

RESIDENCE TIME ESTIMATES AND CONTROLS ON  
CRYSTALLIZATION PATTERNS FOR ANORTHOCLASE  
PHENOCRYSTS IN PHONOLITE MAGMA, EREBUS VOLCANO,  
ANTARCTICA

by  
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## **Residence time estimates and controls on crystallization patterns for anorthoclase phenocrysts in phonolite magma, Erebus volcano, Antarctica**

### **Abstract**

The actively convecting phonolitic lava lake in the summit crater of Erebus volcano contains large (up to 10cm), complexly zoned anorthoclase feldspar crystals. Electron Microprobe (EMP) x-ray maps of calcium and potassium variations in these crystals show complicated, fine scale zoning patterns. Patchy and discontinuous zones, embayed zone boundaries, resorption, and highly repetitive zoning features are common. The EMP analyzed composition of feldspar ranges from An<sub>10.1</sub> to An<sub>23.0</sub>, Ab<sub>61.5</sub> to Ab<sub>67.9</sub>, and Or<sub>12.2</sub> to Or<sub>27.4</sub>, with an average of An<sub>16.9</sub> Ab<sub>64.5</sub> Or<sub>18.7</sub>. Laser ablation-inductively coupled plasma-mass spectrometer analyses show a wide compositional range for Ba (1338-6960 ppm) and Sr (1065-4852 ppm). Binary Element Diffusion Modeling was done using Ba and Sr yielding residence times from <1 to >500yrs for crystals ranging in length (along the c-axis) from 2.43 to 5.23cm. These residence times are possibly underestimates of the actual ages due to an unquantifiable amount of resorption. Growth has been shown to occur in an open system with a mass flux by previous studies. EMP analyzed matrix glass and anorthoclase hosted melt inclusion compositions are identical within analytical error signifying that the composition of magma at crystallization depths is the same as at shallow eruptive levels. Melt inclusions from a single crystal show range of K that is related to the location of melt inclusions within zones. A model of internal organization of zoning patterns by boundary layer kinetics is preferred over external forcing by either convection through a water gradient established by degassing, or through exposure to lower temperatures by convection to the lava lake surface.

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### **List of Additional Materials**

- 1) A compact disk (CD) entitled “Residence time estimates and controls on crystallization patterns for anorthoclase phenocrysts in phonolite magma, Erebus volcano, Antarctica: raw data and images” is included at the back of the thesis contained in a protective sleeve. The disk contains the raw data given in Appendices D and F in Microsoft Excel format, and images from Appendix E in tag image file format (.TIF).

## 1. Introduction

Geochemical variations in crystal composition can record changes in the magmatic environment. These changes can then be used to understand magma chamber evolution and the processes leading to eruption (Ginibre et al., 2007). Crystal scale zoning is the primary way in which changes in the magmatic environment are recorded, and as such has become a well documented and heavily researched phenomenon (Pearce, 1994; Shore and Fowler, 1996; Ginibre et al., 2007). Zoning patterns can be used to identify both chemical and physical characteristics of pre-eruptive magma chambers. Ginibre et al. (2004) used zoning patterns in sanidine phenocrysts from the Laacher See tephra to identify convection in a chemically zoned magma chamber. Residence times and growth chronologies important to the understanding of magmatic time-scales have been calculated using diffusive relaxation of trace element zoning patterns (Zellmer et al., 1999, Morgan and Blake, 2006; Zellmer and Clavero, 2006). Studies of active volcanoes are complimented by the study of crystallization processes, as at Soufrière Hills Volcano, Montserrat where complexly zoned plagioclase and other phases provided evidence for thermal disequilibrium and convective self mixing induced by a heat source at the base of the magma chamber (Couch et al., 2001).

The phonolite lava lake at Erebus volcano, Ross Island, Antarctica (3,794 m) contains large (up to 10 cm), complexly zoned anorthoclase phenocrysts. The volcano has been monitored since the early 1970's (Giggenbach et al., 1973; Aster et al., 2004) offering an opportunity to investigate crystallization processes in an already well constrained magmatic environment. The eruptive activity of Erebus volcano over the last 35 years has varied, typically having one to six strombolian eruptions per day, and

degassing constantly, as was the case during the 2005-2006 Erebus field season. Some notable exceptions have occurred such as a historic high in strombolian eruption frequency and size in 1984 (Kyle, 1986; Caldwell and Kyle, 1994), and a period of almost no eruptions between 2002 and 2004 (Kelly et al., 2007).

The goal of this study is to relate crystal zoning patterns and geochemical variations to crystallization processes. The objective was to examine the relationship between crystallization and magma chamber processes. I present major and trace element data on matrix glass, anorthoclase, and anorthoclase hosted melt inclusions from bombs erupted during the 2005-2006 and 2006-2007 field seasons. Residence times for three anorthoclase phenocrysts are estimated using the binary element diffusion model (Morgan and Blake, 2006) for trace element diffusion yielding a range of ages from <1 yr to >500 yrs. These data are used to evaluate models for external forcing and internal self-organization of crystal zoning patterns.

## **2. Erebus Volcano**

### *2.1 Erebus History*

Mount Erebus (3,794 m) is the southernmost active volcano in the world. The lava exposed on its flanks comprises a complete evolution from basanite to anorthoclase-phyric phonolite, referred to as the Erebus lineage (Kyle et al., 1992; Caldwell and Kyle, 1994). The earliest eruptions of Erebus volcano were subaqueous but became subaerial around 1.3 Ma, forming a low angle shield. Anorthoclase-phyric tephriphonolite dominates as the main eruptive product beginning at ~240 ka, and the oldest dated phonolites are approximately 30 ka (Esser et al., 2004). The modern profile of Erebus is defined by a high plateau and summit cone resulting from caldera collapse and subsequent infilling by effusive and strombolian eruptions (Harpel et al., 2004). The summit cone is home to the world's only phonolite lava lake first observed by a field party in 1972 (Giggenbach et al., 1973).

The Erebus lava lake is one of three persistent lava lakes in the world; the others are located at Mount Nyiragongo (3,470m) in the Democratic Republic of the Congo and Erta Ale (613m) in Ethiopia. The Erebus lava lake has persisted since at least 1972, making it the longest-lived of the three. The lake provides visual confirmation that convection is occurring in the system, at least at shallow levels. The surface of the lake cools forming slabs with a surface temperature of 500°C that are recycled back into the 1000°C conduit (Calkins et al., 2007). The magma temperature is well constrained at 1000°C (Kyle, 1977; Dunbar et al., 1994; Caldwell and Kyle, 1994; Calkins et al., 2007). The lava lake, while being a window into the conduit, is also the focus of historic eruptive behavior. Modern activity is dominated by frequent, discrete strombolian

eruptions that emit lava bombs and minor ash; rare lava flows on the Inner Crater floor have been observed.

## *2.2 Lava Bombs*

Lava bombs emitted during eruptions usually fall back to the lake or crater floor but occasionally land on the crater rim and upper slopes. In 1984 bombs landed over a kilometer from the lava lake (Caldwell and Kyle, 1994). Geochemical studies of the lava bombs have examined the mineralogy (Kyle, 1977; Caldwell and Kyle, 1994; Kelly et al., 2007), matrix glass (Kyle, 1977; Caldwell and Kyle, 1994; Kelly et al., 2007) and whole rock chemistry (Caldwell and Kyle, 1994; Kelly et al., 2007). These papers have shown that chemical variation in whole rock analyses are insignificant, and that the matrix glass is more evolved than the whole rock. Kelly et al. (2007) has also shown that in the last 26 ka the compositions of minerals and of whole rock and matrix glass have been virtually unchanged. Minor coupled variations of Ca and K and anorthoclase-compatible and -incompatible trace elements in the whole rock analyses have been attributed by Caldwell and Kyle (1994) and Kelly (2006) the variable amount of anorthoclase within a sample. Coupling of the variations reflects chemical changes in the anorthoclase major element chemistry, and exclusion or inclusion of certain trace elements.

## *2.3 Anorthoclase*

The anorthoclase phenocrysts in the Erebus magma are zoned with respect to major and trace elements and as such may contain information relevant to understanding reservoir dynamics (Kyle, 1977). Feldspar zoning patterns such as these have long been interpreted as possible indicators of temperature changes, convection through a chemical

gradient, magma mixing, and other processes affecting the overall magmatic system as well as the local environment of a single crystal (e.g. Dunbar et al., 1994; Wallace and Bergantz, 2002; Ginibre et al., 2002; Ginibre et al., 2004; Wallace and Bergantz, 2005; Larsen, 2005). Efforts to model oscillatory zoning – which need not be regular or harmonic – have focused almost solely on plagioclase (Haase et al., 1980; Allégre et al., 1981; L’Heureux and Fowler, 1996a,b), often ignoring less ubiquitous phases such as anorthoclase. Much of the research in this area focuses on the mechanism(s) responsible for creating zoning patterns and typically assumes the predominance of either external (Singer et al., 1995; Hattori and Sato, 1996; Holten et al., 1997), or internal (Haase et al., 1980; Allégre et al., 1981; Pearce and Kolisnik, 1990; L’Heureux and Fowler, 1996a & b) controls. Reviews of these efforts can be found in Pearce (1994), Shore and Fowler (1996), and Holten et al. (2000).

Harlow (1982) conducted a detailed investigation of the anorthoclase structure, and a list of anorthoclase localities and trace element data has been compiled by Mason et al. (1982). Many of the available studies on anorthoclase have been conducted on Erebus samples. Kyle (1977) recognized that the phenocrysts were zoned with respect to the Ca (An - anorthite) and K (Or – orthoclase) end members of the feldspar ternary diagram. Most studies have shown that the Na (Ab – albite) end member is only minimally variable (~Ab<sub>62-68</sub>) (Kyle, 1977; Kelly et al., 2007). Dunbar et al. (1994) used Normarski imaging to etch Erebus anorthoclase making the zoning visible in relief. This technique showed that some crystals appear to have a spongy core that may have grown rapidly, and an outer zoned rim, and revealed that the anorthoclase experience some unknown amount of resorption and presumably growth hiatuses. Dunbar et al. (1994) also determined that the



crystal size distribution is normal, possibly indicating a lack of nucleation sites that would allow for the formation of microlites which are not present in Erebus samples. These observations led them to conclude that anorthoclase crystals undergo two stages of growth: initially rapid diffusion controlled core growth followed by slower interface controlled growth of the more finely zoned rim.

