11	2	11	2	7	1	7	1	7	4	36	31	8
38	42	12	21254	278	67208	355274	29	50756	3411	2	622	bdl	bdl	218	11339	1	2	9	64	25	235	12	70	168	55	6	121	77	146	16	54	11	0	11	2	12	2	7	1	7	1	7	4	36	31	8
46	38	15	20641	238	65935	355274	bdl	51456	2625	2	577	0	bdl	209	9543	bdl	4	4	70	26	234	10	63	149	51	6	90	71	134	14	49	10	0	9	2	11	2	7	1	6	1	6	4	41	28	7
42	39	11	20124	268	67051	355274	51	54480	2304	2	609	0	bdl	204	9064	bdl	2	1	49	26	242	12	72	163	54	6	110	78	145	16	55	11	0	11	2	12	3	8	1	7	1	6	4	41	31	7
29	35	13	18199	407	70874	355274	bdl	52860	2630	2	561	1	bdl	169	9734	bdl	6	2	29	26	235	16	68	140	52	9	105	64	112	14	45	10	0	9	1	10	2	6	1	6	1	5	4	41	23	6
47	45	11	22122	339	67021	355274	bdl	49562	3287	2	610	0	bdl	217	10978	0	bdl	1	55	24	236	10	75	173	56	6	85	80	147	17	57	12	0	12	2	13	3	8	1	7	1	7	4	37	33	8
48	45	13	18950	513	75792	355274	38	48899	3376	2	707	1	bdl	189	10980	0	5	2	64	33	225	16	71	174	61	8	113	76	129	16	53	12	0	11	2	12	2	7	1	7	1	7	4	40	30	7
44	51	10	21228	361	72225	355274	bdl	50605	3356	2	743	1	bdl	218	10144	1	3	2	53	27	228	15	70	162	57	6	163	77	144	16	58	13	0	10	2	13	2	7	1	7	1	6	4	36	28	7
36	41	13	20012	407	69104	355274	bdl	50472	3252	2	648	1	bdl	211	9989	bdl	5	1	54	27	224	15	73	160	54	6	138	79	133	16	54	11	0	11	2	11	2	7	1	6	1	6	4	37	30	7
41	42	10	23643	194	63106	355274	37	48614	3599	2	634	bdl	bdl	222	9265	bdl	bdl	0	56	23	233	8	66	158	52	4	97	75	147	15	53	11	0	10	2	11	2	7	1	7	1	6	4	35	30	7
41	38	11	21524	218	65993	355274	bdl	50521	3413	2	591	0	bdl	210	9039	bdl	2	2	62	24	229	9	67	160	51	5	107	78	144	16	54	11	0	11	2	12	2	7	1	7	1	6	4	35	30	7
45	41	12	23365	209	63402	355274	bdl	47880	3411	2	602	bdl	bdl	218	9099	bdl	bdl	1	55	24	225	8	64	155	51	4	97	74	141	15	52	11	0	10	2	11	2	7	1	6	1	6	4	34	29	7
36	41	12	19705	368	69319	355274	49	52797	2518	2	630	1	bdl	190	9550	1	3	2	36	26	230	14	71	158	55	7	137	74	135	15	52	11	0	10	2	11	2	7	1	6	1	6	4	39	28	6
37	41	12	18351	587	70223	355274	bdl	55364	2718	2	626	1	bdl	188	10509	2	4	7	49	28	243	21	65	152	51	8	165	70	122	14	49	11	0	10	2	11	2	6	1	6	1	5	4	43	26	6
46	40	14	20593	319	65664	355274	bdl	53355	3215	2	594	0	bdl	207	9371	1	bdl	2	43	28	239	12	65	157	50	6	133	75	143	15	52	11	0	10	2	11	2	6	1	6	1	6	4	40	29	7

Table C2: continued

	Li[6]	Li[7]	B	Na	Mg	Al	Si	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Rb	Sr	Y	Zr	Nb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	Pb	Th	U
11022GLASS - 1	36	37	12	21367	232	63054	355274	bdl	48534	3778	2	622	0	bdl	225	9707	bdl	bdl	1	64	25	240	10	66	158	51	5	140	76	144	16	54	11	0	10	2	11	2	7	1	6	1	6	4	35	30	7
11022GLASS - 2	34	36	13	19429	433	68537	355274	39	49089	3956	2	670	1	bdl	235	10761	0	4	2	73	28	244	16	80	166	54	7	200	79	144	16	57	12	0	12	2	13	3	8	1	7	1	7	4	40	31	7
11022GLASS - 3	33	35	12	20832	208	62790	355274	bdl	49581	3378	2	602	0	bdl	223	9857	0	bdl	1	65	26	232	10	64	158	52	5	138	77	147	15	53	11	0	10	2	11	2	7	1	6	1	6	4	36	30	7
11022GLASS - 4	39	38	11	22446	224	63156	355274	34	48871	3589	2	617	0	bdl	224	9806	0	2	1	69	24	239	11	66	159	53	5	145	77	153	16	56	11	0	11	2	11	2	7	1	6	1	7	4	36	32	8
11022GLASS - 5	38	39	13	19572	240	59502	355274	bdl	48099	3439	2	580	0	bdl	212	9655	bdl	bdl	1	75	29	234	11	66	151	51	5	141	74	136	15	51	11	0	10	2	11	2	7	1	7	1	6	4	43	28	7
11022GLASS - 6	33	37	14	17939	490	68320	355274	93	53955	3520	2	702	3	bdl	219	10447	0	6	4	71	30	261	20	90	159	56	8	229	78	153	16	60	13	0	13	2	14	3	8	1	8	1	6	4	49	32	7
11022GLASS - 7	45	43	12	23019	182	61798	355274	35	47645	3539	2	622	bdl	3	225	9440	0	bdl	0	71	23	233	8	66	160	52	4	108	79	150	16	54	11	0	10	2	12	2	7	1	6	1	6	4	34	31	8
11022GLASS - 8	47	43	13	20349	290	69404	355274	59	49072	3709	2	667	0	bdl	223	10601	0	4	2	83	28	237	13	82	175	57	5	174	82	150	17	60	13	0	12	2	14	3	8	1	8	1	7	4	40	32	7
11022GLASS - 9	42	39	14	20154	233	60355	355274	38	49744	3407	2	592	0	bdl	216	9823	bdl	2	4	76	29	232	11	63	152	51	5	149	71	137	15	50	11	0	10	2	11	2	7	1	6	1	6	4	39	28	7
11022GLASS - 10	31	32	13	17347	224	62578	355274	35	51668	3648	2	598	0	bdl	216	9745	0	bdl	3	65	26	240	13	62	155	51	5	162	72	135	15	50	10	0	10	2	11	2	7	1	6	1	6	4	35	28	7
11022GLASS - 11	35	39	11	18903	371	67987	355274	64	52846	3159	2	858	1	bdl	246	10518	0	3	2	63	28	247	17	80	161	54	6	203	83	142	17	57	12	0	12	2	13	3	7	1	7	1	6	4	42	30	7
11022GLASS - 12	27	28	15	17069	226	55082	355274	bdl	52007	3119	2	511	bdl	bdl	207	9316	bdl	bdl	2	53	32	240	11	56	133	47	5	150	64	121	13	44	9	0	9	1	10	2	6	1	5	1	5	3	49	25	6
11022GLASS - 13	33	34	11	18855	235	62173	355274	49	52841	3783	2	588	0	bdl	219	9854	0	bdl	1	48	26	249	14	66	160	51	5	175	77	144	16	53	11	0	10	2	12	2	7	1	6	1	6	4	35	31	7
11022GLASS - 14	43	37	10	20185	194	60209	355274	38	51879	3859	2	587	bdl	bdl	221	9483	bdl	bdl	1	62	24	235	10	62	153	51	5	142	74	142	15	52	11	0	10	2	11	2	7	1	6	1	6	4	34	29	7
11022GLASS - 15	42	39	13	21917	194	61652	355274	40	47733	3572	2	603	bdl	bdl	223	9788	0	2	1	79	27	237	9	66	159	51	5	119	76	149	15	54	11	0	10	2	12	2	7	1	7	1	6	4	40	30	7
11022GLASS - 16	31	35	13	18166	368	68272	355274	63	53197	3578	2	636	1	bdl	215	10415	1	5	2	68	29	245	16	84	165	53	6	254	80	143	17	59	12	0	12	2	14	3	9	1	8	1	7	4	38	30	7
11022GLASS - 17	36	33	13	18866	339	65328	355274	47	53119	3642	2	651	1	bdl	213	10237	0	4	3	51	28	252	17	78	157	51	6	224	73	135	15	51	11	0	10	2	12	2	7	1	7	1	6	4	38	28	7
11022GLASS - 18	41	44	11	23402	229	63288	355274	30	46795	3988	2	632	1	bdl	228	9800	0	bdl	1	69	23	252	9	69	162	53	5	109	80	150	16	57	12	0	11	2	12	2	7	1	7	1	7	4	36	32	8
11022GLASS - 19	41	44	12	23582	196	63130	355274	41	47440	3308	2	635	0	bdl	227	9733	bdl	1	1	71	23	248	8	71	163	53	4	101	80	151	16	56	12	0	11	2	12	3	7	1	7	1	7	4	35	32	8
11022GLASS - 20	48	44	12	22795	354	64843	355274	43	49663	4007	2	634	1	bdl	238	10106	1	2	3	69	24	245	10	71	165	53	5	120	80	149	16	56	12	0	11	2	12	3	7	1	7	1	7	4	35	31	7
11022GLASS - 21	43	44	11	23560	230	62675	355274	31	46677	3767	2	626	0	bdl	229	9743	0	2	1	77	23	247	8	69	166	53	5	100	79	150	17	56	11	0	11	2	12	2	7	1	7	1	7	4	35	31	7
11022GLASS - 22	45	43	11	24094	180	61175	355274	bdl	47266	3996	2	606	bdl	bdl	227	9364	0	bdl	1	70	22	244	7	65	160	52	4	90	78	149	16	53	11	0	10	2	11	2	7	1	6	1	7	4	34	30	7
11022GLASS - 23	45	43	12	24245	180	61599	355274	27	47235	3537	2	604	bdl	bdl	225	9315	0	bdl	1	72	23	241	7	65	160	52	4	92	78	150	16	54	11	0	11	2	12	2	7	1	7	1	6	4	34	31	8