Kelly et al. (2007), in the most recent work to address the Erebus anorthoclase, examined the major and trace element zoning of the crystals with the goal of understanding the mechanism of crystal growth. Analysis of the zoning profiles revealed what were as two patterns of variation: a very long wavelength (VLW) pattern and a high frequency (HF) pattern. The VLW pattern was consistent in wavelength and frequency among multiple crystals, and the HF variations appeared to reflect local changes in the crystal environment that would affect different points on the crystal surface differently. Kelly et al. (2007) hypothesized that the variations in composition were a result of degassing of water from the melt, and turbulent convective movement of the crystals through the resulting water gradient.

An important characteristic of Erebus anorthoclase reported by both Caldwell and Kyle (1994) and Kelly et al. (2007) is that individual anorthoclase crystals do not appear to have shared growth histories regardless of being in the same bomb or erupted during the same period.

Reagan et al. (1992) estimated the residence time of Erebus anorthoclase crystal cores from 1984 and 1988 samples at approximately 3000 years using  $^{238}\text{U}$ - and  $^{232}\text{Th}$ -series dating. They also estimated that the observed finely zoned rims were grown by a later pulse of growth within 30 years of eruption. Dunbar et al. (1994) had difficulty

reconciling that previous work with their rough estimate of a minimum average crystal age in the range of 100 to 300 years. This was based on the average crystal width determined from the crystal size distribution (CSD), and the growth rate of feldspar in other volcanic systems.

#### *2.4 Melt Inclusions*

One method for examining crystal history has been to analyze the major and trace element, and volatile chemistry of the melt inclusions trapped inside the crystal during growth. Melt inclusions have been argued to be representative of the composition of magmas at the individual depth and time of entrapment (Lowenstern, 1995). Drawbacks to the use of melt inclusions include loss of volatiles, post entrapment crystallization, and diffusive exchange between the host and melt inclusions (Qin et al., 1992; Lowenstern, 1995). Despite these problems, many authors have successfully used melt inclusions to understand magma chamber dynamics, crystal growth environments, and volatile evolution of the magma through time (e.g. Wallace et al., 1999; Halter et al., 2002; Wallace, 2005; Spilliaert et al., 2006).

Early Erebus melt inclusion work by Kyle (1977) showed an overall increase in  $\text{Al}_2\text{O}_3$  and overall decrease in FeO from the core to the rim of two crystals, and no such discernable patterns in a third crystal. Dunbar et al. (1994) found that the major and trace element compositions and volatile contents of melt inclusions were the same as matrix glass and saw no variations based on location with samples. The same study noted that the Erebus anorthoclase contain approximately 30% melt inclusions ranging in size from  $<1\mu\text{m}$  to  $>1000\mu\text{m}$  and measured a maximum of 0.3 wt%  $\text{H}_2\text{O}$ . Eschenbacher (1998)

has done the most comprehensive work on melt inclusions for a suite of samples from Erebus and other locations in the vicinity of Ross Island. The study examined melt inclusions hosted in anorthoclase and olivine from rock samples taken from the entire Erebus Lineage. The work focused on volatile content and found that both CO<sub>2</sub> and H<sub>2</sub>O decrease in concentration significantly from the basanite to the phonolites; the dramatic change from basanite to phonolite led Eschenbacher to the conclusion that the phonolite melt inclusions were trapped shallowly by later crystals and represent the mostly degassed magma. Later work by Seaman et al. (2006) has shown that there may be some limited H<sub>2</sub>O variability in the current anorthoclase hosted melt inclusions (0.12 to 0.39 wt%).

### 3. Analytical Methods

#### 3.1 Electron Microprobe (EMP)

Major and trace element measurements were made at NMT using a Cameca SX-100 Electron Probe Microanalyzer (EMP). Matrix glass samples were analyzed from thirty-six lava bombs collected over two field seasons. One inch round lucite dishes containing nine holes for sample placement were prepared with eight samples for analysis and sample eb05014; in this way eb05014 was used as an internal reference of reproducibility. Measurements were made using a 20 to 25  $\mu\text{m}$  beam size with 15kV accelerating voltage and 10nA beam current to prevent mobilization of Na.

Three anorthoclase samples were sectioned along the 001 cleavage plane or along the c-axis. Each crystal section was polished to a high gloss using 15  $\mu\text{m}$ , 6  $\mu\text{m}$ , and 1  $\mu\text{m}$  diamond powder, examined with a petrographic microscope, and then coated with a conductive carbon layer for use in the EMP. Analyses were done in three ways to fit within time constraints and to maximize the amount of information. Qualitative line scans for elements Ca, K, and Na were made for sections eb05019b, eb05027a1, eb05027a2, eb05042b1, and eb05042b2. Point analyses were made beside analyzed melt inclusions. Major and trace element analyses of anorthoclase were made along transects; a quantitative analysis was made every 10 $\mu\text{m}$  for sections of each crystal to calibrate LA-ICP-MS data.

Melt inclusions were chosen for analysis based on size and zone of entrapment. (See Section 4.3). Analyses used a 10 to 25 $\mu\text{m}$  beam size, depending on the size of inclusions, 15 kV, and 10nA. Appendix A contains further analytical details and reference material analyses for EMP.

### *3.1.1 X-ray mapping*

Maps of crystal zoning patterns were made to aid in understanding the significance of quantitative measurements, and to direct time consuming measurements to areas of particular interest. Back scatter electron (BSE) maps were made for each section. Calcium, potassium, and silica distribution maps were made using the x-ray mapping feature of the EMP. Each spectrometer was set to a specific element. Spectrometer one was set to detect Ca using the PET crystal, spectrometer two to Na on TAP, and spectrometer three was set to Si on the large PET (LPET) crystal. The probe was then set to 50nA beam current (to maximize counts) with a 13 to 23  $\mu\text{m}$  step size and a dwell time of 12 ms. In addition to section sized maps, we also made several smaller maps of areas  $\leq 2000 \mu\text{m}^2$  for areas of particular interest using the same EMP settings, but with a much smaller step size ( $< 5 \mu\text{m}$ ).

### *3.2 Laser Ablation – Inductively Coupled Plasma – Mass Spectrometer (LA-ICP-MS)*

Trace element analyses were done using the LA-ICP-MS at Woods Hole Oceanographic Institute. The crystal sections were continuously ablated with a focused laser, 30  $\mu\text{m}$  in diameter, along a predetermined transect. One transect was done for each crystal section and two were done for section eb05042b2 to check reproducibility. The samples were then aspirated into the mass spectrometer using standard practices, and were checked for the isotopes  $^{25}\text{Mg}$ ,  $^{43}\text{Ca}$ ,  $^{47}\text{Ti}$ ,  $^{49}\text{Ti}$ ,  $^{85}\text{Rb}$ ,  $^{88}\text{Sr}$  and  $^{138}\text{Ba}$ . Calcium was included to compare to parallel major element transects with the EMP. Each isotope was selected to minimize the number of possible interferences from other isotopes of similar

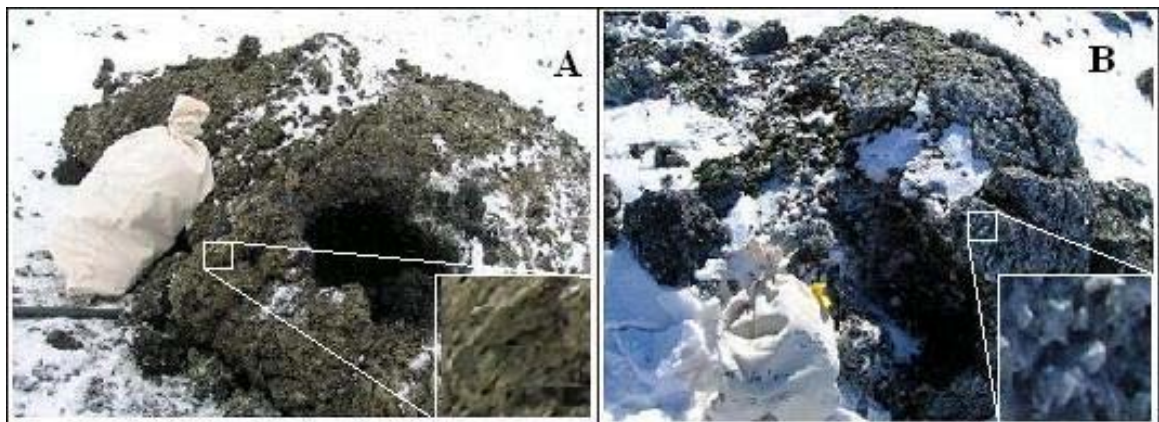
mass; a list of the known interferences for the selected isotopes is located in Appendix B along with a more detailed discussion of the technique used for samples analysis.

## 4. Matrix Glass and Melt Inclusions

### 4.1 Samples

Forty-two lava bombs were collected from the summit region of Erebus volcano during the 2005-2006 austral summer field season, and seven during the 2006-2007 season (Appendix C). Many samples were collected from observed eruptions and hence were only hours to a few days old. Frequent eruptions allowed for the collection of fresh samples with exactly known eruption times. Multiple samples were collected for many single eruptions.

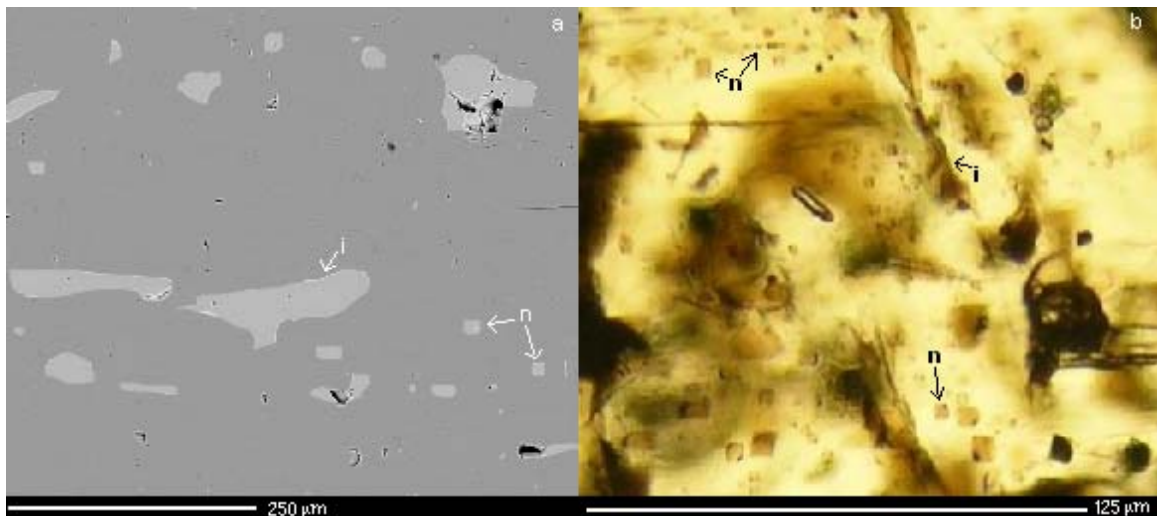
Bombs collected within a few hours of eruption were easily identified by the dark olive-green surface and presence of long and delicate Pele's hairs (Fig. 4.1a). The shape and density of individual bombs is highly variable, but all fresh bombs have a delicate matrix that easily breaks apart when handled. Exposure to the atmosphere and acidic fumes removes Pele's hairs and dulls the surface of bombs within a week. After a month salts formed by reaction of gas from the plume are deposited on bomb surfaces,



**Figure 4. 1 a.** Lava bomb eb05032 as seen hours after eruption – December 26, 2005. Note the olive-green color of the filamented surface in the inset photo and also that the bomb is hollow. The canvas bag in the photo is uphill from the bomb, and with sample inside stands approximately a 30cm in height. **b.** The same bomb photographed on December 18, 2006. Note that the surface is now gray and anorthoclase crystals whitened by contact with the volcanic plume stand out on the surface.

and it becomes difficult to determine the age of individual bombs. Photographs of bombs taken a year after eruption demonstrate the effects of the Antarctic atmosphere and the Erebus plume (Fig. 4.1). Continued exposure of bombs to the atmosphere would likely lead to complete degradation leaving behind a glassy sand and crystal lag as seen on the upper slopes of the Erebus crater rim.

Melt inclusions are numerous in Erebus anorthoclase samples and range in size from  $<10\ \mu\text{m}$  to  $>600\ \mu\text{m}$  (Eschenbacher, 1998) (Fig. 4.2). Under plane polarized light these inclusions are characterized by their brown color, both irregular and negative crystal forms, and the presence of one or more vapor bubbles. Negative crystal form melt inclusions are generally small in these samples ( $<50\ \mu\text{m}$ ) and are approximately rectangular in two dimensions. Irregular melt inclusions are very common, often more than  $100\ \mu\text{m}$  in length, and have multiple vapor or shrinkage bubbles.



**Figure 4. 2** Irregular (i) and negative crystal form (n) melt inclusions in BSE (a) and PPL (b).



Matrix glass was sampled from thirty-three bombs collected during the 2005-2006 season, and from three bombs collected during the 2006-2007 field season. Twenty-five samples collected in December 2005 were taken from lava bombs with known eruption times.

#### 4.2 Matrix Glass Results

Average major element compositions for bombs collected in each season are shown in Table 4.1. Matrix glass collected from bomb eb05014 was analyzed in every analytical session, for a total of 50 analyses. The mean analyzed value, standard deviation and relative standard deviation are included in Table 4.1 as a monitor of analytical precision. Individual matrix glass analyses by EMP can be found in Appendix D. The RSD of Na<sub>2</sub>O in samples from the 2005-2006 is much greater than for the

**Table 4. 1** Average major and trace element analyses of matrix glass from bombs erupted during the 2005-2006 and 2006-2007 Antarctic field seasons.

n	Season 2005-2006			Season 2006-2007			eb05014 - Erebus Std.			KN-18 Std.		
	mean	1 $\sigma$	RSD (%)	mean	1 $\sigma$	RSD (%)	mean	1 $\sigma$	RSD (%)	accepted	mean	1 $\sigma$
319				30			50				18	
SiO <sub>2</sub>	55.73	0.29	0.5	55.46	0.16	0.3	55.55	0.19	0.3	74.60	74.73	0.38
TiO <sub>2</sub>	1.00	0.05	4.7	1.00	0.04	3.6	1.00	0.04	4.1	0.18	0.16	0.03
Al <sub>2</sub> O <sub>3</sub>	19.56	0.17	0.9	19.51	0.09	0.5	19.46	0.16	0.8	10.53	10.65	0.09
FeO	5.48	0.22	4.1	5.56	0.11	2.0	5.52	0.21	3.8	3.45	3.54	0.18
MnO	0.27	0.03	11.5	0.29	0.03	10.5	0.28	0.03	12.3	0.06	0.06	0.02
MgO	0.85	0.03	3.6	0.84	0.03	3.2	0.85	0.03	3.0	0.01		
CaO	1.93	0.06	3.3	1.89	0.05	2.4	1.90	0.05	2.4	0.15	0.17	0.06
Na <sub>2</sub> O	8.75	0.22	2.6	9.08	0.11	1.2	8.97	0.13	1.5	5.68	5.78	1.04
K <sub>2</sub> O	5.66	0.11	2.0	5.60	0.08	1.4	5.71	0.11	1.9	4.39	4.63	0.11
P <sub>2</sub> O <sub>5</sub>	0.29	0.04	14.3	0.29	0.05	16.9	0.30	0.04	13.6			
SO <sub>2</sub>	0.08	0.02	30.6	0.09	0.02	22.3	0.08	0.03	34.0		0.01	0.02
F	0.23	0.09	38.7	0.22	0.07	30.2	0.25	0.11	42.9		1.34	3.13
Cl	0.17	0.04	22.4	0.16	0.01	8.8	0.17	0.06	39.1		0.31	0.02
Total	100			100			100			99	101	

All analyses normalized to 100 wt%. The mean, standard deviation (1 $\sigma$ ), and Relative Standard Deviation (RSD) are for the entire data set from the season indicated. The RSD for 50 analyses of sample eb05014 from the 2005-2006 season and accepted values and 18 analyses of standard KN-18 are shown as a measure of reproducibility. Fe reported as FeO. n= number of analyses. Count times on the EMP were 60 s for Ba, Sr, and F, 30 s for Cl, and S, and 20 s for all other elements; Na is counted first to minimize the effects of mobilization.

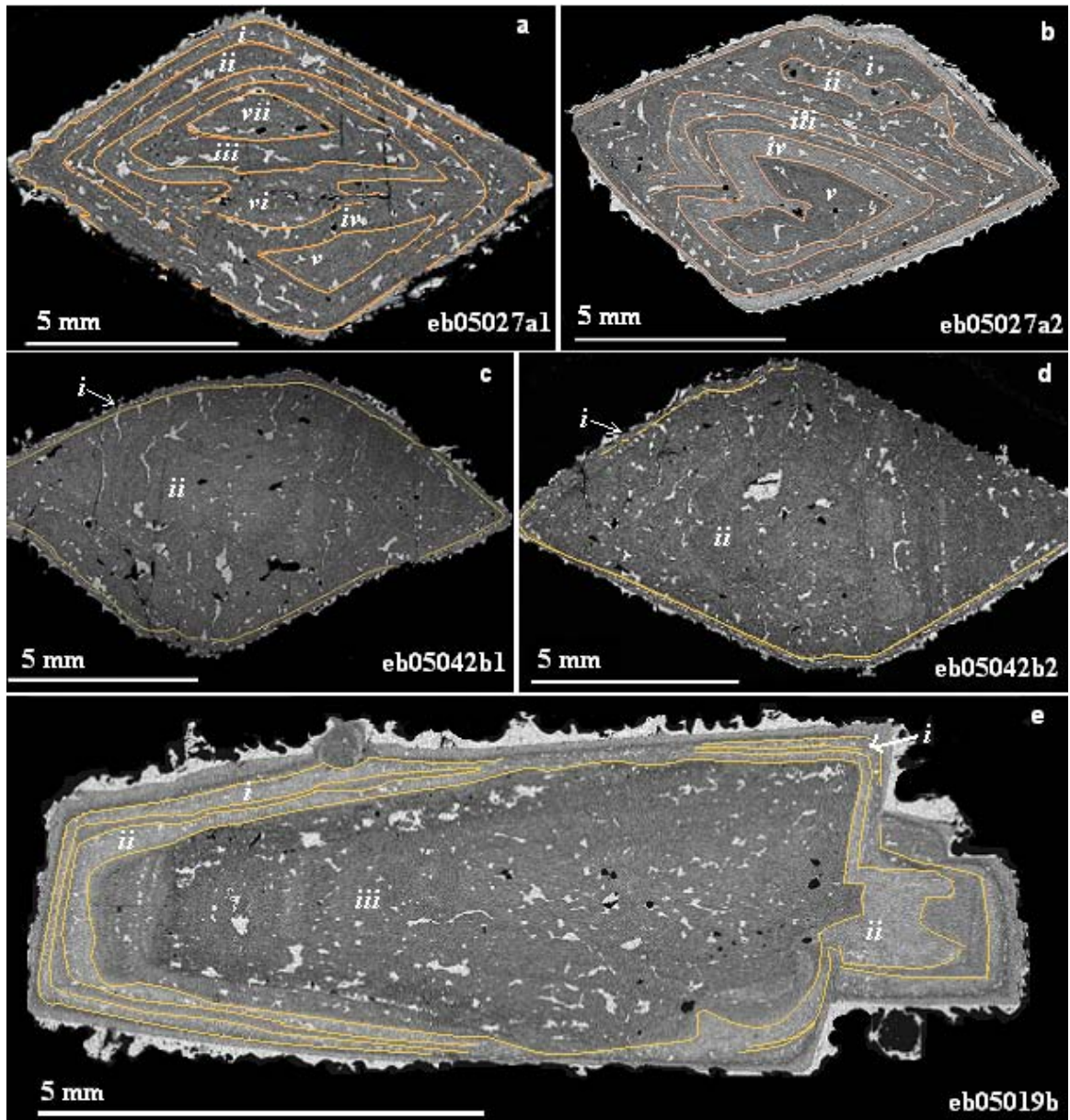
standard. This is attributable to sodium mobilization under the electron beam (Nielsen and Sigurdsson, 1981).