11022GLASS - 24	41	44	12	24046	183	61763	355274	bdl	47431	3564	2	608	bdl	bdl	228	9481	0	bdl	0	71	22	235	7	65	160	53	4	91	78	150	16	54	11	0	11	2	11	2	7	1	7	1	7	4	34	31	8
11022GLASS - 25	46	44	12	24038	204	65312	355274	34	47516	3604	2	640	0	bdl	230	9788	0	2	1	76	24	237	9	74	167	54	4	119	81	154	17	56	12	0	11	2	12	3	8	1	7	1	7	4	35	32	8
11022GLASS - 26	46	43	12	24033	181	61440	355274	30	46913	3501	2	612	bdl	bdl	225	9414	0	bdl	0	68	23	235	7	65	160	51	4	91	78	149	16	54	11	0	10	2	12	2	7	1	7	1	7	4	34	31	8
11022GLASS - 27	45	45	13	23904	198	63370	355274	38	47347	3673	2	629	0	bdl	226	9595	bdl	bdl	1	74	23	236	8	66	161	53	4	104	77	149	16	54	12	0	10	2	12	2	7	1	6	1	6	4	35	31	8
11022GLASS - 28	44	38	12	19582	288	62174	355274	40	51540	3620	2	571	bdl	bdl	213	10120	0	bdl	3	68	33	239	16	60	140	50	5	206	64	124	13	45	9	0	9	1	10	2	6	1	6	1	5	4	43	27	7
11022GLASS - 29	32	40	13	17998	362	66443	355274	69	51912	3384	2	660	1	bdl	192	10493	bdl	6	3	49	28	252	14	78	153	50	7	149	72	128	15	54	12	0	11	2	12	3	7	1	7	1	6	4	43	26	6
11022GLASS - 30	35	40	13	20113	293	66693	355274	bdl	54548	3165	2	651	1	bdl	215	10290	0	3	2	61	27	261	11	73	161	52	6	135	77	140	16	54	11	0	11	2	12	2	7	1	7	1	6	4	40	29	7
11022GLASS - 31	37	42	12	22979	181	60771	355274	38	46844	3405	2	610	0	bdl	220	9561	bdl	bdl	2	67	24	243	8	68	155	51	4	110	77	147	16	54	12	0	10	2	11	2	7	1	6	1	6	4	37	31	8
11022GLASS - 32	42	37	10	25311	161	66312	355274	bdl	51227	4553	2	563	bdl	bdl	198	8850	bdl	bdl	1	66	27	234	22	57	141	47	4	302	69	133	14	48	10	1	9	2	10	2	6	1	6	1	6	3	34	27	7
11022GLASS - 33	40	39	11	22817	232	68308	355274	56	53084	3270	2	611	0	bdl	199	9812	0	3	2	66	26	240	18	77	149	50	5	181	82	134	16	60	12	1	12	2	12	3	7	1	7	1	6	4	39	30	7
11022GLASS - 34	52	33	13	18557	258	59562	355274	bdl	44758	4475	2	591	1	bdl	200	9441	1	4	6	71	26	246	11	72	146	50	5	142	73	132	15	58	10	0	11	2	11	2	7	1	7	1	6	3	39	27	7
11022GLASS - 35	27	33	12	18582	338	64742	355274	42	50697	3475	2	593	2	19	208	10390	0	bdl	3	62	28	242	14	76	146	49	6	185	74	128	15	55	12	0	11	2	12	2	8	1	7	1	6	4	40	28	7
11022GLASS - 36	41	40	14	20234	246	65815	355274	bdl	51529	3127	2	535	0	bdl	215	9247	0	2	4	63	26	282	7	72	135	57	7	68	64	121	13	45	10	0	10	2	12	2	7	1	7	1	6	4	39	32	9
11022GLASS - 37	42	42	14	23396	202	63079	355274	36	48137	3182	2	517	bdl	bdl	221	8876	0	bdl	2	66	23	276	4	72	137	57	6	43	66	129	14	48	10	0	10	2	12	3	8	1	7	1	6	4	38	34	9
11022GLASS - 38	44	44	11	23040	209	63006	355274	63	47753	3923	2	610	0	bdl	225	9673	0	2	0	71	23	229	10	68	161	52	4	129	78	150	16	55	11	0	11	2	12	2	7	1	7	1	7	4	35	31	7
11022GLASS - 39	43	44	12	22775	188	62255	355274	39	48043	3641	2	622	bdl	bdl	227	9756	0	bdl	0	70	24	232	9	68	161	52	4	120	78	152	16	56	11	0	11	2	12	2	7	1	7	1	6	4	35	31	8
11022GLASS - 40	47	43	10	23203	181	61044	355274	bdl	47703	3827	2	608	0	bdl	226	9492	bdl	bdl	bdl	71	23	229	8	64	157	51	4	115	76	148	15	54	11	0	10	2	11	2	7	1	6	1	6	4	34	30	7
11022GLASS - 41	40	44	12	23030	198	63096	355274	33	48740	3535	2	631	0	bdl	226	9743	0	2	0	67	23	235	9	67	162	52	4	134	78	152	16	55	11	0	10	2	12	2	7	1	7	1	6	4	34	31	7
11022GLASS - 42	46	43	12	22765	209	64325	355274	23	47207	4006	2	619	0	bdl	226	9870	0	bdl	0	75	24	228	10	69	163	53	4	149	78	151	16	56	12	0	11	2	12	2	7	1	7	1	7	4	35	32	7
11022GLASS - 43	37	42	10	22334	213	63626	355274	bdl	49158	3582	2	603	1	bdl	222	9603	bdl	bdl	0	40	23	231	9	67	160	50	4	124	76	145	16	53	11	0	10	2	12	2	7	1	6	1	6	4	33	29	7
11022GLASS - 44	44	46	11	22782	220	64354	355274	30	47308	3985	2	641	0	9	229	9958	0	4	1	55	24	225	10	78	164	52	4	138	88	153	19	63	14	0	13	2	14	3	8	1	7	1	6	4	34	32	7
11022GLASS - 45	45	42	12	22934	192	61500	355274	bdl	47662	3500	2	617	0	bdl	224	9544	0	bdl	1	67	24	230	9	65	158	51	4	140	76	149	16	53	11	0	11	2	11	2	7	1	6	1	6	4	34	30	7
11022GLASS - 46	43	39	14	19070	505	65069	355274	46	51032	3783	2	559	3	4	221	10492	0	3	2	57	25	273	10	91	147	55	7	115	68	123	14	48	11	0	12	2	13	3	9	1	9	1	7	4	38	35	9
11022GLASS - 47	32	40	13	20737	229	60879	355274	bdl	49548	3774	2	584	bdl	bdl	222	9946	1	bdl	7	84	30	234	9	58	143	52	5	117	68	132	14	47	10	0	9	2	10	2	6	1	5	1	6	4	54	27	7
11022GLASS - 48	43	41	12	20849	271	64814	355274	44	49226	3397	2	639	1	bdl	227	10543	0	3	2	65	27	247	13	75	163	56	5	142	78	152	16	57	11	0	11	2	12	3	8	1	7	1	7	4	43	31	7
11022GLASS - 49	42	41	12	20841	236	63300	355274	bdl	48796	3665	2	613	1	bdl	217	9921	0	2	1	64	25	241	11	66	158	52	5	135	73	140	15	51	11	0	10	2	11	2	7	1	7	1	6	4	35	29	7
11022GLASS - 50	43	42	11	22261	198	62647	355274	32	49512	3515	2	619	0	bdl	227	9848	0	bdl	1	69	24	238	8	66	161	52	5	108	76	149	16	54	11	0	10	2	11	2	7	1	6	1	6	4	36	30	8
11022GLASS - 51	49	44	11	22278	221	63999	355274	52	48662	3860	1	632	0	bdl	229	9984	bdl	bdl	3	71	24	233	9	70	168	52	4	120	79	152	17	57	12	0	11	2	12	3	7	1	7	1	7	4	38	31	8
11022GLASS - 52	41	43	13	22000	278	65729	355274	24	49590	4021	2	649	1	bdl	229	10584	0	2	2	72	26	242	12	73	169	54	5	154	84	157	17	58	12	0	12	2	13	3	8	1	7	1	7	4	38	32	8
11022GLASS - 53	28	36	12	18519	384	69712	355274	55	52804	4136	2	671	1	bdl	228	10783	0	4	5	66	29	248	18	80	171	55	6	239	80	145	17	57	12	0	12	2	13	3	8	1	7	1	7	4	38	31	7
11022GLASS - 54	32	36	13	19688	258	62386	355274	45	50167	3410	2	564	0	bdl	215	10008	0	bdl	2	67	30	229	12	62	150	51	5	183	69	132	14	50	10	0	9	2	11	2	7	1	6	1	6	4	42	27	7
11022GLASS - 55	39	41	13	21103	268	68497	355274	39	48593	4432	2	668	0	bdl	221	11705	0	3	5	87	30	231	16	75	172	55	5	252	79	149	17	57	12	0	11	2	13	3	8	1	7	1	7	4	37	31	7
11022GLASS - 56	44	36	11	19027	290	69024	355274	85	50514	3343	2	629	1	7	236	9929	1	3	6	40	26	233	15	87	164	54	5	179	95	160	20	73	15	1	17	2	14	3	9	1	8	1	6	4	42	33	7
11022GLASS - 57	36	39	12	20751	478	69025	355274	48	50551	4003	2	640	1	bdl	227	10768	0	3	2	48	27	235	14	82	164	52	5	170	82	145	17	63	12	0	12	2	13	3	8	1	7	1	7	4	38	31	7
11022GLASS - 58	42	37	10	20857	215	65120	355274	bdl	50446	3763	2	600	0	bdl	222	9864	0	4	1	48	25	234	10	66	159	50	5	144	76	147	16	53	11	0	10	2	11	2	7	1	6	1	7	4	35	30	7
11022GLASS - 59	45	34	12	18297	379	68088	355274	70	53043	3995	2	599	bdl	bdl	211	10771	bdl	8	3	35	28	243	17	65	144	48	6	208	67	127	14	48	10	0	9	2	10	2	7	1	6	1	5	3	37	24	6