#### *4.3 Melt Inclusion Results*

Melt inclusion populations were grouped within their anorthoclase hosts according to the compositional zone in which they appear to be trapped in the two dimensional view (Fig. 4.3). EMP potassium element maps were used as a guide during melt inclusion selection because the high potassium content of the inclusions causes them to appear bright against the darker anorthoclase host. The zones were delineated on these maps as shown in Figure 4.3. Only zones labeled with a roman numeral contain sampled inclusions; other zones were either too difficult to trace, or did not contain melt inclusions of a size sufficient for analysis. Roman numerals in Figure 4.3 correspond to column headings in Table 4.2. The average melt inclusion compositions, normalized to 100 wt%, are organized by host section and zone in Table 4.2.

#### *4.4 Discussion*

The minor compositional variations seen in matrix glass analyses are within analytical precision, and therefore not statistically significant. The total alkali silica classification (TAS) diagram (LeBas et al., 1986) in Figure 4.4a shows tight grouping of matrix glass from this study and from lava bombs erupted from 1972 to 2004 (Kelly et al., 2007).



**Figure 4. 3** Potassium x-ray maps of anorthoclase crystal sections in which melt inclusions were analyzed to look for compositional variability. Compositional zones are indicated and labeled; labels correspond to column headings in Table 4.2. Sections from crystal eb05042b (c &d) have such discontinuous zoning that it is difficult to delineate different zones. The outer zone found in each of these sections is slightly higher in potassium; melt inclusions are located along the inner edge of this zone and form a line along the parameter, indicating that these inclusions were trapped at approximately the same time.

**Table 4. 2** Average composition of melt inclusions trapped within individual compositional zones. Zone numbers correspond to host images in Figure 6. 2.

Host: eb05027a1																
Zone	i	1σ	ii	1σ	iii	1σ	iv	1σ	v	1σ	vi	1σ	vii	1σ	mean	RSD
N	12		6		8		4		9		10		10		59	(%)
SiO <sub>2</sub> (wt%)	56.08	0.46	56.02	0.48	55.88	0.36	55.65	0.35	55.86	0.36	55.88	0.50	55.72	0.36	55.89	0.75
TiO <sub>2</sub>	0.98	0.11	0.99	0.13	0.95	0.09	0.92	0.11	0.98	0.06	0.99	0.10	0.97	0.08	0.97	9.68
Al <sub>2</sub> O <sub>3</sub>	19.78	0.28	19.89	0.23	19.88	0.24	19.88	0.12	19.79	0.16	19.78	0.33	19.66	0.14	19.79	1.20
FeO	5.63	0.38	5.49	0.24	5.50	0.27	5.36	0.10	5.57	0.30	5.54	0.34	5.65	0.29	5.56	5.49
MnO	0.29	0.03	0.26	0.02	0.29	0.03	0.27	0.06	0.28	0.05	0.30	0.02	0.31	0.04	0.29	12.19
MgO	0.87	0.07	0.85	0.05	0.84	0.05	0.82	0.03	0.89	0.05	0.84	0.05	0.87	0.06	0.86	6.61
CaO	1.93	0.05	1.95	0.07	2.02	0.06	1.98	0.04	1.93	0.09	1.97	0.07	2.03	0.07	1.97	3.81
Na <sub>2</sub> O	7.90	0.68	7.95	0.63	8.14	0.55	8.53	0.13	8.26	0.50	8.25	0.47	8.28	0.53	8.16	6.74
K <sub>2</sub> O	5.76	0.13	5.74	0.14	5.71	0.11	5.82	0.10	5.66	0.14	5.69	0.11	5.69	0.11	5.72	2.11
P <sub>2</sub> O <sub>5</sub>	0.33	0.05	0.34	0.05	0.32	0.04	0.33	0.04	0.29	0.03	0.31	0.04	0.33	0.04	0.32	12.76
SO <sub>2</sub>	0.07	0.02	0.08	0.03	0.07	0.02	0.09	0.04	0.07	0.02	0.07	0.01	0.08	0.02	0.07	30.72
F	0.21	0.08	0.27	0.12	0.21	0.10	0.20	0.09	0.26	0.08	0.22	0.06	0.23	0.08	0.23	36.99
Cl	0.16	0.01	0.18	0.01	0.17	0.02	0.17	0.01	0.16	0.01	0.16	0.02	0.17	0.01	0.16	9.11
	100		100		100		100		100		100		100			

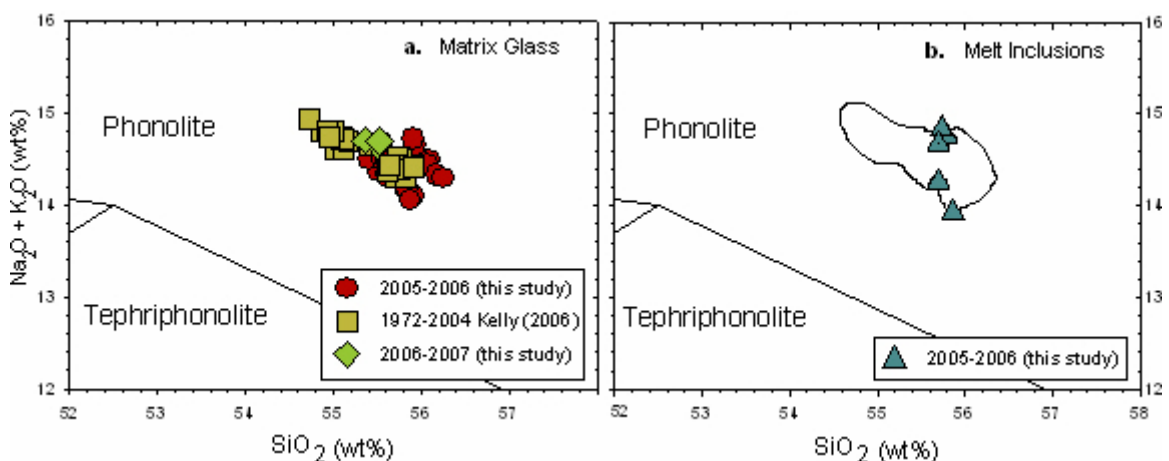
Host: eb05027a2													Host: eb05042b1			
Zone	i	1σ	ii	1σ	iii	1σ	iv	1σ	v	1σ	mean	RSD	i	1σ	ii	1σ
N	8		7		10		14		12		51	(%)	30		20	
SiO <sub>2</sub> (wt%)	55.41	0.30	55.91	0.15	55.78	0.22	55.80	0.23	55.62	0.37	55.71	0.55	55.94	0.33	55.66	0.25
TiO <sub>2</sub>	1.00	0.08	0.95	0.08	0.98	0.08	0.99	0.06	0.97	0.06	0.98	7.20	0.96	0.05	0.96	0.08
Al <sub>2</sub> O <sub>3</sub>	19.81	0.16	19.64	0.26	19.54	0.20	19.46	0.21	19.96	0.29	19.67	1.51	19.36	0.18	19.43	0.25
FeO	5.56	0.16	5.48	0.38	5.55	0.19	5.69	0.20	5.41	0.20	5.55	4.36	5.42	0.17	5.57	0.20
MnO	0.31	0.05	0.28	0.05	0.30	0.04	0.29	0.03	0.28	0.02	0.29	12.54	0.27	0.03	0.28	0.03
MgO	0.86	0.05	0.85	0.08	0.85	0.05	0.88	0.05	0.82	0.03	0.85	6.37	0.80	0.03	0.83	0.05
CaO	1.91	0.07	1.91	0.03	1.97	0.03	1.96	0.07	1.92	0.10	1.93	3.76	1.62	0.16	1.82	0.13
Na <sub>2</sub> O	8.55	0.32	8.32	0.43	8.47	0.39	8.39	0.34	8.40	0.39	8.42	4.31	8.37	0.25	8.66	0.21
K <sub>2</sub> O	5.85	0.14	5.83	0.14	5.79	0.11	5.76	0.14	5.86	0.12	5.81	2.29	6.47	0.17	6.01	0.18
P <sub>2</sub> O <sub>5</sub>	0.31	0.05	0.34	0.05	0.31	0.04	0.32	0.05	0.29	0.03	0.31	15.45	0.26	0.03	0.27	0.05
SO <sub>2</sub>	0.08	0.02	0.07	0.03	0.09	0.03	0.08	0.02	0.07	0.02	0.08	28.25	0.09	0.02	0.09	0.02
F	0.18	0.07	0.26	0.09	0.21	0.06	0.22	0.07	0.23	0.09	0.22	34.37	0.27	0.08	0.26	0.07
Cl	0.15	0.01	0.16	0.02	0.16	0.01	0.16	0.01	0.16	0.01	0.16	9.06	0.16	0.02	0.16	0.01
	100		100		100		100		100				100		100	

Host: eb05042b1			Host: eb05042b2					Host: eb05019b								
Zone	mean	RSD	i	1σ	ii	1σ	mean	RSD	i	1σ	ii	1σ	iii	1σ	mean	RSD
N	50	(%)	30		18		48	(%)	33		23		30		86	(%)
SiO <sub>2</sub> (wt%)	54.73	0.61	55.98	0.26	55.49	0.24	55.80	0.63	55.92	0.31	55.83	0.30	55.32	0.32	55.69	0.74
TiO <sub>2</sub>	0.94	6.32	0.97	0.06	0.96	0.07	0.97	6.47	1.06	0.09	1.08	0.11	0.93	0.06	1.02	10.71
Al <sub>2</sub> O <sub>3</sub>	19.01	1.12	19.36	0.12	19.46	0.19	19.40	0.81	19.02	0.30	18.99	0.26	19.90	0.18	19.32	2.57
FeO	5.37	3.61	5.41	0.14	5.62	0.20	5.49	3.54	5.71	0.21	5.64	0.28	5.36	0.20	5.57	4.96
MnO	0.27	10.09	0.28	0.03	0.30	0.02	0.29	9.19	0.29	0.03	0.30	0.04	0.27	0.03	0.29	11.97
MgO	0.80	4.98	0.80	0.03	0.83	0.03	0.81	4.13	0.89	0.05	0.89	0.05	0.82	0.05	0.86	7.16
CaO	1.67	10.40	1.54	0.15	1.81	0.10	1.64	11.46	1.82	0.15	1.86	0.12	1.87	0.06	1.85	6.26
Na <sub>2</sub> O	8.32	3.32	8.39	0.15	8.77	0.18	8.54	2.88	8.27	0.28	8.46	0.29	8.88	0.23	8.53	4.34
K <sub>2</sub> O	6.16	4.64	6.49	0.15	6.00	0.23	6.31	4.76	6.23	0.26	6.21	0.22	5.93	0.15	6.12	4.19
P <sub>2</sub> O <sub>5</sub>	0.26	15.24	0.26	0.04	0.30	0.03	0.28	13.96	0.32	0.06	0.31	0.09	0.28	0.05	0.30	22.50
SO <sub>2</sub>	0.08	19.65	0.09	0.01	0.08	0.02	0.08	17.76	0.08	0.03	0.08	0.02	0.08	0.02	0.08	27.66
F	0.26	28.37	0.27	0.07	0.21	0.08	0.24	31.22	0.23	0.08	0.21	0.07	0.22	0.07	0.22	33.01
Cl	0.16	9.15	0.16	0.01	0.16	0.01	0.16	8.82	0.15	0.01	0.14	0.02	0.15	0.01	0.15	9.95
			100		100				100		100		100			

Melt inclusion analyses from this study are shown in Figure 4.4b on a TAS diagram. Matrix glass data are shown outlined behind melt inclusion data in Figure 4.4b, demonstrating that melt inclusions in anorthoclase hosts and matrix glass are essentially identical in composition. If the composition of the magma is variable at greater depths, then the compositional similarity of melt inclusions and matrix glass derived from the shallow lava lake supports shallow crystallization.

The compositions of the melt inclusions analyzed in this study are contained within the range of values seen by matrix glass; however, there is evidence for limited variability based on zone of entrapment shown in crystal eb05042b. Melt inclusions trapped in crystal eb05042b zone *i* are actually trapped between the outer more potassic zone and the inner, more calcic, less organized core referred to as zone *ii* (Figs. C.2.16, C.2.20, C.2.25). Sixty melt inclusions analyzed from zone *i* in sections eb05042b1&2 have an average K<sub>2</sub>O content of 6.48 wt% with a standard deviation of 0.16 (1σ). Melt inclusions from the core region of each section have an average K<sub>2</sub>O content of 6.01

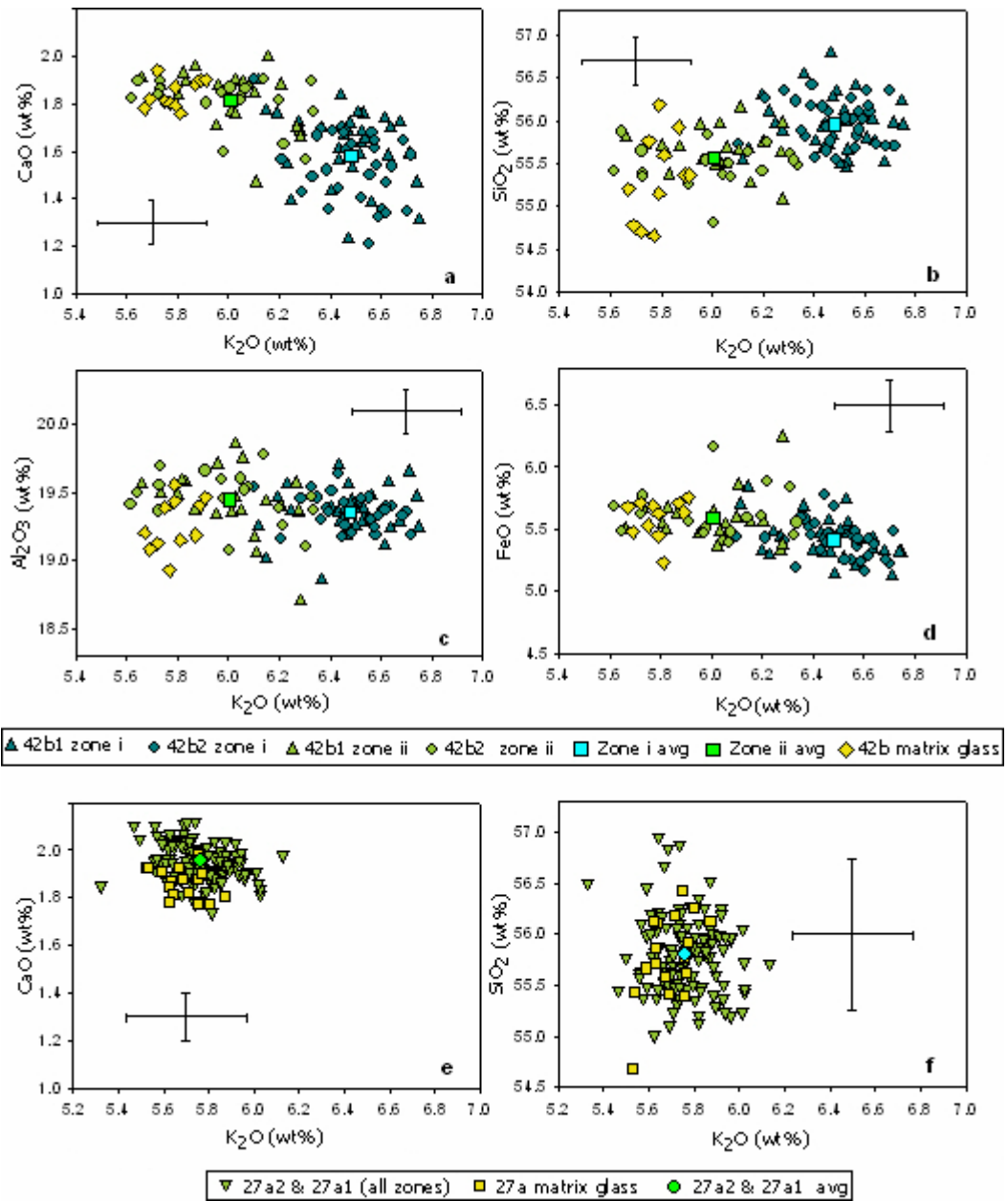


**Figure 4. 4** a. Total alkali silica (TAS) classification ( LeBas et al., 1986) of matrix glass from this study and Kelly et al. (2007) and b. melt inclusions from this study and matrix glass (outlined) from this study and Kelly et al. (2007).

wt%, standard deviation 0.21 ( $1\sigma$ , 38 analyses). A plot of  $K_2O$  vs. other major elements found in anorthoclase (Fig 4.5 a-d) shows that melt inclusions analyzed from zone *i* have higher potassium than both the core area of the crystal and the matrix glass analyzed from the edges of the crystal sample. Matrix glass values overlap completely with lower potassium melt inclusions from the crystal core on all plots. Figure 4.5 a-d shows strong positive and negative relationships between  $K_2O$  and  $SiO_2$  and between  $K_2O$  and  $CaO$  respectively. There is a weaker negative relationship between  $K_2O$  and  $FeO$ , and little discernable relationship between  $K_2O$  and  $Al_2O_3$ . An identical pattern is weakly shown melt inclusions from crystal eb05019b, and is absent from melt inclusions taken from the sample with the most visually obvious zoning, crystal eb05027a. Melt inclusion analyses from sections 1 and 2 of crystal eb05027a, and matrix glass analyses from the outside of that crystal are shown graphically in Figure 4.5 e-f.

Three possibilities may explain these relationships and the difference seen between melt inclusions from zones *i* and *ii* (Fig. 4.5) : 1) the melt inclusions in zone *i* have sampled compositionally different magma; 2) melt inclusions in zone *i* have undergone diffusive re-equilibration; 3) melt inclusions in zone *i* represent a compositionally different boundary layer surrounding the crystal during growth.

That crystal eb05042b has sampled magma that has gone unsampled by the numerous melt inclusions studied in the past (Dunbar et al., 1994; Eschenbacher, 1998) is highly unlikely. Furthermore, the historic similarity of melt inclusions and matrix glass, and the results of Kelly et al. (2007) argue against a heterogeneous magma body beneath Erebus volcano.



**Figure 4. 5** Melt inclusions and matrix glass from crystals eb05042b and eb05027a. Comparison of  $K_2O$  (wt%) with (a)  $CaO$ , (b)  $SiO_2$ , (c)  $Al_2O_3$ , and (d)  $FeO$  for melt inclusions from zones *i* and *ii* in sections 1 and 2 of crystal eb05042b and (e)  $CaO$ , (f)  $SiO_2$  for melt inclusions from all zones in sections 1 and 2 of crystal eb05027a. Errors ( $1\sigma$ ) are from counting statistics.

Diffusive re-equilibration of melt inclusions (Qin et al., 1992) would have the greatest measurable effect on melt inclusions that have been trapped for a longer period

of time, i.e., those melt inclusions closer to the core of the crystal. If diffusive re-equilibration were responsible for differences in melt inclusion composition it would be expected that melt inclusions closer to the rim of the crystal would more closely resemble the composition of matrix glass, which is opposite to what is seen.

A boundary layer surrounding the crystal would be expected to become depleted in the elements being incorporated into the growing crystal. The compositions of the anorthite ( $\text{CaAl}_2\text{Si}_2\text{O}_8$ ) and orthoclase ( $\text{KAlSi}_3\text{O}_8$ ) endmembers show that when more calcium is incorporated into that crystal structure more calcium and aluminum are used than when more potassium is incorporated leaving the potential boundary layer slightly depleted in these elements. When growth is dominated by the orthoclase endmember the boundary layer would become slightly depleted in potassium and silica. This relationship can be shown as a coupled substitution:



Shore and Fowler (1996) describe a similar relationship for plagioclase ( $\text{Ca Al} \leftrightarrow \text{Na Si}$ ) that is required to maintain electroneutrality. The composition of melt inclusions from zone  $i$  can then be explained by growth of the core area enriching the boundary layer in the elements K and Si. This could induce an effective undercooling (L-Heureux and Fowler, 1996b) that would induce the rapid growth required to suddenly trap melt inclusions between the core and rim thereby sampling the composition of the boundary layer at that time.