Table C3: Quartz - Trace elements (by La-ICP-MS).

Info		Position	Li^6	Li^7	B	Na	Mg	Al	Si	P	Sc	Ti	Ga	Ge
13005-g1-P1-2	with cryst -MI	next to MI	18.0	17.6	0.5	bdl	0.6	102.7	466998.0	14.1	0.7	86.8	bdl	bdl
13005-g1-P1-3	with cryst -MI	core	17.6	17.5	0.6	0.2	0.7	95.2	466998.0	11.2	0.8	89.0	bdl	bdl
13005-g1-P1-4	with cryst -MI	core	16.3	16.5	0.5	bdl	0.5	92.8	466998.0	9.8	0.8	74.9	bdl	0.7
13005-g1-P1-5	with cryst -MI	core	17.4	16.1	bdl	0.3	0.5	93.5	466998.0	11.6	0.8	72.0	bdl	0.6
13005-g1-P1-6	with cryst -MI	core	17.4	17.0	0.8	0.2	0.6	98.5	466998.0	11.2	0.8	86.1	bdl	0.8
13005-g1-P1-7	with cryst -MI	core	17.4	17.1	0.6	0.2	0.8	105.5	466998.0	11.3	0.8	98.1	bdl	bdl
13005-g1-P1-8	with cryst -MI	core	17.7	17.7	0.6	bdl	0.9	108.5	466998.0	11.5	0.9	110.0	bdl	0.7
13005-g1-P1-9	with cryst -MI	core	19.0	18.7	0.7	bdl	0.7	114.1	466998.0	11.5	0.9	129.7	bdl	0.7
13005-g1-P1-10	with cryst -MI	core	19.6	19.0	0.5	bdl	1.0	115.6	466998.0	10.7	1.0	146.0	bdl	bdl
13005-g1-P1-11	with cryst -MI	core	19.0	19.3	0.7	bdl	1.1	118.9	466998.0	11.7	0.9	151.1	bdl	0.6
13005-g1-P1-12	with cryst -MI	core	18.8	18.7	0.5	bdl	0.8	117.0	466998.0	11.3	0.9	141.8	bdl	0.7
13005-g1-P1-13	with cryst -MI	core	19.0	18.7	0.7	0.2	0.8	116.4	466998.0	10.5	0.9	137.4	bdl	bdl
13005-g1-P1-14	with cryst -MI	core	18.9	18.3	0.5	bdl	0.7	115.9	466998.0	9.9	0.9	136.0	bdl	bdl
13005-g1-P1-15	with cryst -MI	core	19.8	18.6	0.4	bdl	0.7	116.4	466998.0	11.3	0.9	136.5	bdl	0.8
13005-g1-P1-16	with cryst -MI	core	18.5	18.1	0.5	0.2	0.6	115.1	466998.0	11.0	0.9	139.1	0.0	0.7
13005-g1-P1-17	with cryst -MI	core	18.4	18.3	0.6	bdl	0.9	115.4	466998.0	10.2	0.9	140.7	bdl	0.6
13005-g1-P1-18	with cryst -MI	core	18.4	18.1	0.5	bdl	1.0	114.0	466998.0	11.2	0.9	136.2	bdl	bdl
13005-g1-P1-19	with cryst -MI	core	18.1	18.2	0.8	bdl	0.8	114.3	466998.0	12.5	0.9	136.5	0.0	bdl
13005-g1-P1-20	with cryst -MI	core	18.6	18.5	0.6	bdl	0.8	114.0	466998.0	11.7	0.9	131.9	bdl	0.7
13005-g1-P1-21	with cryst -MI	core	18.5	18.6	0.6	0.3	0.9	116.0	466998.0	10.9	0.9	132.9	bdl	0.8
13005-g1-P1-22	with cryst -MI	core	19.5	19.1	0.7	0.3	0.8	116.4	466998.0	10.8	0.9	133.6	bdl	0.8
13005-g1-P1-23	with cryst -MI	core	18.9	18.5	0.6	bdl	0.8	118.3	466998.0	12.4	0.9	136.0	bdl	bdl
13005-g1-P1-24	with cryst -MI	core	16.0	16.8	bdl	bdl	0.6	118.1	466998.0	14.2	0.7	132.0	bdl	bdl
13005-g1-P1-25	with cryst -MI	core	17.3	17.0	bdl	0.2	1.0	119.4	466998.0	12.7	0.8	138.6	bdl	bdl
13005-g1-P1-26	with cryst -MI	core	18.4	17.8	bdl	bdl	0.7	119.6	466998.0	13.6	0.8	140.6	bdl	0.8
13005-g1-P1-27	with cryst -MI	core	22.6	20.8	0.7	0.2	1.0	114.6	466998.0	12.1	1.0	147.9	bdl	bdl
13005-g1-P1-28	with cryst -MI	core	21.7	21.1	bdl	0.2	1.0	114.9	466998.0	10.5	0.9	139.5	0.0	bdl
13005-g1-P1-29	with cryst -MI	core	21.4	21.2	0.6	0.2	0.8	116.8	466998.0	11.2	0.8	135.9	bdl	bdl
13005-g1-P1-30	with cryst -MI	core	21.7	21.8	0.6	0.2	0.6	111.3	466998.0	10.7	0.9	110.3	bdl	0.5
13005-g1-P1-31	with cryst -MI	core	20.9	21.1	bdl	0.2	0.8	108.1	466998.0	11.9	0.9	104.6	0.0	bdl
13005-g1-P1-32	with cryst -MI	core	21.6	21.2	0.7	0.2	0.8	109.3	466998.0	11.6	0.9	98.8	bdl	bdl
13005-g1-P1-33	with cryst -MI	core	22.7	21.8	0.9	0.3	0.8	109.5	466998.0	11.9	0.8	93.8	bdl	0.8
13005-g1-P1-34	with cryst -MI	core	22.4	22.8	0.5	0.3	0.8	106.4	466998.0	11.4	0.9	93.5	bdl	bdl
13005-g1-P1-35	with cryst -MI	rim	22.5	23.2	0.6		0.8	107.9	466998.0	10.5	0.9	89.7	bdl	0.7
13005-g1-P2-1	with cryst -MI	core	17.6	17.7	1.0	0.3	0.8	116.5	466998.0	12.3	0.8	135.1	0.0	0.7
13005-g1-P2-2	with cryst -MI	core	20.3	18.8	0.9	0.2	0.9	115.5	466998.0	11.3	0.8	137.1	bdl	bdl
13005-g1-P2-3	with cryst -MI	core	20.0	19.5	0.9	0.3	0.8	115.5	466998.0	12.1	0.9	136.7	bdl	bdl
13005-g1-P2-4	with cryst -MI	core	20.6	20.1	0.6	0.2	0.7	115.1	466998.0	11.4	0.9	136.9	0.0	bdl
13005-g1-P2-5	with cryst -MI	core	20.3	19.8	0.6	0.4	0.8	116.8	466998.0	11.8	0.8	136.0	bdl	0.9
13005-g1-P2-6	with cryst -MI	core	19.8	19.7	0.8	bdl	0.8	108.4	466998.0	11.6	0.8	118.8	bdl	0.6
13005-g1-P2-7	with cryst -MI	core	20.1	19.7	0.9	0.2	0.6	102.2	466998.0	11.8	0.8	103.1	0.0	0.6
13005-g1-P2-8	with cryst -MI	core	20.5	20.1	0.8	bdl	0.8	104.1	466998.0	11.7	0.8	101.1	bdl	0.7
13005-g1-P2-9	with cryst -MI	core	21.3	21.0	0.9	bdl	0.6	105.2	466998.0	10.9	0.8	98.9	bdl	bdl
13005-g1-P2-10	with cryst -MI	core	20.8	20.4	1.0	bdl	0.4	100.4	466998.0	11.2	0.8	91.8	bdl	bdl
13005-g1-P2-11	with cryst -MI	core	21.1	20.5	1.1	0.2	0.8	96.6	466998.0	12.2	0.9	85.3	bdl	0.5
13005-g1-P2-12	with cryst -MI	core	22.0	22.3	0.7	0.1	0.8	102.0	466998.0	11.0	0.9	87.5	bdl	0.7
13005-g1-P2-13	with cryst -MI	core	22.0	21.6	1.0	0.2	0.6	97.1	466998.0	10.8	0.8	84.4	bdl	0.6
13005-g1-P2-14	with cryst -MI	core	23.5	22.6	0.8	0.2	0.6	100.7	466998.0	12.0	0.9	81.2	bdl	0.5
13005-g1-P2-15	with cryst -MI	rim	23.2	22.3	0.8	0.3	0.5	96.0	466998.0	10.5	0.9	81.4	0.0	0.6
13005-g10-P1-1	with cryst -MI	next to MI	19.3	18.7	1.5	0.3	0.8	104.7	466998.0	13.8	0.8	94.4	bdl	bdl
13005-g10-P1-2	with cryst -MI	Core	19.5	19.2	1.6	bdl	0.7	105.2	466998.0	13.6	0.8	96.1	bdl	bdl
13005-g10-P1-3	with cryst -MI	Core	20.0	19.1	1.5	0.3	0.6	102.8	466998.0	13.6	0.9	99.9	bdl	0.7
13005-g10-P1-4	with cryst -MI	Core	19.5	18.6	1.5	bdl	0.8	101.3	466998.0	12.4	0.9	99.1	bdl	bdl
13005-g10-P1-5	with cryst -MI	Core	19.0	17.9	1.9	0.8	0.6	99.5	466998.0	11.7	0.9	98.1	bdl	0.6
13005-g10-P1-6	with cryst -MI	Core	18.7	18.0	1.6	0.4	0.6	100.7	466998.0	14.0	0.9	98.5	bdl	0.8
13005-g10-P1-7	with cryst -MI	Core	18.8	18.5	1.4	0.3	0.6	102.3	466998.0	13.2	1.0	99.6	0.0	bdl
13005-g10-P1-8	with cryst -MI	Core	19.4	18.9	1.5	0.2	0.8	103.3	466998.0	12.7	1.0	101.0	bdl	0.5
13005-g10-P1-9	with cryst -MI	Core	18.7	18.5	1.8	bdl	0.7	105.1	466998.0	13.3	0.9	100.4	bdl	0.5
13005-g10-P1-10	with cryst -MI	Core	18.4	17.8	1.5	bdl	0.8	103.6	466998.0	13.2	0.9	96.5	bdl	bdl
13005-g10-P1-11	with cryst -MI	Core	18.2	18.0	1.8	bdl	0.8	101.6	466998.0	11.9	0.9	98.4	bdl	0.5
13005-g10-P1-12	with cryst -MI	Core	18.2	17.7	1.6	0.8	0.8	101.6	466998.0	13.9	0.9	98.5	bdl	bdl
13005-g10-P1-13	with cryst -MI	Core	19.4	18.3	1.4	0.2	0.7	100.1	466998.0	12.3	1.0	97.6	bdl	0.6
13005-g10-P1-14	with cryst -MI	Core	19.2	18.5	2.1	bdl	0.7	103.1	466998.0	12.2	1.0	97.5	0.0	bdl
13005-g10-P1-15	with cryst -MI	Core	19.5	19.0	1.3	0.2	0.8	98.5	466998.0	11.9	1.1	98.8	bdl	0.7
13005-g10-P1-16	with cryst -MI	Core	19.1	18.3	1.4	bdl	0.6	96.4	466998.0	13.3	1.0	92.1	0.0	0.6
13005-g10-P1-17	with cryst -MI	Core	20.1	18.8	1.8	0.2	0.7	97.0	466998.0	13.3	1.0	88.1	0.0	0.5
13005-g10-P1-18	with cryst -MI	Core	20.5	19.4	1.5	0.2	0.6	96.5	466998.0	13.3	1.0	88.5	bdl	0.5
13005-g10-P1-19	with cryst -MI	Core	20.5	19.2	1.5	bdl	0.7	97.2	466998.0	13.6	0.9	86.6	bdl	bdl
13005-g10-P1-20	with cryst -MI	Core	22.5	20.7	1.3	0.2	0.7	94.6	466998.0	12.1	1.0	86.8	bdl	bdl
13005-g10-P1-21	with cryst -MI	Core	20.7	20.7	1.7	0.2	0.7	94.9	466998.0	12.7	1.0	78.5	0.0	bdl
13005-g10-P1-22	with cryst -MI	Core	21.5	21.2	1.6	0.2	0.6	95.4	466998.0	12.1	0.9	78.5	0.0	0.7
13005-g10-P1-23	with cryst -MI	rim	23.0	22.0	1.6	bdl	0.5	96.2	466998.0	12.1	1.0	78.9	bdl	0.6
13005-g10-P1-24	with cryst -MI	rim	25.7	23.5	1.0	bdl	1.2	147.2	466998.0	9.0	1.2	82.5	0.1	bdl
13005-g10-P2-1	with cryst -MI	next to MI	24.1	22.6		bdl		97.5	466998.0	8.8	1.4	92.6	bdl	bdl
13005-g10-P2-2	with cryst -MI	Core	22.1	21.2	1.5	bdl	0.7	97.6	466998.0	13.5	1.0	93.1	0.0	bdl
13005-g10-P2-3	with cryst -MI	Core	21.7	20.9	1.2	8.9	0.7	95.2	466998.0	12.3	1.0	84.5	bdl	0.6
13005-g7-P1-1	with cryst -MI	next to MI	13.3	12.8		bdl		95.7	466998.0	19.2	0.8	85.9	bdl	bdl
13005-g7-P1-2	with cryst -MI	Core	16.3	15.5	1.4	1.6	0.7	97.8	466998.0	15.5	0.7	59.6	bdl	bdl
13005-g7-P1-3	with cryst -MI	Core	14.9	14.9	1.3	0.8	0.5	97.4	466998.0	14.9	0.8	61.4	bdl	0.8
13005-g7-P1-4	with cryst -MI	Core	16.0	15.2	1.5	0.7	0.6	103.1	466998.0	16.1	0.7	60.2	bdl	0.8
13005-g7-P1-5	with cryst -MI	Core	15.9	15.2	1.6	5.2	0.7	104.2	466998.0	14.2	0.8	82.0	0.0	bdl
13005-g7-P1-6	with cryst -MI	Core	15.9	15.9	1.7	3.4	0.7	107.7	466998.0	12.8	0.9	93.2	bdl	0.6
13005-g7-P1-7	with cryst -MI	Core	17.2	17.1	1.4	bdl	0.9	113.7	466998.0	14.1	0.9	126.5	0.0	0.6
13005-g7-P1-8	with cryst -MI	Core	18.4	17.6	1.1	bdl	1.0	116.3	466998.0	12.7	1.0	118.1	0.0	bdl
13005-g7-P1-9	with cryst -MI	Core	18.8	17.5	1.8	bdl	0.9	117.9	466998.0	13.7	1.0	118.2	0.0	bdl

Table C3: continued

Info		Position	Li^6	Li^7	B	Na	Mg	Al	Si	P	Sc	Ti	Ga	Ge
13005-g7-P1-10	with cryst -MI	Core	18.3	18.5	1.5	5.3	0.8	114.8	466998.0	13.2	1.0	128.6	0.0	bdl
13005-g7-P1-11	with cryst -MI	Core	18.2	17.1	1.6	3.5	0.8	113.3	466998.0	13.1	0.9	128.3	bdl	bdl
13005-g7-P1-12	with cryst -MI	Core	18.1	17.7	1.7	2.5	0.8	111.8	466998.0	12.5	0.9	122.0	0.0	0.5
13005-g7-P1-13	with cryst -MI	Core	18.7	17.4	1.5	2.4	0.6	108.5	466998.0	12.6	1.0	112.9	0.0	0.5
13005-g7-P1-14	with cryst -MI	Core	18.2	18.0	1.2	1.2	0.7	107.2	466998.0	13.8	1.0	121.4	bdl	bdl
13005-g16-P1-1	with cryst -MI	next to MI	17.7	17.7	1.9	0.5	0.9	109.0	466998.0	18.3	0.8	105.8	0.0	bdl
13005-g16-P1-2	with cryst -MI	Core	21.7	19.5	1.3	bdl	0.9	106.2	466998.0	16.7	0.7	106.3	0.0	0.7
13005-g16-P1-3	with cryst -MI	Core	20.5	20.7	1.3	bdl	0.7	105.1	466998.0	16.5	0.9	106.0	bdl	0.6
13005-g16-P1-4	with cryst -MI	Core	22.1	20.9	1.2	1.1	0.7	101.6	466998.0	16.2	1.0	106.2	0.0	bdl
13005-g16-P1-5	with cryst -MI	Core	22.7	21.8	1.2	0.3	0.8	106.3	466998.0	15.3	1.0	113.2	0.0	0.7
13005-g16-P1-6	with cryst -MI	Core	23.3	22.6	1.2	0.5	0.7	105.7	466998.0	16.2	1.0	110.1	bdl	bdl
13005-g16-P1-7	with cryst -MI	Core	21.9	22.1	1.0	bdl	0.9	106.6	466998.0	16.0	0.9	112.8	bdl	0.8
13005-g16-P1-8	with cryst -MI	Core	22.2	21.8	1.1	0.2	0.7	108.1	466998.0	17.8	0.9	115.3	bdl	0.6
13005-g16-P1-9	with cryst -MI	Core	22.1	22.3	1.1	0.2	0.8	107.5	466998.0	16.6	0.9	110.3	bdl	0.5
13005-g16-P1-10	with cryst -MI	Core	23.0	22.1	1.3	bdl	0.8	106.2	466998.0	15.7	1.0	105.7	0.0	bdl
13005-g16-P1-11	with cryst -MI	Core	23.5	23.0	1.0	0.4	0.8	108.6	466998.0	16.3	1.0	106.4	bdl	0.8
13005-g16-P1-12	with cryst -MI	Core	23.9	23.9	1.0	0.2	0.6	106.7	466998.0	16.5	1.0	107.7	bdl	bdl
13005-g16-P1-13	with cryst -MI	Core	22.4	22.2	0.8	0.3	0.7	105.6	466998.0	16.4	0.9	101.3	bdl	bdl
13005-g16-P1-14	with cryst -MI	Core	23.0	22.0	0.9	bdl	0.8	106.0	466998.0	15.7	0.8	100.1	0.0	0.5
13005-g16-P1-15	with cryst -MI	rim	23.0	23.1	0.8	bdl	0.7	104.4	466998.0	16.4	0.9	97.2	bdl	bdl
13005-g16-P1-16	with cryst -MI	rim	24.7	23.7	0.9	0.1	0.7	111.7	466998.0	15.5	0.9	94.9	bdl	0.7
13005-g16-P2-1	with cryst -MI	next to MI	18.1	17.9	0.9	bdl	0.9	105.0	466998.0	14.6	0.8	109.5	0.0	0.7
13005-g16-P2-2	with cryst -MI	Core	20.4	19.8	1.0	bdl	0.8	108.5	466998.0	14.5	0.9	107.1	bdl	1.0
13005-g16-P2-3	with cryst -MI	Core	21.1	21.3	0.8	0.4	0.9	102.9	466998.0	13.1	1.0	103.1	0.0	0.6
13005-g16-P2-4	with cryst -MI	Core	21.2	21.1	0.9	0.2	0.7	101.0	466998.0	14.5	1.0	100.0	bdl	0.7
13005-g16-P2-5	with cryst -MI	Core	22.1	20.9	0.8	bdl	0.6	104.2	466998.0	14.1	0.9	92.6	0.0	bdl
13005-g16-P2-6	with cryst -MI	Core	22.5	22.0	1.1	0.4	0.6	105.2	466998.0	13.8	1.0	101.6	bdl	bdl
13005-g16-P2-7	with cryst -MI	Core	22.6	21.0	1.0	0.2	0.7	104.5	466998.0	13.7	1.0	96.6	0.0	0.6
13005-g16-P2-8	with cryst -MI	Core	23.1	21.9	1.1	0.3	0.6	99.8	466998.0	13.4	1.0	92.1	bdl	0.6
13005-g16-P2-9	with cryst -MI	Core	21.8	20.7	1.0	bdl	0.6	97.7	466998.0	13.9	0.9	86.5	0.0	0.5
13005-g16-P2-10	with cryst -MI	Core	24.1	22.1	1.0	bdl	0.7	96.8	466998.0	13.9	1.0	88.6	bdl	0.8
13005-g16-P2-11	with cryst -MI	Core	21.6	21.7	0.9	0.2	0.8	96.8	466998.0	12.9	0.9	86.7	0.0	0.8
13005-g16-P2-12	with cryst -MI	Core	22.6	21.3	1.0	0.3	0.5	93.3	466998.0	13.9	0.9	83.2	bdl	0.7
13005-g16-P2-13	with cryst -MI	rim	22.6	23.0	0.7	0.2	0.8	100.6	466998.0	14.0	0.9	92.3	0.0	0.6
11022-g1-P1-1	with glassy -MI	next to MI	13.1	12.7	1.2	0.7	0.9	106.1	466998.0	16.5	0.7	94.5	bdl	bdl
11022-g1-P1-2	with glassy -MI	core	10.6	9.4	1.1	bdl	0.6	104.6	466998.0	15.1	0.7	93.4	bdl	0.7
11022-g1-P1-3	with glassy -MI	core	10.2	9.5	0.9	bdl	0.8	104.3	466998.0	15.3	0.8	92.2	bdl	0.9
11022-g1-P1-4	with glassy -MI	core	10.3	9.9	1.1	bdl	0.8	107.1	466998.0	13.1	0.8	110.8	bdl	0.6
11022-g1-P1-5	with glassy -MI	core	10.7	9.9	1.0	bdl	0.8	109.7	466998.0	14.4	0.8	111.3	bdl	0.7
11022-g1-P1-6	with glassy -MI	core												
11022-g1-P1-7	with glassy -MI	core												
11022-g1-P1-8	with glassy -MI	core												
11022-g1-P1-9	with glassy -MI	core												
11022-g1-P1-10	with glassy -MI	core												
11022-g1-P1-11	with glassy -MI	core	11.0	9.6	1.0	bdl	0.9	114.0	466998.0	14.8	0.8	84.6	bdl	0.7
11022-g1-P1-12	with glassy -MI	core	10.0	9.8	0.9	bdl	0.8	106.4	466998.0	14.2	0.8	83.2	bdl	0.6
11022-g1-P1-13	with glassy -MI	core	10.5	10.0	0.9	bdl	0.9	105.4	466998.0	14.0	0.9	84.0	0.0	1.0
11022-g1-P1-14	with glassy -MI	core	11.1	9.9	0.6	bdl	0.7	104.0	466998.0	13.6	0.9	83.4	0.0	0.6
11022-g1-P1-15	with glassy -MI	core	10.1	10.0	0.8	1.5	0.7	103.1	466998.0	13.1	0.8	77.6	0.0	0.8
11022-g1-P1-16	with glassy -MI	core	10.5	9.7	0.9	0.7	0.6	101.1	466998.0	13.0	0.9	80.3	bdl	0.6
11022-g1-P1-17	with glassy -MI	core	10.3	9.5	0.8	0.2	0.6	103.8	466998.0	13.8	0.8	78.1	bdl	0.7
11022-g1-P1-18	with glassy -MI	core	9.7	9.5	0.8	bdl	0.6	103.0	466998.0	13.3	0.8	76.0	bdl	0.5
11022-g1-P1-19	with glassy -MI	core	10.1	10.1	0.8	0.3	0.7	103.9	466998.0	13.6	0.9	78.7	bdl	bdl
11022-g1-P1-20	with glassy -MI	core	10.5	10.0	0.7	0.2	0.6	105.7	466998.0	13.7	0.9	91.0	0.0	0.6
11022-g1-P1-21	with glassy -MI	core	9.7	9.9	0.7	0.2	0.7	101.0	466998.0	12.6	0.9	93.8	bdl	0.6
11022-g1-P1-22	with glassy -MI	core												
11022-g1-P1-23	with glassy -MI	core	10.7	9.8	0.7	0.2	0.7	103.6	466998.0	13.4	0.9	93.8	bdl	bdl
11022-g1-P1-24	with glassy -MI	core	10.6	9.6	0.7	0.3	0.7	99.2	466998.0	13.4	0.8	92.4	bdl	0.7
11022-g1-P1-25	with glassy -MI	core	10.5	10.7	0.6	0.2	0.5	98.9	466998.0	12.5	1.0	91.3	bdl	0.5
11022-g1-P1-26	with glassy -MI	core	10.3	9.5	0.8	bdl	0.5	96.9	466998.0	12.2	0.9	86.4	bdl	0.5
11022-g1-P1-27	with glassy -MI	rim	10.2	10.0	0.8	0.2	0.6	90.7	466998.0	12.7	0.9	82.2	0.0	0.7
11022-g1-P2-1	with glassy -MI	core	10.4	9.9	1.3	0.4	0.7	103.0	466998.0	10.8	1.0	83.3	bdl	0.7
11022-g1-P2-2	with glassy -MI	core	9.8	9.6	1.3	0.4	0.6	102.7	466998.0	11.7	1.0	83.2	bdl	bdl
11022-g1-P2-3	with glassy -MI	core	9.8	9.5	0.9	0.6	0.7	102.5	466998.0	10.8	0.9	84.6	bdl	0.6
11022-g1-P2-4	with glassy -MI	core	9.2	9.6	1.2	0.3	0.7	101.0	466998.0	9.7	1.0	85.5	bdl	0.6
11022-g1-P2-5	with glassy -MI	core	9.7	9.8	0.9	0.7	0.7	102.8	466998.0	10.1	1.0	89.1	0.0	0.7
11022-g1-P2-6	with glassy -MI	core	10.1	9.6	0.9	0.5	0.7	106.8	466998.0	10.5	1.0	92.9	bdl	bdl
11022-g1-P2-7	with glassy -MI	core	10.6	9.7	0.6	0.6	0.9	105.6	466998.0	11.9	1.0	97.4	0.0	0.8
11022-g1-P2-8	with glassy -MI	core	10.2	9.1	0.6	0.7	0.5	104.7	466998.0	11.1	0.9	93.8	bdl	0.8
11022-g1-P2-9	with glassy -MI	core	9.9	9.7	0.7	1.1	0.7	101.1	466998.0	10.8	1.0	98.3	0.0	bdl
11022-g1-P2-10	with glassy -MI	core	9.4	9.3	0.9	0.7	0.7	99.5	466998.0	10.4	0.9	94.7	bdl	0.7
11022-g1-P2-11	with glassy -MI	core	9.8	9.5	0.6	0.6	0.5	98.8	466998.0	10.6	1.0	91.6	bdl	0.6
11022-g1-P2-12	with glassy -MI	core	10.0	9.2	0.4	0.4	0.5	95.3	466998.0	10.2	1.0	90.3	0.0	bdl
11022-g1-P2-13	with glassy -MI	core	9.9	9.7	bdl	0.2	0.6	101.0	466998.0	10.6	0.9	95.1	0.0	0.7
11022-g1-P2-14	with glassy -MI	core	11.0	10.0	0.5	0.2	0.6	100.1	466998.0	9.4	1.0	96.8	bdl	0.5
11022-g1-P2-15	with glassy -MI	core	11.1	11.8	0.6	0.3	0.6	99.5	466998.0	10.8	0.9	96.4	bdl	0.6
11022-g1-P2-16	with glassy -MI	core	11.6	11.3	0.5	bdl	0.6	96.2	466998.0	11.8	0.9	89.6	bdl	0.7
11022-g1-P2-17	with glassy -MI	core	12.6	11.9	bdl	bdl	0.7	92.8	466998.0	11.6	0.9	87.1	0.0	0.8
11022-g1-P2-18	with glassy -MI	rim	15.4	14.5	0.5	0.2	0.7	97.6	466998.0	10.8	0.9	81.8	bdl	1.0
11022-g1-P3-1	with glassy -MI	core	8.9	9.0	0.8	bdl	0.6	105.4	466998.0	11.6	0.8	84.8	bdl	0.8
11022-g1-P3-2	with glassy -MI	core	10.0	9.4	1.1	0.8	0.6	103.5	466998.0	10.8	0.9	85.3	bdl	bdl
11022-g1-P3-3	with glassy -MI	core	10.7	10.0	1.1	bdl	0.8	106.8	466998.0	10.6	1.0	94.5	bdl	bdl
11022-g1-P3-4	with glassy -MI	core	10.6	10.7	1.3	bdl	0.7	110.5	466998.0	11.0	1.0	102.9	0.0	0.8
11022-g1-P3-5	with glassy -MI	core	10.1	9.6	1.0	0.9	0.7	109.3	466998.0	11.6	0.8	101.7	0.0	bdl