The absence of a similar pattern in crystal eb05027a may be explained many different ways in light of the boundary layer hypothesis. 1) Boundary layers may not have formed during the growth of crystal eb05027a. 2) The degree to which boundary



layers formed around crystal eb05027a was minimal, and the chemical difference was too subtle to be recognized by the analytical method. Errors shown for analytical session during which melt inclusions from eb05027a were analyzed are greater than for the session during which eb05042b was analyzed. 3) Evidence of boundary layer formation was trapped within melt inclusions but was destroyed by resorption processes.

#### *4.5 Summary*

Matrix glass sampled from multiple eruptions during December 2005 does not show any chemical variations with regards time. When compared with matrix glass analyzed by previous studies the forty-two matrix glass samples collected during the 2005-2006 and 2006-2007 field seasons are identical in composition within analytical error.

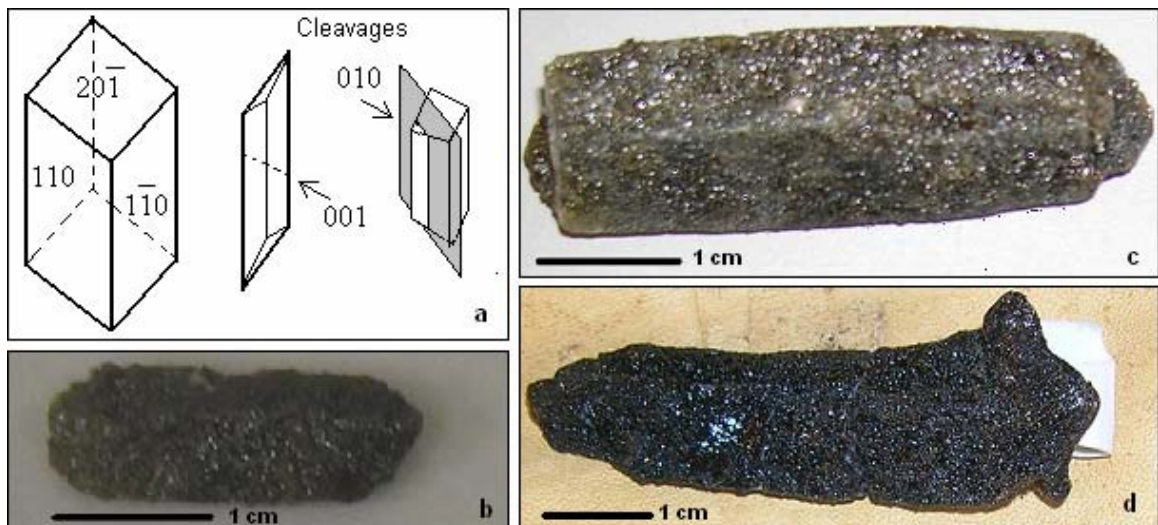
The composition of melt inclusions from anorthoclase hosts is contained within that same range of compositional variability seen for matrix glass. Despite that fact, there is limited variability of melt inclusions based on zone of entrapment seen in crystal eb05042b, but none seen in crystal eb05027a melt inclusions. These data and the data from crystal eb05027a melt inclusions indicate that boundary layers form intermittently during crystal growth and may be important to zoning patterns

## 5. Anorthoclase Observations and Results

### 5.1 Sample Selection and Preparation

Anorthoclase samples were selected from lava bombs eb05019, eb05027, and eb05042. Crystals eb05027a and eb05042b were sectioned three times perpendicular to the c-axis along the {001} cleavage plane (Fig. 5.1a, c-d). Crystal eb05019b was sectioned approximately parallel to the c-axis (Fig. 5.1b) by carefully polishing along the desired plane until the flat surface was close to the center of the crystal. After sectioning, the samples were mounted on one-inch glass rounds, ground to a suitable thickness, and polished to a high gloss using 15, 6, and 1  $\mu\text{m}$  diamond powder suspended in deionized water. The sections were then observed with a petrographic microscope before being analyzed.

The anorthoclase crystals used in this study display some twinning. Eb05019b and eb05027a show what appears to be Carlsbad interpenetrant twinning. Eb05042b is

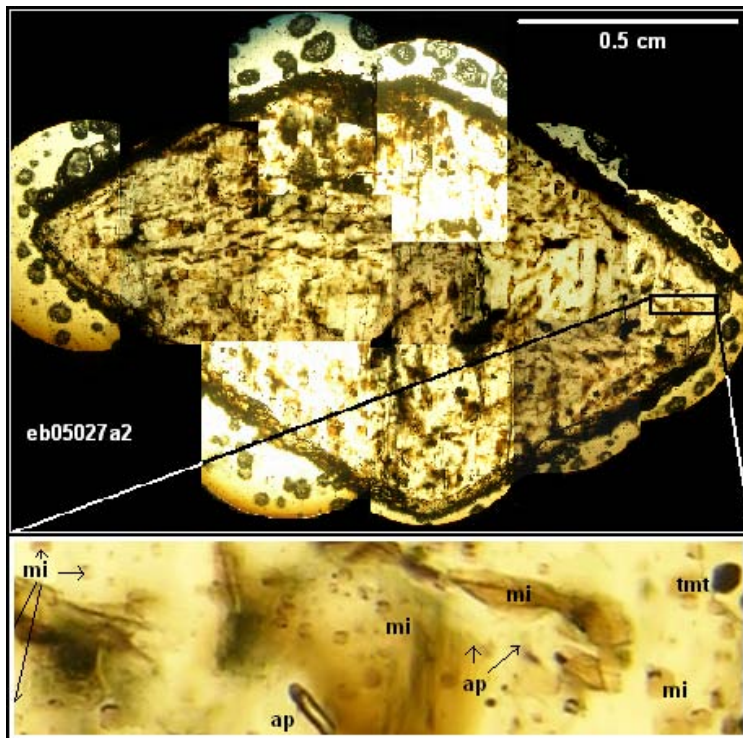


**Figure 5. 1** a. Anorthoclase crystal structure with Miller Indices and locations of the {001} and {010} cleavage planes. b–d. Crystals eb05019b, eb05027a, and eb05042b respectively.

intergrown with a much smaller crystal (see Fig. 5.1) at one end, and may have a contact twin at the other end but the relationship is unclear. The change in width along the length of crystals eb050271 and eb05042b (Fig. 5.1) likely indicate line and plane defects in the crystal lattice.

## 5.2 Petrography

Anorthoclase crystals contain up to 30% melt inclusions (Dunbar et al., 1994) as well as common mineral inclusions. Melt and mineral inclusions are easily distinguished from the clear anorthoclase hosts by color crystal form. Anorthoclase hosts are clear when viewed under plain polarized light and exhibit first order interference colors under crossed polarized light. An example thin section of anorthoclase is shown in Figure 5.2; the inset image shows acicular fluor-apatite, hexagonal titanomagnetite, and both irregular and negative crystal form melt inclusions.

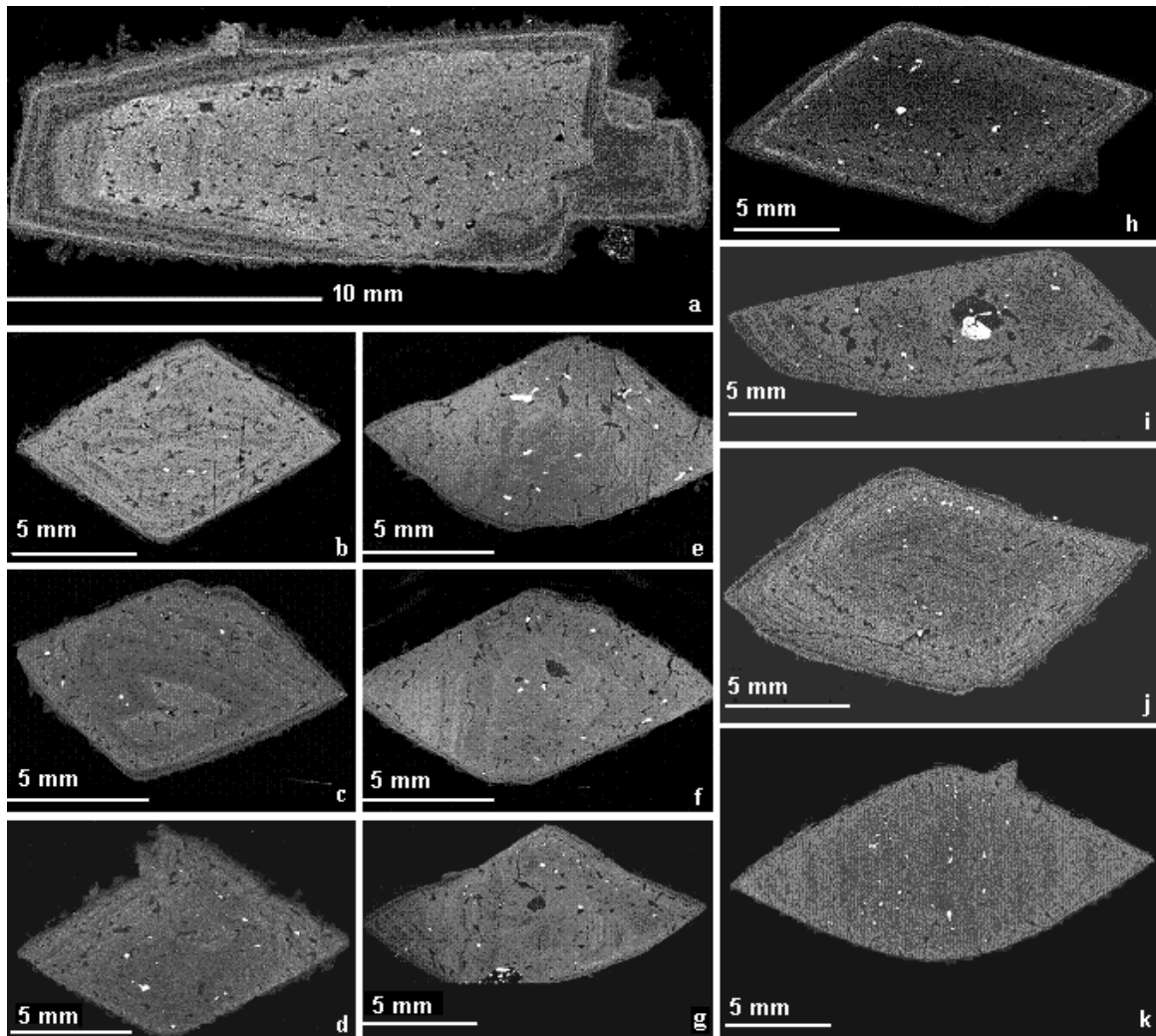


**Figure 5. 2** View of section eb05027a2 through a petrographic microscope in plane polarized light; multiple images are stitched together to create this composite view. Brighter areas of the image are overexposed. The inset view shows fluor-apatite (ap), titanomagnetite (tmt), and numerous melt inclusions (mi).