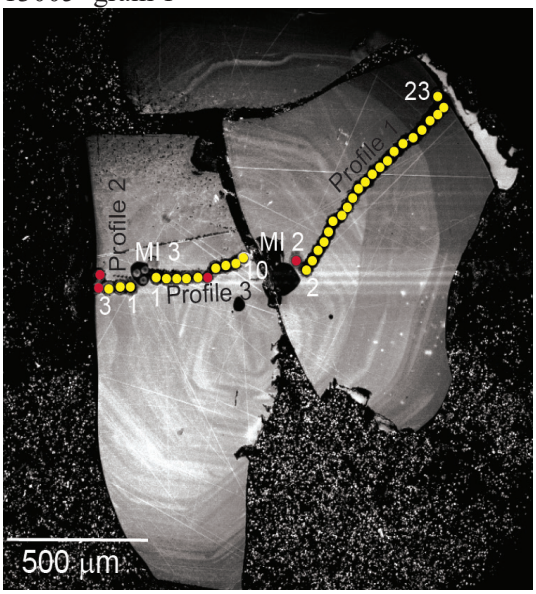
Table C3: continued

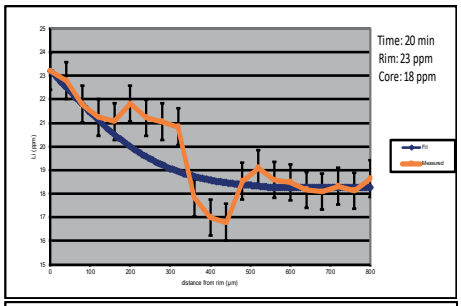
Info		Position	Li^6	Li^7	B	Na	Mg	Al	Si	P	Sc	Ti	Ga	Ge
11022-g1-P3-6	with glassy -MI	core	9.9	9.1	0.6	0.4	0.9	109.2	466998.0	11.5	0.8	112.0	0.0	0.9
11022-g1-P3-7	with glassy -MI	core	8.7	8.6	1.1	0.9	0.6	100.6	466998.0	11.9	0.9	91.5	bdl	0.9
11022-g1-P3-8	with glassy -MI	core	8.7	8.4	0.8	0.2	0.5	99.4	466998.0	10.9	0.8	90.5	bdl	0.6
11022-g1-P3-9	with glassy -MI	core	9.0	8.6	bdl	0.4	0.6	98.8	466998.0	11.5	0.8	84.8	bdl	bdl
11022-g1-P3-10	with glassy -MI	core	9.0	8.5	0.6	0.2	0.4	93.4	466998.0	11.4	0.8	86.3	bdl	bdl
11022-g1-P3-11	with glassy -MI	core	9.1	8.5	0.7	0.4	0.5	93.5	466998.0	11.8	0.9	81.7	bdl	1.0
11022-g1-P3-12	with glassy -MI	core	8.7	8.7	0.9	bdl	0.6	96.4	466998.0	12.4	0.9	87.2	bdl	bdl
11022-g1-P3-13	with glassy -MI	rim	9.3	9.1	0.6	bdl	0.4	92.0	466998.0	11.3	0.8	75.7	bdl	1.0
11022-g8-P1-1	with glassy -MI	next to MI	9.3	9.2	0.7	1.4	0.5	98.4	466998.0	12.9	0.8	75.6	bdl	0.6
11022-g8-P1-2	with glassy -MI	core	10.0	9.8	0.4	0.2	0.7	100.0	466998.0	13.7	0.9	75.8	bdl	0.7
11022-g8-P1-3	with glassy -MI	core	10.6	10.2	0.6	0.2	0.7	96.8	466998.0	13.0	0.9	71.6	bdl	bdl
11022-g8-P1-4	with glassy -MI	rim	12.3	11.7	0.6	bdl	0.7	99.6	466998.0	12.6	1.0	73.7	bdl	0.7
11022-g8-P1-5	with glassy -MI	rim	13.7	13.7	0.6	bdl	0.7	102.7	466998.0	12.6	1.1	78.8	bdl	0.6
11022-g8-P2-1	with glassy -MI	rim	12.4	12.4	0.6	1.7	0.5	99.8	466998.0	14.0	0.8	72.3	bdl	0.9
11022-g8-P2-2	with glassy -MI	core	10.1	10.1	0.5	0.8	0.5	93.5	466998.0	13.1	0.9	71.3	bdl	bdl
11022-g8-P2-3	with glassy -MI	core	9.2	9.0	0.5	0.5	0.7	93.6	466998.0	12.8	0.9	70.0	0.0	0.6
11022-g8-P2-4	with glassy -MI	core	8.5	8.5	0.7	0.3	0.6	93.5	466998.0	13.1	0.9	75.1	0.0	bdl
11022-g8-P2-5	with glassy -MI	core	9.4	9.4	0.5	0.3	0.7	95.3	466998.0	11.7	1.0	76.2	bdl	bdl
11022-g8-P2-6	with glassy -MI	core	9.0	9.0	0.4	0.3	1.0	94.5	466998.0	12.2	0.9	79.4	bdl	bdl
11022-g8-P2-7	with glassy -MI	core	8.7	8.6	0.7	bdl	0.7	99.1	466998.0	12.0	0.9	79.5	bdl	1.0
11022-g8-P2-8	with glassy -MI	core	9.8	9.1	0.6	0.2	0.8	98.5	466998.0	12.3	1.0	83.7	bdl	0.9
11022-g8-P2-9	with glassy -MI	core	9.1	8.8	0.7	bdl	0.8	95.7	466998.0	12.5	0.9	83.8	bdl	0.6
11022-g8-P2-10	with glassy -MI	core	10.1	9.9	0.5	0.2	0.7	101.9	466998.0	12.9	1.0	100.8	0.0	0.6
11022-g8-P2-11	with glassy -MI	core	10.8	10.3	0.4	0.2	0.7	110.2	466998.0	11.5	1.0	119.8	bdl	bdl
11022-g8-P2-12	with glassy -MI	core	11.1	11.0	0.5	0.3	0.7	113.0	466998.0	12.5	1.0	122.6	bdl	0.6
11022-g8-P2-13	with glassy -MI	core	11.3	11.1	0.5	0.3	1.0	113.2	466998.0	11.8	1.0	126.0	0.0	0.6
11022-g8-P2-14	with glassy -MI	core	11.2	11.4	0.5	0.6	0.8	109.6	466998.0	10.7	1.1	123.4	bdl	bdl
11022-g8-P2-15	with glassy -MI	core	11.2	11.3	0.3	0.3	0.8	109.6	466998.0	11.9	1.1	125.4	bdl	bdl
11022-g8-P2-16	with glassy -MI	core	11.4	11.0	0.5	0.2	1.0	111.3	466998.0	11.9	1.1	124.6	0.0	0.6
11022-g8-P2-17	with glassy -MI	core	10.5	10.1	0.5	bdl	0.8	108.7	466998.0	11.0	1.0	111.7	0.0	bdl
11022-g8-P2-18	with glassy -MI	core	10.9	10.3	0.6	bdl	0.9	107.0	466998.0	11.6	1.0	102.5	bdl	0.6
11022-g10-P1-2	with glassy -MI	next to MI	9.7	9.2	0.9	0.3	0.8	104.4	466998.0	13.1	0.8	104.4	bdl	0.5
11022-g10-P1-3	with glassy -MI	core	10.1	9.4	1.2	0.3	0.6	104.0	466998.0	14.1	0.7	98.7	bdl	0.7
11022-g10-P1-4	with glassy -MI	core	9.9	9.5	0.9	0.3	0.7	102.9	466998.0	12.8	0.8	99.4	bdl	0.8
11022-g10-P1-5	with glassy -MI	core	10.1	10.0	0.7	bdl	0.7	104.9	466998.0	12.5	0.8	99.3	bdl	bdl
11022-g10-P1-6	with glassy -MI	core	10.8	9.8	0.6	0.4	0.9	104.0	466998.0	11.8	0.9	104.1	0.0	bdl
11022-g10-P1-7	with glassy -MI	core	10.3	9.8	1.1	0.2	0.8	104.1	466998.0	12.4	0.9	100.4	0.0	0.8
11022-g10-P1-8	with glassy -MI	core	10.0	9.4	0.7	bdl	0.7	101.6	466998.0	12.4	0.8	95.1	bdl	bdl
11022-g10-P1-9	with glassy -MI	core	9.6	9.7	0.9	bdl	0.7	106.1	466998.0	13.3	0.8	102.4	0.0	0.8
11022-g10-P1-10	with glassy -MI	core	10.6	9.7	0.7	0.2	0.8	105.6	466998.0	14.5	0.9	106.3	0.0	bdl
11022-g10-P1-11	with glassy -MI	core	10.6	9.9	1.6	bdl	0.6	105.0	466998.0	13.0	1.0	96.6	bdl	bdl
11022-g10-P1-12	with glassy -MI	core	9.7	9.7	0.9	bdl	0.6	106.1	466998.0	12.7	0.8	90.9	bdl	0.8
11022-g10-P1-13	with glassy -MI	core	9.9	9.5	bdl	bdl	0.4	109.7	466998.0	14.6	0.8	86.8	0.0	0.7
11022-g10-P1-14	with glassy -MI	core	10.3	9.8	1.3	0.2	0.9	104.6	466998.0	13.1	0.9	84.2	bdl	0.7
11022-g10-P1-15	with glassy -MI	core	10.6	9.7	1.2	0.2	0.7	100.1	466998.0	12.5	0.9	82.8	bdl	bdl
11022-g10-P1-16	with glassy -MI	core	10.8	10.2	1.2	0.5	0.7	101.8	466998.0	12.4	1.0	82.8	bdl	bdl
11022-g10-P1-17	with glassy -MI	core	11.0	9.8	0.9	0.2	0.5	97.0	466998.0	12.4	0.9	79.7	bdl	0.7
11022-g10-P1-18	with glassy -MI	core	10.6	10.1	0.9	bdl	0.5	98.7	466998.0	14.8	0.8	76.9	bdl	0.7
11022-g10-P1-19	with glassy -MI	core	10.1	9.5	0.8	bdl	0.7	97.8	466998.0	12.3	0.7	64.4	bdl	bdl
11022-g10-P1-20	with glassy -MI	core	13.2	11.6	1.9	bdl	0.7	94.8	466998.0	12.4	1.0	67.8	bdl	0.5
11022-g10-P1-21	with glassy -MI	core	12.0	11.3	0.9	bdl	0.5	97.5	466998.0	12.4	0.9	64.6	bdl	0.7
11022-g10-P1-22	with glassy -MI	rim	14.5	13.6	1.2	0.3	0.6	98.5	466998.0	13.8	0.8	67.2	bdl	bdl
11022-g10-P1-23	with glassy -MI	rim	14.0	13.4	1.6	0.4	0.8	102.7	466998.0	13.3	0.8	67.5	bdl	bdl
11022-g10-P2-1	with glassy -MI	next to MI	12.3	12.2	1.0	0.2	0.8	107.3	466998.0	14.3	0.8	99.3	bdl	bdl
11022-g10-P2-2	with glassy -MI	core	11.5	11.0	1.1	bdl	0.7	104.7	466998.0	14.1	0.8	89.7	0.0	0.7
11022-g10-P2-3	with glassy -MI	next to MI	13.0	12.9	1.0	0.3	0.7	102.6	466998.0	13.4	0.9	91.4	0.0	bdl
11022-g10-P3-1	with glassy -MI	next to MI	10.6	10.0	0.7	bdl	0.9	105.3	466998.0	14.4	0.9	93.3	0.0	bdl
11022-g10-P3-2	with glassy -MI	core	10.6	10.2	0.8	bdl	0.7	98.3	466998.0	11.8	1.0	93.3	0.0	0.7
11022-g10-P3-3	with glassy -MI	core	10.6	10.2	0.7	bdl	0.6	104.1	466998.0	12.4	1.0	97.1	bdl	bdl
11022-g10-P3-4	with glassy -MI	core	10.4	9.9	0.7	bdl	0.7	101.6	466998.0	11.9	1.0	100.6	0.0	bdl
11022-g10-P3-5	with glassy -MI	core	11.8	10.9	0.7	bdl	0.9	106.0	466998.0	10.7	1.2	104.5	0.0	0.5
11022-g10-P3-6	with glassy -MI													
11022-g10-P3-7	with glassy -MI	core	10.2	9.8	0.9	bdl	0.7	104.5	466998.0	12.0	1.0	95.9	0.0	0.5
11022-g10-P3-8	with glassy -MI	core	10.4	10.3	0.8	bdl	0.9	106.4	466998.0	12.1	1.0	105.0	bdl	0.5
11022-g10-P3-9	with glassy -MI	core	15.3	13.1	0.8	bdl	0.8	102.8	466998.0	12.6	1.0	104.4	bdl	bdl
11022-g10-P3-10	with glassy -MI	next to MI	15.1	13.6	0.7	bdl	1.2	116.7	466998.0	12.8	1.0	100.9	0.0	0.6
11022-g11-P1-1	with glassy -MI	next to MI	14.9	14.2	0.9	bdl	0.4	98.1	466998.0	15.3	0.7	62.5	bdl	0.6
11022-g11-P1-2	with glassy -MI	core	14.8	14.5	1.2	0.9	0.7	99.3	466998.0	15.0	0.8	97.4	bdl	0.7
11022-g11-P1-3	with glassy -MI	core	14.8	14.3	0.9	bdl	0.8	99.1	466998.0	13.7	0.8	91.3	bdl	0.5
11022-g11-P1-4	with glassy -MI	core	14.8	14.8	1.3	0.2	0.7	96.2	466998.0	14.2	0.8	86.2	bdl	0.7
11022-g11-P1-5	with glassy -MI	core	15.1	13.7	1.2	bdl	0.6	96.2	466998.0	13.3	0.9	94.2	0.0	bdl
11022-g11-P1-6	with glassy -MI	core	14.5	14.0	1.1	0.3	0.6	98.8	466998.0	15.2	0.8	88.9	bdl	0.7
11022-g11-P1-7	with glassy -MI	core	13.5	13.3	0.8	bdl	0.4	95.6	466998.0	13.4	0.8	86.8	bdl	0.5
11022-g11-P1-8	with glassy -MI	core	12.7	11.4	1.2	0.4	0.6	92.6	466998.0	12.5	0.8	82.0	bdl	0.6
11022-g11-P1-9	with glassy -MI	core	11.0	10.7	1.2	bdl	0.8	96.1	466998.0	13.5	0.8	78.1	bdl	0.8
11022-g11-P1-10	with glassy -MI	core	11.1	11.1	1.0	0.7	0.7	98.6	466998.0	13.0	0.9	82.8	0.0	0.8
11022-g11-P1-11	with glassy -MI	core	11.6	10.6	1.1	bdl	0.7	98.3	466998.0	12.5	0.8	82.7	bdl	bdl
11022-g11-P1-12	with glassy -MI	core	11.9	10.4	1.4	0.2	0.7	94.2	466998.0	14.1	0.8	79.6	bdl	0.7
11022-g11-P1-13	with glassy -MI	core	11.5	10.8	0.8	bdl	0.6	93.4	466998.0	12.5	0.8	72.7	0.0	0.8
11022-g11-P1-14	with glassy -MI	core	11.2	11.2	1.0	bdl	0.6	93.7	466998.0	13.9	0.8	73.7	bdl	bdl
11022-g11-P1-15	with glassy -MI	core	11.4	11.4	1.0	0.8	0.8	95.2	466998.0	13.9	0.8	76.2	bdl	0.7
11022-g11-P1-16	with glassy -MI	core	12.3	11.3	0.8	0.8	0.4	93.3	466998.0	12.8	0.8	70.1	bdl	bdl
11022-g11-P1-17	with glassy -MI	core	12.6	12.6	0.8	0.3	0.6	91.8	466998.0	11.9	0.8	67.2	0.0	bdl

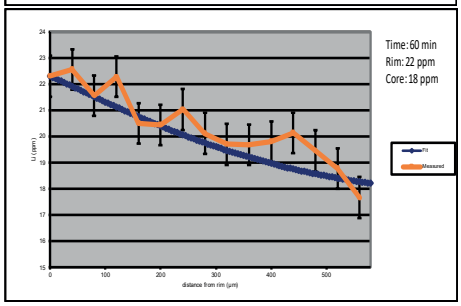
Table C3: continued

Info		Position	Li^6	Li^7	B	Na	Mg	Al	Si	P	Sc	Ti	Ga	Ge
11022-g11-P1-18	with glassy -MI	rim	13.7	12.7	1.0	bdl	0.6	90.6	466998.0	12.3	0.8	68.3	bdl	0.8
11022-g11-P2-1	with glassy -MI	next to MI	13.2	12.7	1.2	bdl	0.7	89.6	466998.0	12.6	0.8	74.2	0.0	0.6
11022-g11-P2-2	with glassy -MI	core	9.5	9.6	0.8	0.9	0.5	92.5	466998.0	12.7	0.8	67.7	bdl	0.6
11022-g11-P2-3	with glassy -MI	core	10.1	9.8	0.9	0.5	0.6	92.7	466998.0	12.9	0.9	68.5	bdl	0.8
11022-g11-P2-4	with glassy -MI	core	10.7	10.1	0.9	bdl	0.6	97.3	466998.0	15.3	0.8	67.1	bdl	0.7
11022-g11-P2-5	with glassy -MI	core	9.8	9.8	1.6	0.3	0.5	92.9	466998.0	13.2	0.8	63.6	bdl	0.8
11022-g11-P2-6	with glassy -MI	core	10.5	10.3	0.9	0.2	0.4	99.8	466998.0	13.0	0.8	68.8	bdl	0.5
11022-g11-P3-1	with glassy -MI	next to MI	14.8	14.3	0.9	1.6	0.6	95.8	466998.0	13.0	0.9	70.8	0.0	0.6
11022-g11-P3-2	with glassy -MI	core	13.1	11.5	0.9	0.6	1.1	99.6	466998.0	13.9	0.9	69.3	bdl	bdl
11022-g11-P3-3	with glassy -MI	core	11.4	11.3	0.8	0.5	0.8	99.6	466998.0	12.4	0.9	66.0	0.0	bdl
11022-g11-P3-4	with glassy -MI	core	12.1	11.9	1.0	bdl	1.3	107.9	466998.0	12.4	0.8	68.2	0.0	bdl
11022-g11-P3-5	with glassy -MI	core	10.8	10.4	0.9	0.4	0.5	95.0	466998.0	11.3	0.9	66.1	0.0	0.5
11022-g11-P3-6	with glassy -MI	next to MI	12.8	12.0	1.0	0.6	0.5	96.7	466998.0	13.6	0.8	69.4	bdl	0.5
11022-g14-P1-1	with glassy -MI	next to MI	9.2	9.2	0.8	bdl	0.8	110.8	466998.0	15.1	0.8	103.6	bdl	0.7
11022-g14-P1-2	with glassy -MI	core	9.9	9.7	0.5	bdl	0.9	110.8	466998.0	13.6	0.8	101.6	bdl	bdl
11022-g14-P1-3	with glassy -MI	core	10.2	9.9	0.6	bdl	0.7	106.9	466998.0	13.8	0.9	100.8	bdl	0.7
11022-g14-P1-4	with glassy -MI	core	10.2	9.6	0.6	bdl	0.7	107.3	466998.0	13.0	0.9	102.6	bdl	bdl
11022-g14-P1-5	with glassy -MI	core	10.8	9.7	0.5	bdl	0.9	107.7	466998.0	14.3	1.0	104.2	bdl	bdl
11022-g14-P1-6	with glassy -MI	core	9.8	9.3	0.7	bdl	1.0	106.2	466998.0	12.2	0.9	101.6	bdl	bdl
11022-g14-P1-7	with glassy -MI	core	9.6	8.8	0.6	0.2	0.7	103.7	466998.0	12.8	0.9	102.3	bdl	bdl
11022-g14-P1-8	with glassy -MI	core	10.0	9.4	0.7	0.2	0.5	100.8	466998.0	13.8	0.9	95.5	bdl	0.7
11022-g14-P1-9	with glassy -MI	core	10.4	9.9	0.5	0.3	0.6	100.6	466998.0	11.9	1.0	91.5	0.0	0.8
11022-g14-P1-10	with glassy -MI	core	9.3	8.6	0.6	bdl	0.6	99.4	466998.0	14.2	0.8	87.3	bdl	bdl
11022-g14-P1-11	with glassy -MI	core	9.2	9.0	0.5	bdl	0.7	102.3	466998.0	13.5	0.8	92.8	bdl	0.8
11022-g14-P1-12	with glassy -MI	core	10.0	9.5	0.6	bdl	0.8	105.9	466998.0	12.3	0.9	93.7	0.0	0.6
11022-g14-P1-13	with glassy -MI	core	10.1	9.5	bdl	bdl	0.5	97.3	466998.0	13.5	1.0	87.3	0.0	bdl
11022-g14-P1-14	with glassy -MI	core	9.7	9.4	0.7	bdl	0.6	100.1	466998.0	12.7	1.0	86.7	bdl	0.6
11022-g14-P1-15	with glassy -MI	core	9.6	10.2	0.5	bdl	0.6	99.2	466998.0	12.5	1.0	84.7	bdl	0.6
11022-g14-P1-16	with glassy -MI	core	10.4	10.2	0.5	bdl	0.8	100.9	466998.0	12.7	0.9	83.7	0.0	bdl
11022-g14-P1-17	with glassy -MI	core	12.4	10.3	0.4	bdl	0.8	100.4	466998.0	12.9	1.0	81.7	bdl	0.6
11022-g14-P1-18	with glassy -MI	core	10.2	9.6	0.9	0.5	0.7	96.9	466998.0	13.1	1.0	79.3	bdl	bdl
11022-g14-P1-19	with glassy -MI	core	9.9	9.2	0.8	0.2	0.6	95.3	466998.0	14.0	1.0	74.3	0.0	0.6
11022-g14-P1-20	with glassy -MI	core	9.6	9.1	0.6	0.4	0.6	95.3	466998.0	11.8	1.0	76.3	0.0	bdl
11022-g14-P1-21	with glassy -MI	core	10.4	9.3	0.6	0.8	0.7	96.2	466998.0	13.8	0.9	77.1	bdl	bdl
11022-g14-P1-22	with glassy -MI	core	9.7	9.3	0.4	0.2	0.5	95.4	466998.0	13.3	1.0	74.1	bdl	0.9
11022-g14-P1-23	with glassy -MI	core	9.8	9.0	0.5	0.3	0.9	95.3	466998.0	13.6	0.9	70.3	bdl	bdl
11022-g14-P1-24	with glassy -MI	core	9.9	9.6	0.6	0.3	0.8	99.5	466998.0	12.7	1.0	75.6	0.0	bdl
11022-g14-P1-25	with glassy -MI	core	10.1	9.5	0.4	bdl	0.7	95.9	466998.0	12.8	1.0	74.7	bdl	0.7
11022-g14-P1-26	with glassy -MI	core	9.9	9.5	0.5	0.2	0.7	92.5	466998.0	12.6	1.0	73.2	bdl	bdl
11022-g14-P1-27	with glassy -MI	rim	9.6	9.1	0.5	1.9	0.6	94.8	466998.0	14.3	0.8	68.6	bdl	bdl
11022-g14-P2-1	with glassy -MI	next to MI	9.8	9.4	0.4	1.6	0.8	109.1	466998.0	15.3	0.8	100.0	bdl	bdl
11022-g14-P2-2	with glassy -MI	core	10.5	9.8	0.5	0.7	0.9	108.3	466998.0	13.0	0.9	98.8	0.0	0.7
11022-g14-P2-3	with glassy -MI	core	10.4	10.4	0.3	0.8	0.7	108.0	466998.0	12.4	1.0	101.6	bdl	0.9
11022-g14-P2-4	with glassy -MI	core	10.3	10.5	0.4	0.6	0.8	102.9	466998.0	12.9	1.0	100.3	0.0	0.5
11022-g14-P2-5	with glassy -MI	core	10.0	9.6	0.5	0.5	0.8	104.6	466998.0	12.7	0.9	101.1	0.0	bdl
11022-g14-P2-6	with glassy -MI	core	10.1	9.9	0.4	0.7	0.6	102.3	466998.0	14.0	1.0	94.2	bdl	0.6
11022-g14-P2-7	with glassy -MI	core	10.4	9.7	0.5	0.5	0.7	102.0	466998.0	13.3	1.0	94.7	bdl	0.8
11022-g14-P2-8	with glassy -MI	core	10.4	9.7	0.6	0.5	0.8	100.9	466998.0	11.4	1.0	91.3	bdl	0.9
11022-g14-P2-9	with glassy -MI	core	10.4	10.1	0.5	1.0	0.5	100.8	466998.0	11.8	1.1	94.1	bdl	bdl
11022-g14-P2-10	with glassy -MI	core	10.0	9.6	0.5	0.3	0.6	94.5	466998.0	12.2	1.0	92.2	bdl	0.6
11022-g14-P2-11	with glassy -MI	core	9.9	9.5	0.6	0.2	0.5	96.6	466998.0	12.8	1.0	92.7	bdl	0.8
11022-g14-P2-12	with glassy -MI	core	11.1	9.5	0.5	bdl	0.5	95.2	466998.0	12.9	1.1	85.5	bdl	0.5
11022-g14-P2-13	with glassy -MI	core	9.6	9.1	0.6	bdl	0.6	92.7	466998.0	13.0	1.0	82.1	0.0	bdl
11022-g14-P2-14	with glassy -MI	core	10.5	9.8	0.3	0.3	0.6	92.3	466998.0	12.2	1.0	80.0	bdl	0.7
11022-g14-P2-15	with glassy -MI	core	10.4	9.1	0.5	0.3	0.6	87.5	466998.0	11.2	1.0	77.9	bdl	1.0
11022-g14-P2-16	with glassy -MI	core	10.2	9.0	0.6	0.2	0.6	89.8	466998.0	11.2	1.1	73.9	bdl	bdl
11022-g14-P2-17	with glassy -MI	core	10.5	9.8	0.6	0.2	0.6	91.0	466998.0	11.9	1.0	84.9	bdl	0.8
11022-g14-P2-18	with glassy -MI	rim	11.8	11.4	0.5	0.2	0.6	91.3	466998.0	11.7	1.1	88.7	bdl	0.5

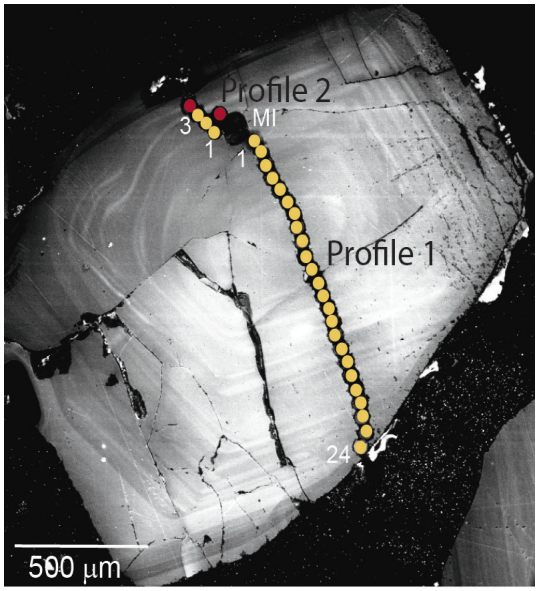
13005- grain 1

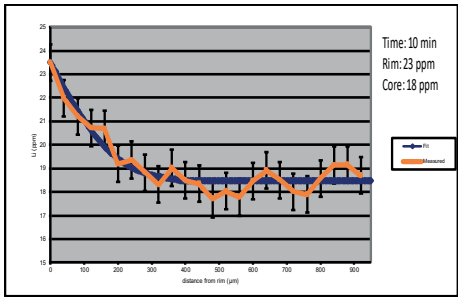




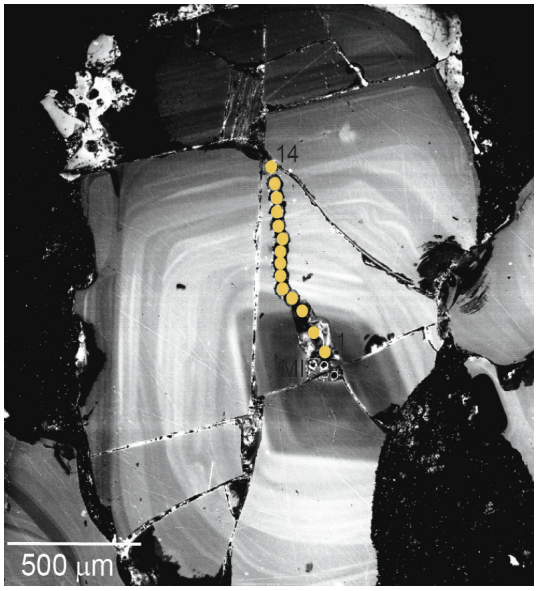


13005- grain 10





13005- grain 7



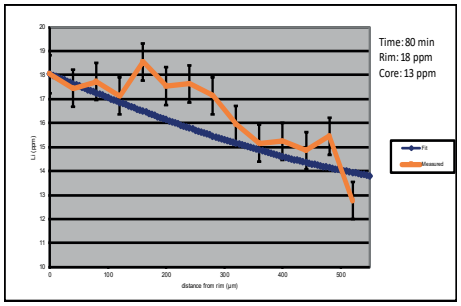
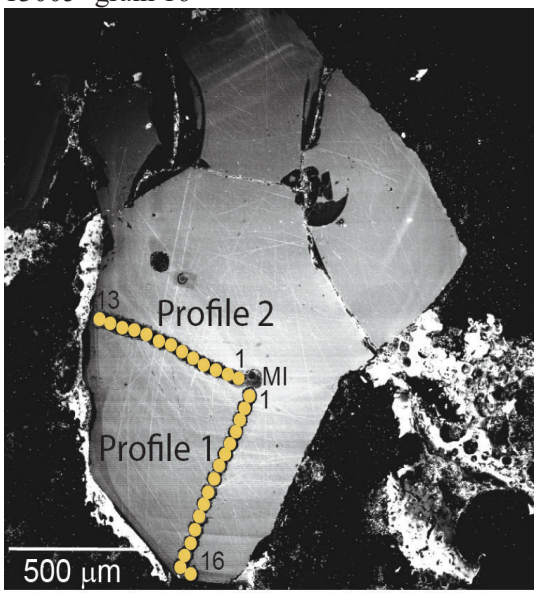
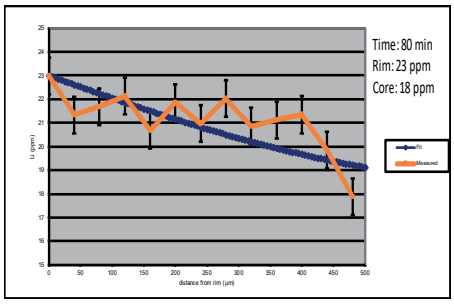
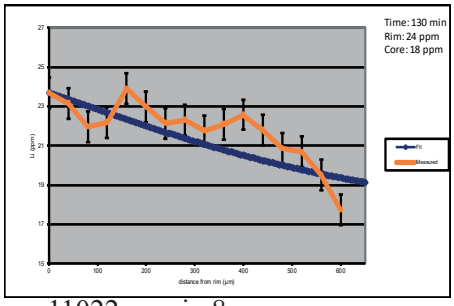


Fig. C1. CL images of quartz grains with trace element profiles and diffusion modells.