### 5.3 Element Maps

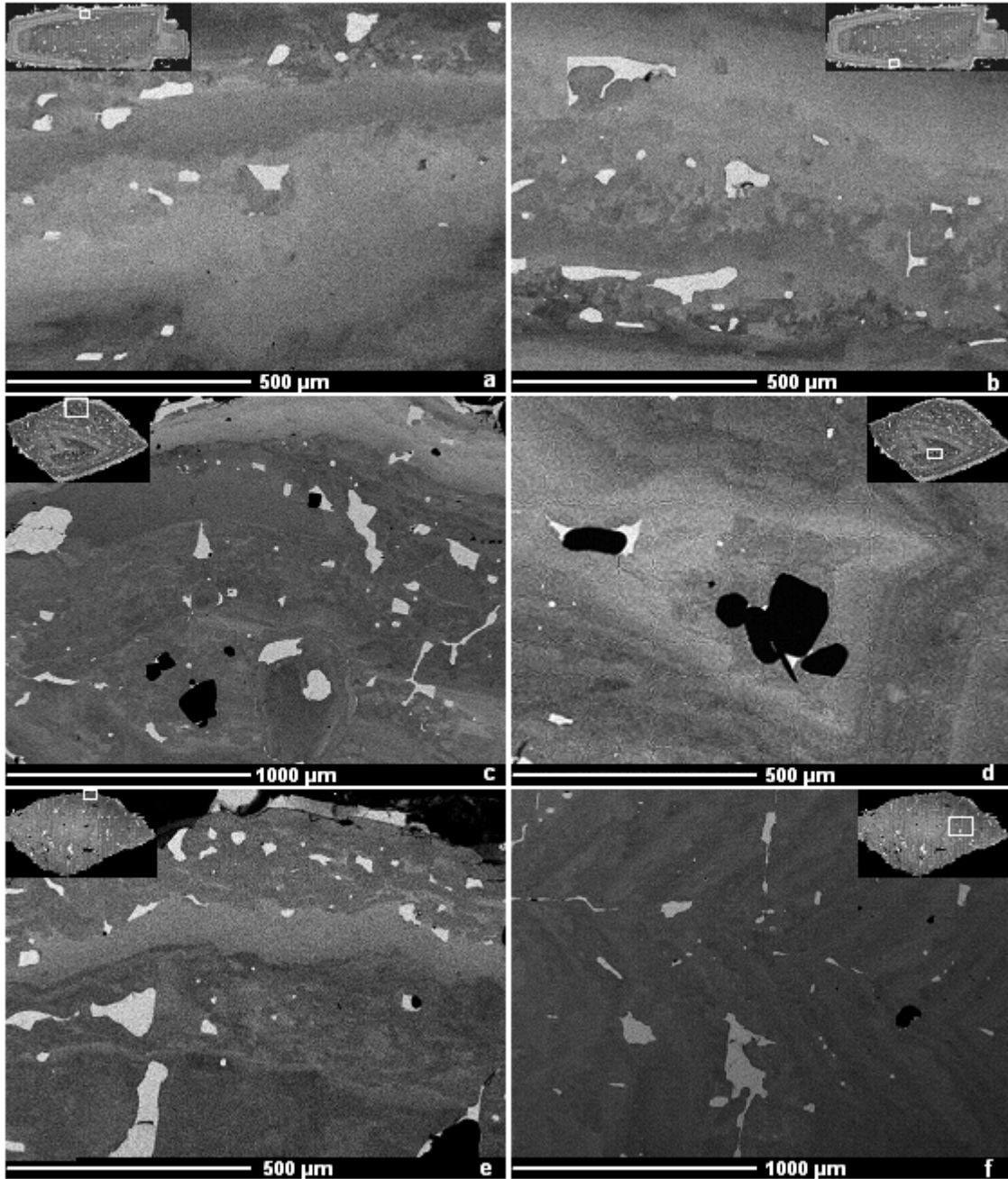
Compositional zoning is common in feldspars, and can often be seen petrographically in crossed polarized light. When zones cannot be seen with a petrographic microscope, or if it is necessary to see fine zoning, more precise techniques are used. Back scattered electron (BSE) images show chemical variations based on the mean atomic number of the material. Materials of high average atomic number have light shades and those of lower mean atomic number have darker shades. This technique is not useful when working with Erebus anorthoclase samples because 95% of the variation is between Ca and K which have similar atomic number (Kelly et al., 2007); therefore, the mass difference is insufficient to distinguish adjacent zones. Dunbar et al. (1994) successfully used Normarski imaging, preferentially etching the calcic zones with fluoroboric acid (HBF<sub>4</sub>) showing zones in relief. This technique can resolve zoning at the sub-micrometer scale, but it prevents future analyses, and can be difficult to interpret when zoning is patchy and discontinuous. Here we have utilized the x-ray mapping function of the EMP to create element distribution maps for calcium and potassium. This technique allows for high resolution imaging of fine details (although not at the resolution of Normarski contrast imaging), and does not damage the sample for further measurements. Crystal scale calcium maps of Erebus anorthoclase crystals are shown in Figure 5.3. All BSE and X-ray maps can be found in Appendix E.

Element mapping patterns fall into three categories: 1) high Ca cores trending towards lower Ca rims (Fig. 5.3a), 2) low Ca cores that move through a high calcium phase and back to low Ca rims (Fig. 5.3, j & h), and 3) sections with no discernible



**Figure 5. 3** Results of calcium distribution mapping for anorthoclase crystal sections (a) eb05019b, (b) eb05027a1, (c) eb05027a2, (d) eb05027a3, (e) eb05042b1, (f) eb05042b2, (g) eb05042b3, (h) erebus84-04, (i) erebus84-02, (j) erebus84-03, and (k) ER1984-7a. Maps a-g were made for this study, and maps h-k were made for previously collected samples.

overall trend. Additional element distribution maps can be found in Appendix E. Small scale element maps ( $< 2000 \mu\text{m}^2$ ) were generated to enhance areas where zone patterns appear particularly complicated or interesting (Fig 5.4).



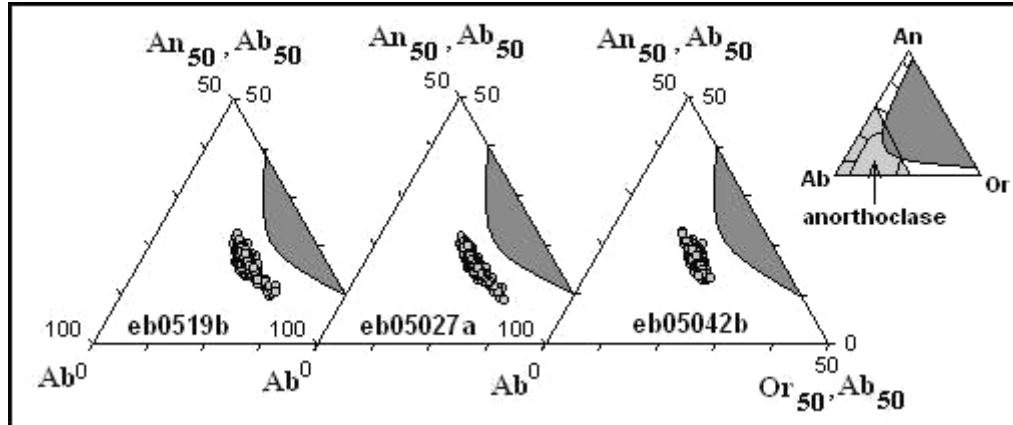
**Figure 5. 4** Results of small scale potassium distribution mapping from crystal sections (a& b) eb05019b, (c& d) eb05027a1, and (e& f) eb05042b2. Small scale element distribution mapping reveal the following: patchy zones (b, c, d& e), straight zone boundaries (d& f), embayed zone boundaries (a, b, c, d, e& f), low potassium “shadows” adjacent to melt inclusions (a& b), and gradual change of composition across single zones, typically a change from lower to higher potassium from the inner edge to the outer edge (a, b, c& e). There are also some notable relationships involving melt inclusions (mi): mi crosscutting zone boundaries (e& f), mi elongate parallel to zoning (a, b& f), and trapped along zone boundaries (e).

Large scale element maps show that zoning patterns may differ significantly for parallel sections of the same crystal such that they are not obviously related (Fig 5.3 b-d). Discontinuous zoning is common, as is variable width of zones – thin along one face and thicker on the adjacent faces. Small scale maps reveal that individual zones are often patchy (Fig 5.4 b-c, e) and that zone boundaries are commonly embayed (Fig 5.4 a-c, e). Element maps also reveal more complicated textures that may indicate significant resorption followed by renewed growth around an older deformed core (Fig. 5.3 e-g). Sections from eb05042b and section ER1984-7a (Fig 5.3 e-g, and k respectively) show well defined zones perpendicular to crystal corners along the 010 cleavage plane (Fig 5.1). This texture may indicate a break along this plane early in the life of the crystal, and continued growth along the plane until this break is overgrown.