13005- grain 16

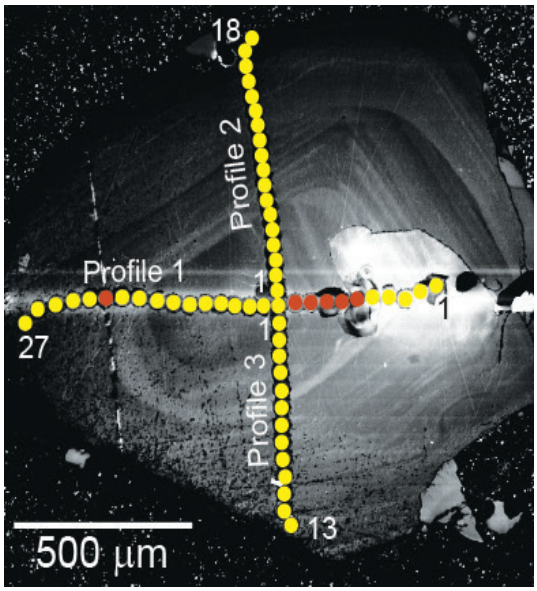


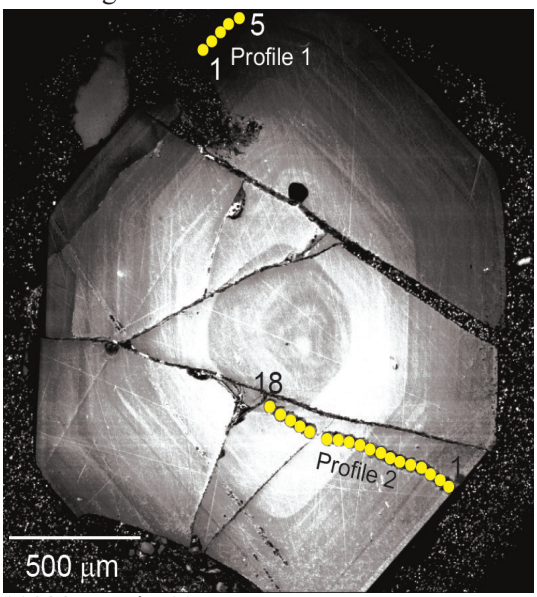




11022 - grain 1

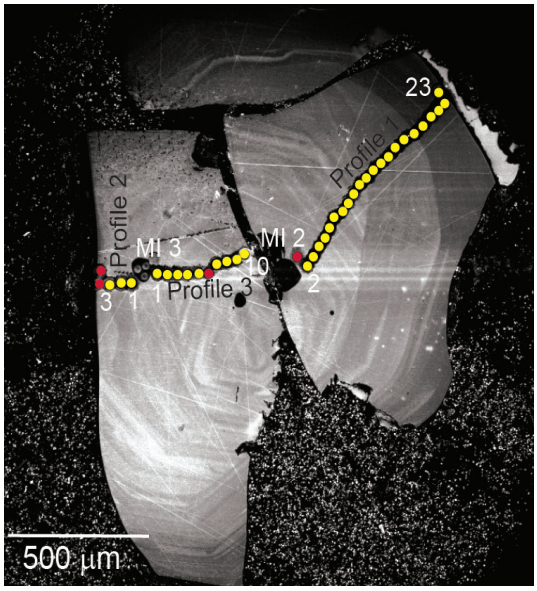
11022 - grain 8





11022 - grain 10

11022 - grain 11



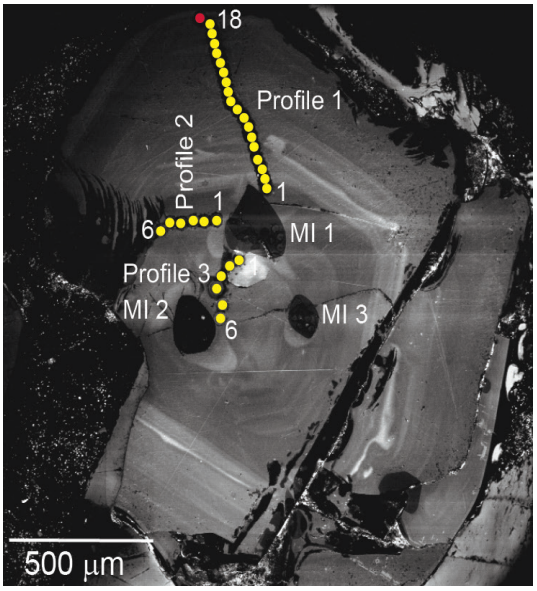


Fig. C1. continued

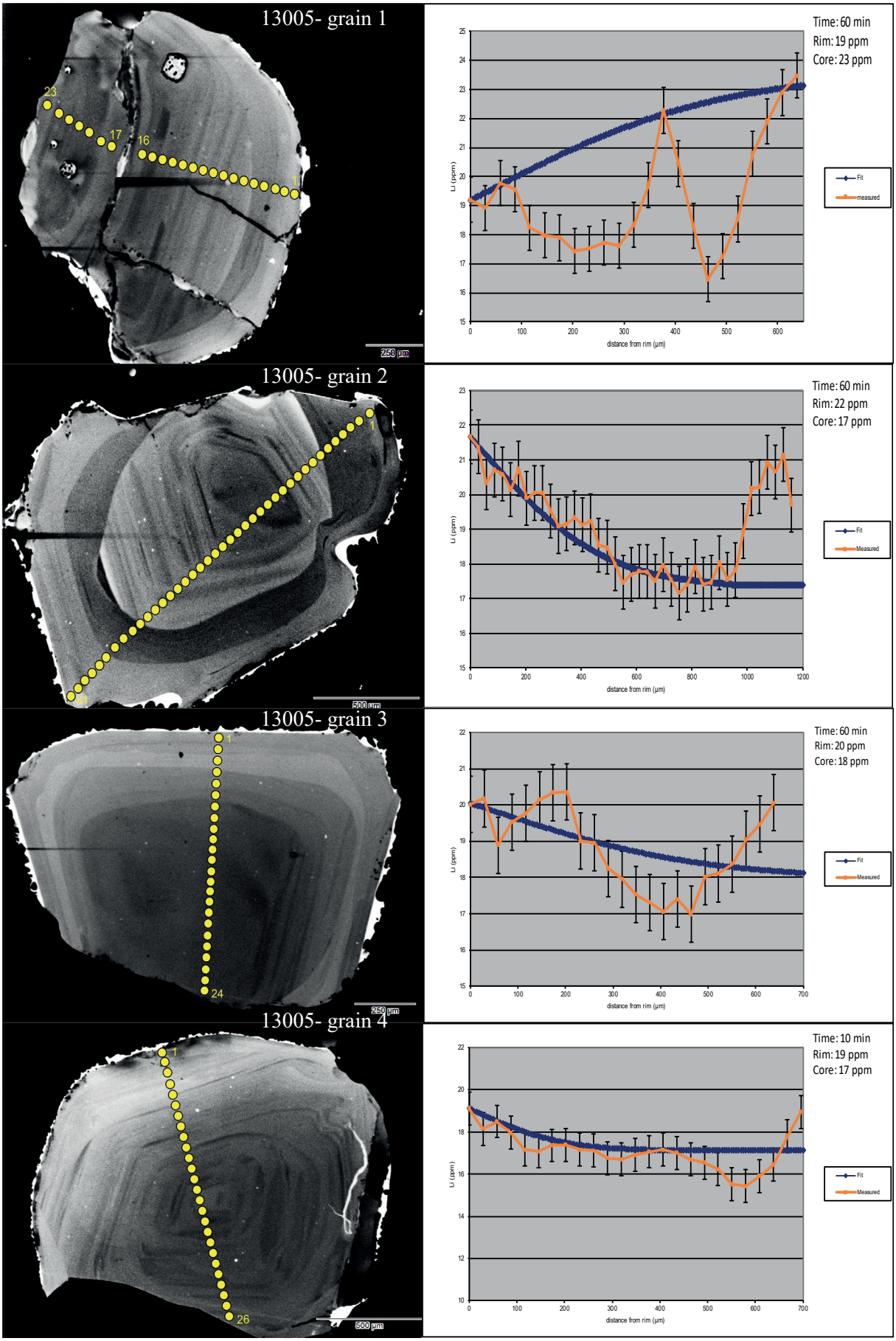


Fig. C1. continued

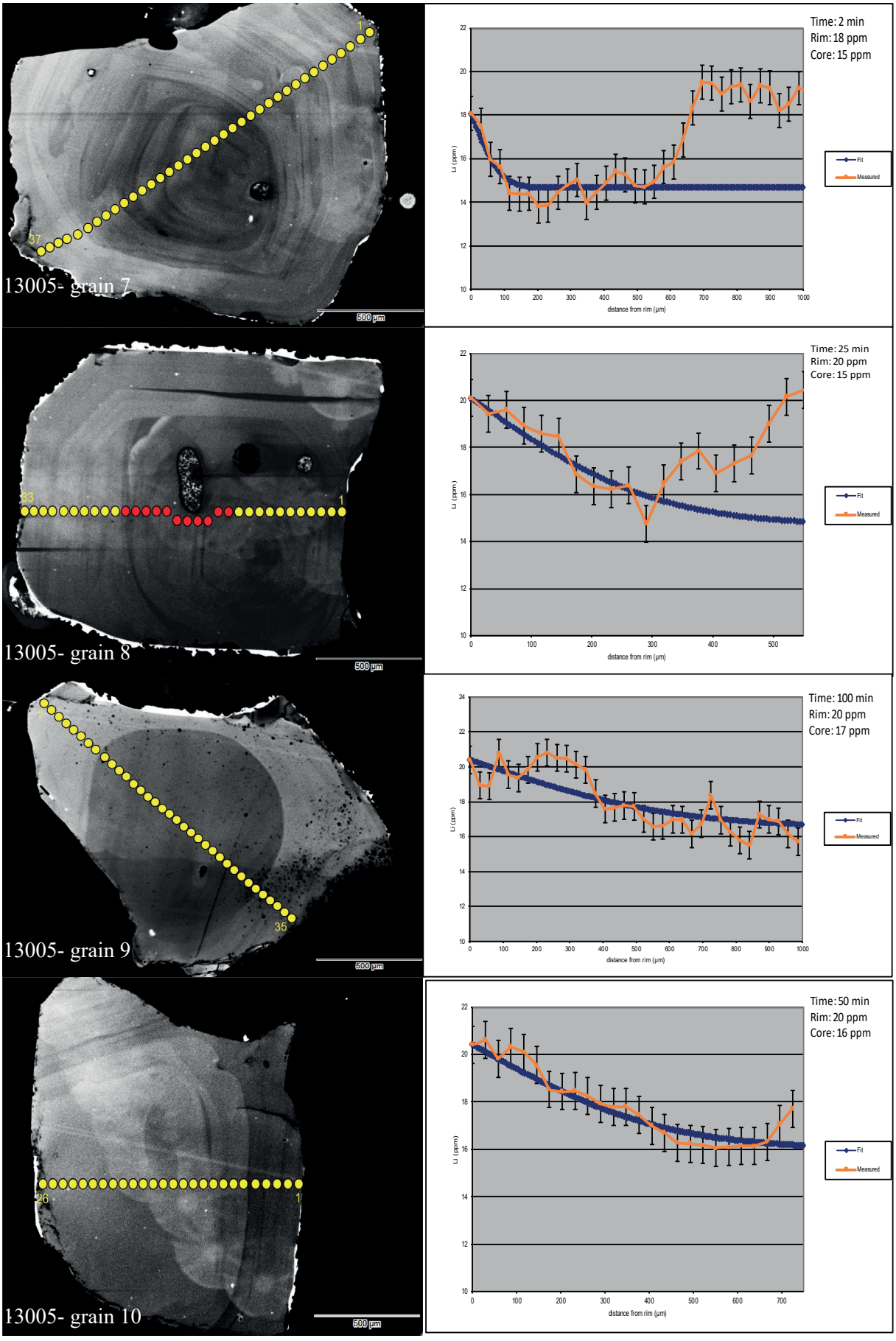


Fig. C1. continued

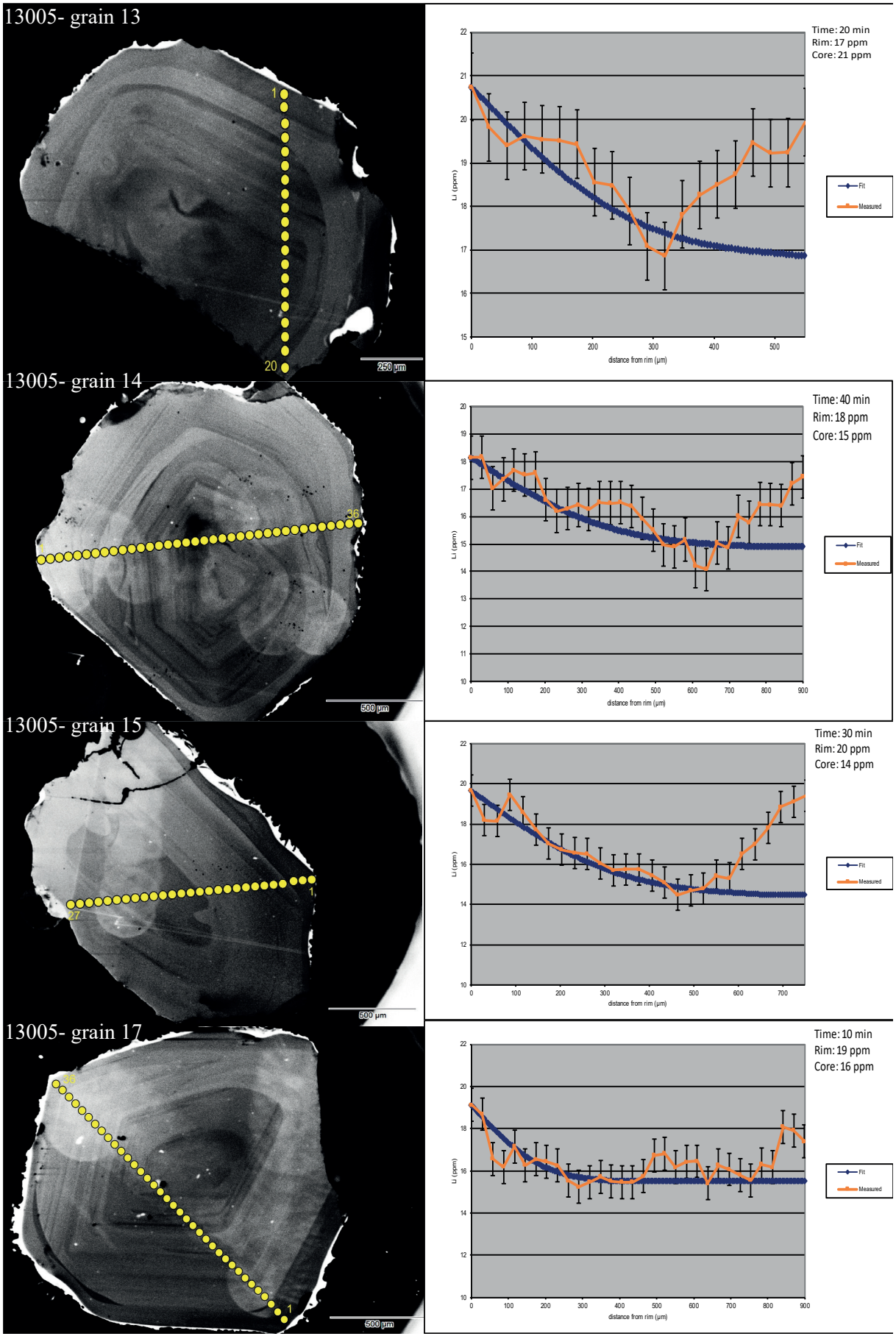


Fig. C1. continued

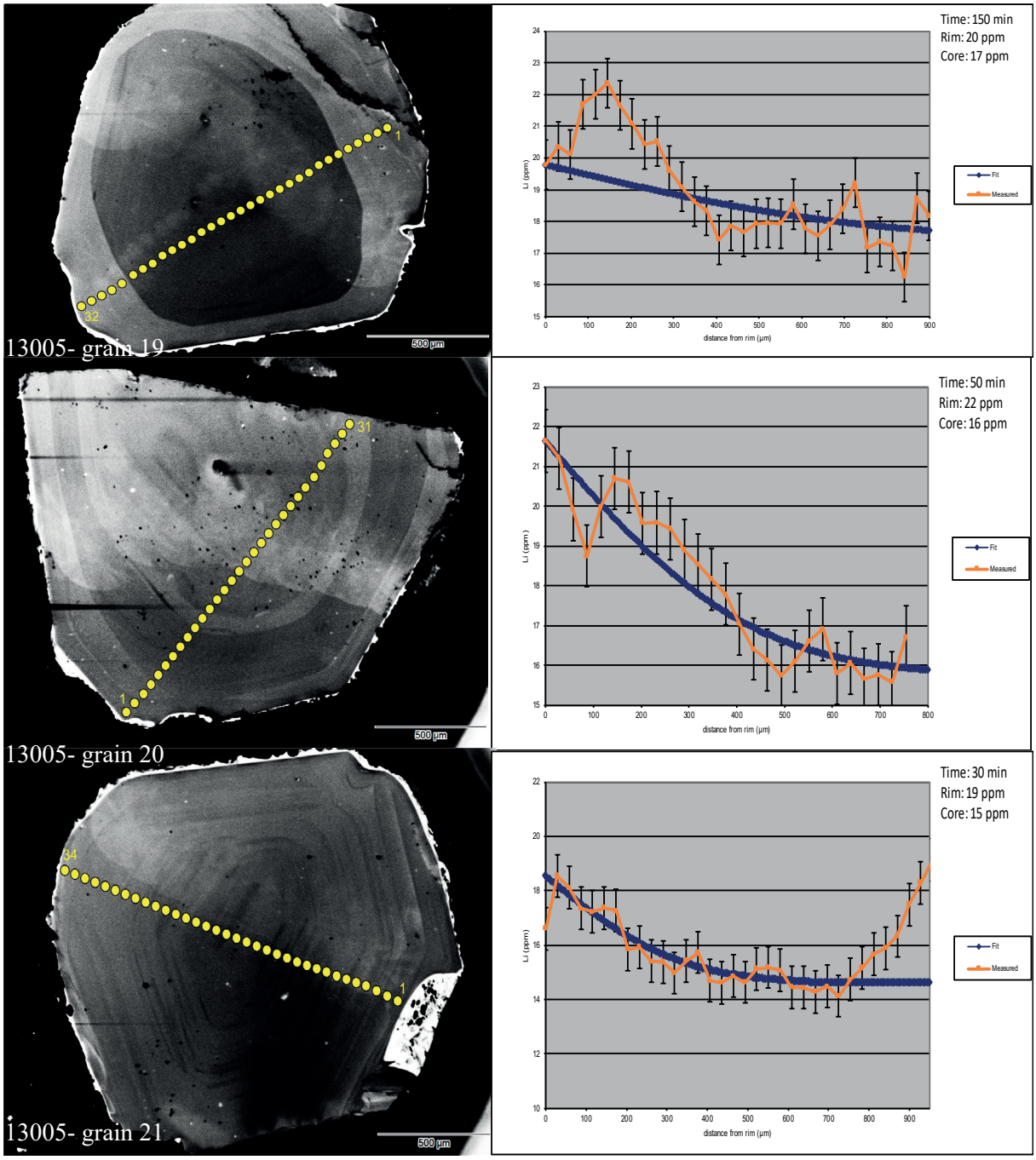


Fig. C1. continued

Curriculum vitea

Julia Neukampf

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✆ (+49) 172 8425 680 - ✉ julia.neukampf@erdw.ethz.ch

Research Interests

- silicic magma generation, especially large scale silicic volcanism
- non-traditional stable isotope systems
- volatiles and timescales of degassing and eruption timescales
- intraplate and subduction volcanism
- physical volcanology with emphasis on explosive volcanism

Education

Doctor of Sciences, ETH Switzerland	Thesis: *Lithium behaviour in shallow, silicic magmatic Systems* Advs.: Dr. B. Ellis; Prof. Dr. O. Bachmann	01.09.2016-30.09.2020
M.Sc., FU Berlin, Germany	Geodynamics and Geomaterials Thesis: *Magma chambers beneath the Cape Verde Islands: Petrology and Thermobarometry of alkaline differentiated magmas* Advs.: Prof. Dr. T. John; Dr. A. Freundt	23.03.2014-18.07.2016
B.Sc., Fu Berlin	Geological Sciences Thesis: *Petrographie der Lapilli und Bomben aus dem Meerfelder Maar, Westeifel* Advs.: Dr. K. Hammerschmidt; Dr. R. Milke	01.10.2009-23.03.2014

Awards and Funding

Grant	DAAD group scholarship for field trip to Iceland	July 2013

Research Experience

Graduate Research Assistant	ETH Zürich responsibilities: Electron Probe Micro-Analyser assistant Karl-Fischer (KF) titration assistant	2018-present
Laboratory work	clean laboratory (chemical separation for isotopic measurements), thin section preparation, mineral separation (crushing, milling, heavy liquids), sample preparation for XRD/XRF analysis, SIMS mount preparation, FTIR mount preparation	

Teaching/Advising

M.Sc. Co-advisor	Alejandro Cortes; Geochronology and Geochemistry of an Explosive Oceanic Volcano, The Fataga Group, Gran Canaria	2018-2019
Teaching assistant at ETH	– Crystals and minerals (BSc Level) – Electron Microprobe Course (MSc and PhD Level) – Mark Exams (Dyn. Earth) (BSc Level) – Integrated Earth systems (BSc Level) – Volcanology Field Trip (MSc Level) – Geological Field Trip (BSc Level)	2016-2020
Teaching	– Introductory Microscopy (BSc Level)	2016

Teaching assistant at FU	– Lab practical - Mineral and rock identification (BSc Level) – Introductory Microscopy (B.Sc. Level) – Igneous Rock Microscopy (B.Sc. Level) – Metamorphic Microscopy (B.Sc. Level) – Introduction to Mineralogy/Crystallography (BSc Level)	2013-2016

Instrument Proficiencies

- **EPMA:** JEOL JXA-8230 and JEOL JXA-8200
- **LA-ICP-MS:** Physik excimer ArF and Resonetics ArF excimer laser systems, Nexion2000 and Thermo Element XR ICP-MS systems
- **MC-ICP-MS:** Thermo Fisher Scientific Neptune
- **SEM:** JEOL JSM-6390LA SEM/Thermo Fisher
- **SIMS:** CAMECA IMS 1280HR
- **FTIR:** Bruker Tensor 27 spectrometer with globar infrared source attached to a Bruker Hyperion 3000 microscope
- **KFT:** EUROTHERM type 818 controller coupled to a titration cell

Short Courses

Prof. D. Dingwell	Melts, Glasses, Magmas	June 2019
Prof. S. Chakraborty	Diffusion modelling workshop	Oct. 2018
Prof. H. Marschall	Radiogenic and non-traditional isotopes – analytical methods and application	Mar. 2018
Dr. M. Wiedenbeck	SIMS	Nov. 2017
Prof. C. Breitkreuz	Introduction to physical volcanology and volcanic textures	Sept. 2014
Prof. H.U. Schmincke	Volcano-magma systems with emphasis on explosive processes and deposits	Oct. 2012
Dr. Hennie Theart	The Role of the Geologist in the Mineral Business	Dez. 2011

Professional Memberships

- Deutsche Vulkanologische Gesellschaft
- Deutsche Mineralogische Gesellschaft (DMG)
- Deutsche Geologische Gesellschaft - Geologische Vereinigung (DGGV)
- Geochemical Society

Publications

Neukampf, J., Ellis, B.S., Magna, T., Laurent, O., Bachmann, O. (2019). Partitioning and isotopic fractionation of lithium in mineral phases of hot, dry rhyolites: The case of the Mesa Falls Tuff, Yellowstone. *Chemical Geology* **506**, 175-186.

Kueppers, U., Pimentel, A., Ellis, B.S., Forni, F., **Neukampf,** J., Pacheco, J.M.R., Perugini, D., Queiroz, G. (2019). Biased volcanic hazard assessment due to incomplete eruption records on ocean islands: an example of Sete Cidades Volcano, Azores. *Frontiers in Earth Science* **7**, 122.

Tollan, P., Ellis, B.S., Troch, J., **Neukampf,** J. (2019). Assessing magmatic volatile equilibria through FTIR spectroscopy of unexposed melt inclusions and their host quartz: a new technique and application to the Mesa Falls Tuff, Yellowstone. *Contrib. Mineral. Petrol.* 174:24.

Ellis, B.S., Szymanowski, D., Magna, T., **Neukampf, J.**, Dohmen, R., Bachmann, O., Ulmer, P., Guillong, M. (2018). Post-eruptive mobility of lithium in volcanic rocks. *Nat. Commun*., **9**, 3228.

Neukampf, J., Ellis, B.S., Laurent, O., Steinmann, L.K., Ubide, T., Oeser, M., Magna, T., Weye, S., Bachmann, O. (2020). Time scales of syn-eruptive volatile loss in silicic magmas quantified by Li-isotopes. *Geology* **49**.

Conference presentations

Neukampf, J., Ellis, B.S., Bouvier, A.S., Tollan, P., Ulmer, P., Magna, T., Bachmann, O. (2020): Tracking degassing in rhyolite using lithium isotopes. (Oral) Goldschmidt 2020. Hawaii, USA

Ellis, B.S., **Neukampf, J.**, Laurent, O., Steinmann, L., Weyer, S., Magna, T., Ubide, T., Bachmann, O. (2020): Plagioclase as a witness of syn-eruptive degassing in rhyolitic magmas. EGU General Assembly Conference, 2020. Vienna, Austria

Cortes-Calderon, E.A., Ellis, B.S., **Neukampf, J**., Harris, C., Wolff, J.A., Mark, D.F., Bachmann, O. (2020): The role of contamination in the tightrope of Gran Canaria peralkaline magma differentiation. EGU General Assembly Conference, 2020. Vienna, Austria

Neukampf, J., Ellis, B.S., Bouvier, A.S., Tollan, P., Ulmer, P., Magna, T., Bachmann, O. (2020): Tracking degassing in rhyolite using lithium isotopes. (Poster) 56th Annual Meeting of the Volcanic and Magmatic Studies Group. Plymouth, UK

Ellis B.S., Cortes-Calderon, E.A., **Neukampf, J.**, Mark, D.F., Wolff, J.A., Harris, C., Bachmann, O. (2020): Fataga Volcanism on Gran Canaria. 56th Annual Meeting of the Volcanic and Magmatic Studies Group. Plymouth, UK

Neukampf, J., Ellis, B.S., Laurent, O., Steinmann, L.K., Dohmen, R., Ubide, T., Oeser, M., Magna, T., Weyer, S., Bachmann, O. (2019): Timescales of degassing in rhyolitic magmas tracked by Li in plagioclase. (Oral) Goldschmidt 2019. Barcelona, Spain

Cortes-Calderon E.A., Ellis B.S., **Neukampf J**., Wolff J.A., Bachmann O. (2019): Chemical Fingerprinting of Volcanic deposits from the Fataga Group, Gran Canaria (Spain). Goldschmidt 2019. Barcelona, Spain

Neukampf, J., Steinmann, L.K., Ellis, B.S., Oeser, M., Dohmen, R., Laurent, O., Ubide, T., Magna, T., Weyer, S., Bachmann, O. (2019): Tracking degassing of explosive eruption with lithium isotopes. (Oral) 55th Annual Meeting of the Volcanic and Magmatic Studies Group. St. Andrews, UK

Ellis B.S., **Neukampf J**., Magna T., Harris, C., Bachmann, O. (2019): Biotites as recorders of the magmatic-hydrothermal transition. 55th Annual Meeting of the Volcanic and Magmatic Studies Group. St. Andrews, UK

Tollan, P., Ellis, B.S., Troch, J., **Neukampf, J**. (2019): An assessment of magmatic volatile equilibria by FTIR spectroscopy of unexposed melt inclusions and their host quartz: a new technique and application to the Mesa Falls Tuff, Yellowstone. 55th Annual Meeting of the Volcanic and Magmatic Studies Group. St. Andrews, UK

Neukampf J., Steinmann L.K., Ellis B.S., Oeser-Rabe M., Dohmen R., Ubide T., Magna T., Weyer S., Bachmann O. (2018): Lithium isotopic and concentration gradients in plagioclase – implications for pre- and syn-eruptive magmatic processes. (Poster) AGU Fall Meeting. Washington, D.C., USA

Neukampf J., Ellis B.S., Magna T., Laurent O., Bachmann O. (2018): Li isotopic variations between magmatic minerals and indications of degassing of a rhyolitic magma (Mesa Falls Tuff, Yellowstone). (Poster) Goldschmidt 2018. Boston, USA

Kueppers U., Pimentel A., Ellis B.S., Forni F., **Neukampf J.**, Pacheco J.M.R., Perugini D., Queiroz G. (2018): Gone with the Wind: how to quantify the risk based on incomplete eruptive records on volcanic islands. An example of Sete Cidades volcano, Azores. EGU General Assembly Conference, 2018. Vienna, Austria

Ellis B.S, Bachmann O., **Neukampf J.**, Magna T. (2017): Lithium in silicic magmatic systems. Royal Society meeting on magma reservoir architecture and dynamics. Chicheley, Newport Pagnell, UK

Neukampf J., Ellis B.S., Magna T., Bachmann O. (2017): Lithium abundance and isotopic variations between phases in a rhyolite (the Mesa Falls Tuff, Yellowstone). (Poster) IAVCEI 2017. Portland, Oregon, USA. Abstract volume, p.760

Ellis B.S., Szymanowski D., Magna T., **Neukampf J.**, Bachmann O., Ulmer P., Guillong M. (2017): Post-eruptive behaviour of Li in volcanic rocks: implications for element cycling. IAVCEI 2017. Portland, Oregon, USA. Abstract volume, p. 299

Neukampf J., Ellis, B.S.; Magna T., Bachmann O (2017): Li isotopic variations between phases in Mesa Falls Tuff. (Oral) Journeé Magmatique annual meeting. Geneva, Switzerland

Ellis B.S., Szymanowski D., Magna T., **Neukampf J.**, Bachmann O., Guillong M. (2017): The effect of cooling rates on lithium in rhyolites. Volcanic and Magmatic Studies Group annual meeting. Liverpool, UK. Abstract volume, p. 89

Neukampf, J., Freundt, A., John, T. (2015): Study of the evolution of the intra-plate magma plumbing system beneath Fogo (Cape Verde Archipelago). (Poster) DMG Annual Meeting. Berlin, Germany

Outreach

Meet a Scientist at ETH Zürich	2017-present
Assistance for the course "Children at University" at FU Berlin	2015
Girls day - course instructor for "Minerals in everyday life" at FU Berlin	2015
Participation and supervision of experiments at the "Night of Science" at FU Berlin	2011-2013
Mentor for freshmen at FU Berlin	2011-2012
Active member of the Student Council of Geological Science at FU Berlin	
Co-organisation of the Meeting of German Student Council 2012 in Berlin	
Helped with the organisation and supervision of field trips for freshmen	2011-2014

Languages

- German: native
- English. fluent
- Spanish: A1 level
- Latin: A2