#### *5.4 Composition*

Feldspar minerals result from a solid solution between three end member compositions: anorthite ( $\text{CaAl}_2\text{Si}_2\text{O}_8$ ), albite ( $\text{NaAlSi}_3\text{O}_8$ ), and orthoclase ( $\text{KAlSi}_3\text{O}_8$ ). Anorthoclase crystals analyzed in this study have a compositional range of  $\text{An}_{10.1}$  to  $\text{An}_{23.0}$ ,  $\text{Ab}_{61.5}$  to  $\text{Ab}_{67.9}$ , and  $\text{Or}_{12.2}$  to  $\text{Or}_{27.4}$  (Fig 5.5) and an average composition (2,403 analyses) of  $\text{An}_{16.9}$   $\text{Ab}_{64.5}$   $\text{Or}_{18.7}$ . A complete list of major element analyses of anorthoclase can be found in Appendix F. The location of the solvus in Figure 5.5 is approximate; the presence of only one feldspar variety implies that the Erebus magma is hypersolvus. This is supported by the very low water content of the magma seen in melt inclusions (Dunbar et al., 1994; Eschenbacher, 1998; Seaman et al., 2006).

Major element transects of crystal sections collected by EMP agree well with zoning patterns already seen with element maps. Strontium and barium analyses by the

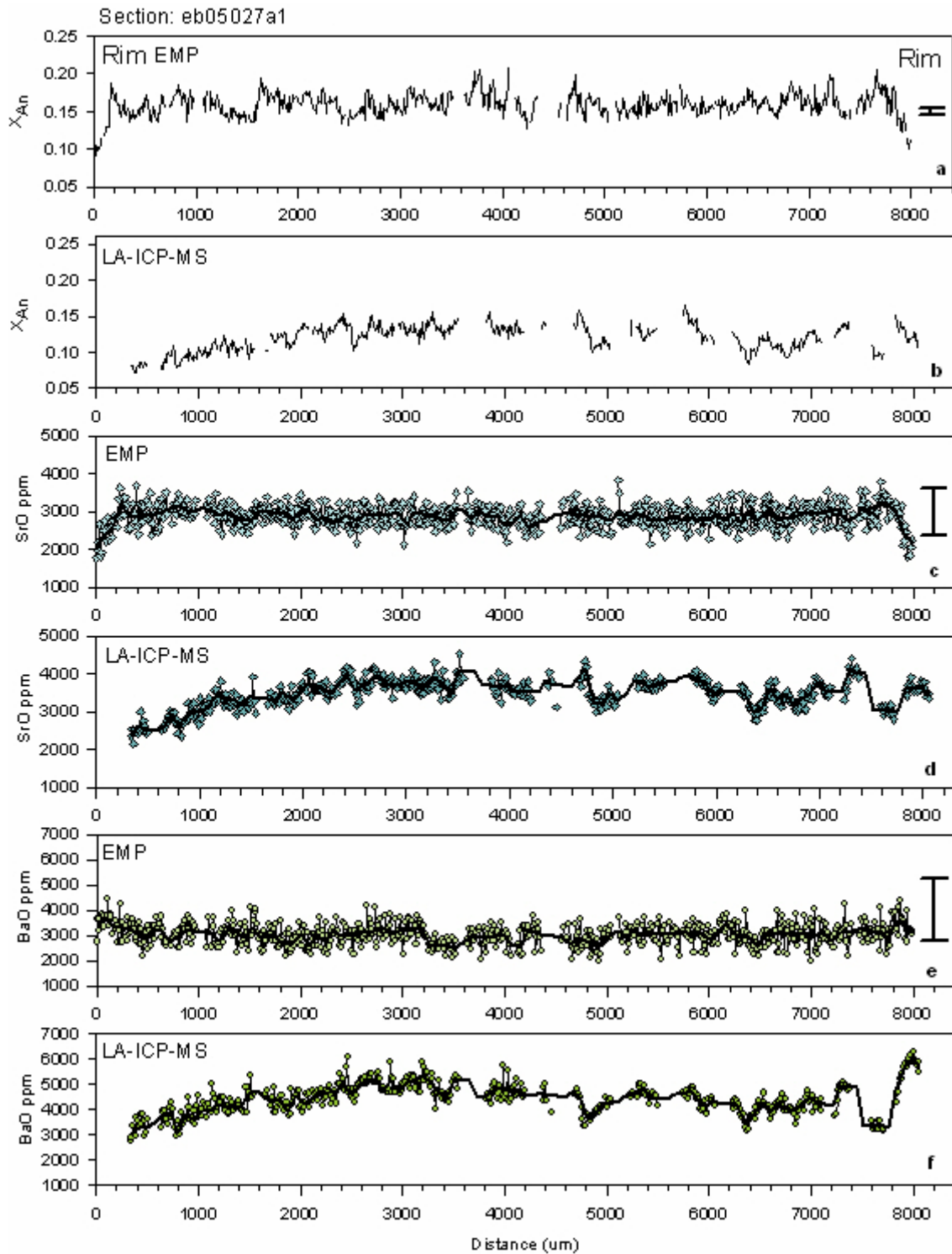


**Figure 5. 5** Results of major elements analyses of anorthoclase crystals by EMP [eb05019b (left), eb05027a (center) and eb05042b (right)]. The location of the solvus is approximated on the basis that there is only one type of feldspar crystallizing in the current Erebus system and indicating that the system is hypersolvus.

same method show a relationship to major element variations that was also recognized by Kelly et al. (2007). This relationship is also observed in LA-ICP-MS analyses of Ca, Sr, and Ba (Fig 5.6).

Gradual changes in the major element composition across transects occur over lengths  $\geq 1000\mu\text{m}$ . Each EMP transect displays a different pattern from other transects collected from other crystal sections (Fig. 5.6 a, g, t). LA-ICP-MS transects are effected by a resistance to laser ablation demonstrated by anorthoclase in this study (see Section 5.5) and as such cannot be used to understand any periodic features that may exist. Crystal scale x-ray mapping (Figure 5.4 and Appendix E) reveals that when a pattern (e.g. high Ca core moving towards a high K rim) occurs in more than one crystal sample it does not necessarily do so on the same scale such that a dominating compositional trend would not be expected to appear in all sections. Small scale features ( $< 1000\mu\text{m}$ ) such as sawtooth patterns and dramatic spikes, often occur and are not periodic.





**Figure 5.6** Selected major and trace element transects of anorthoclase crystal sections. Transects are grouped by section, with EMP and LA-ICP-MS analyses adjacent when both are available. Error bars on EMP analyses are from counting statistics. Error bars are not shown for LA-ICP-MS because of the difficulty in quantifying the error but are expected to be  $< \pm 10$  ppm (See Section 5.5).

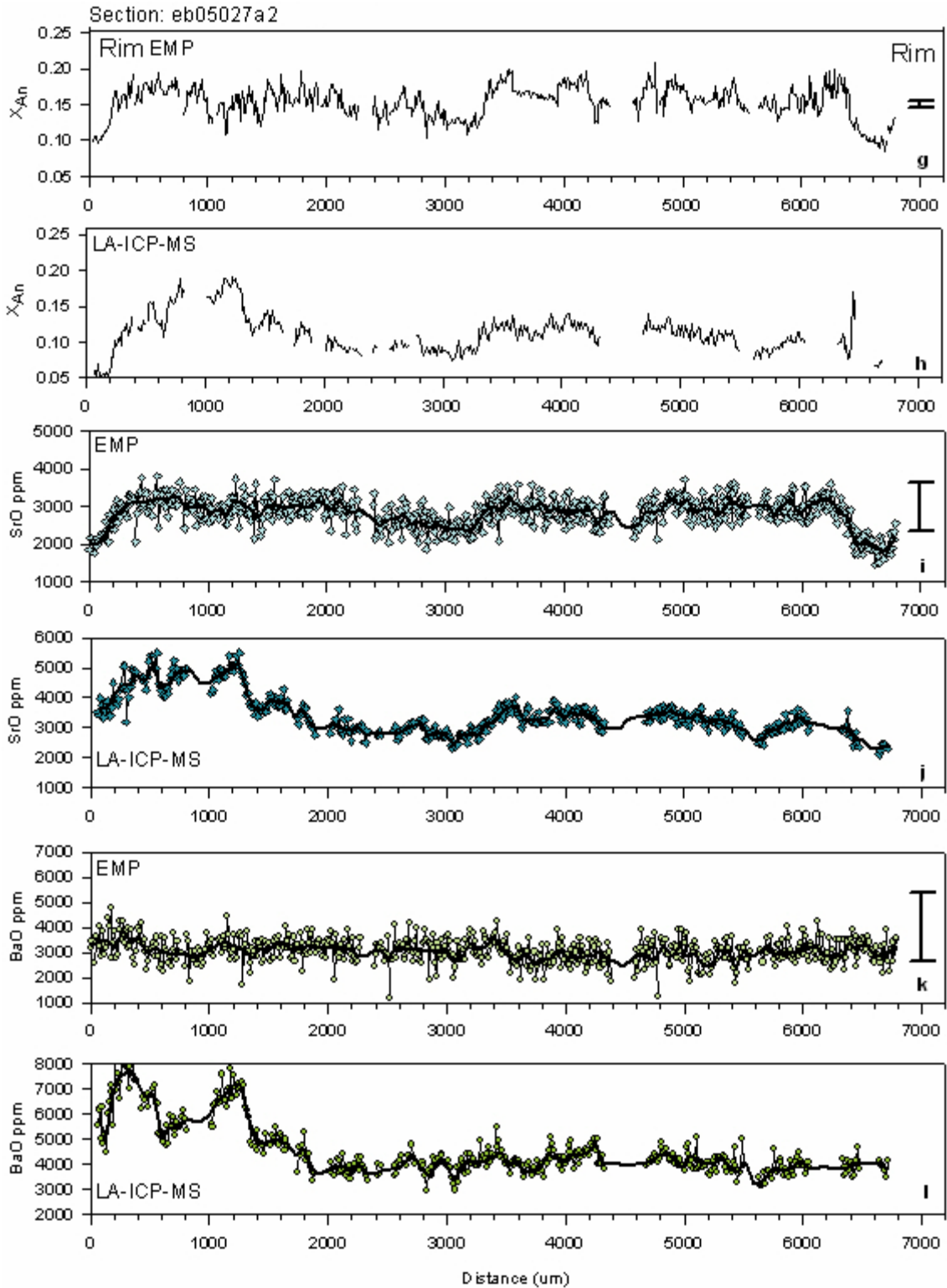


Figure 5.6 cont.

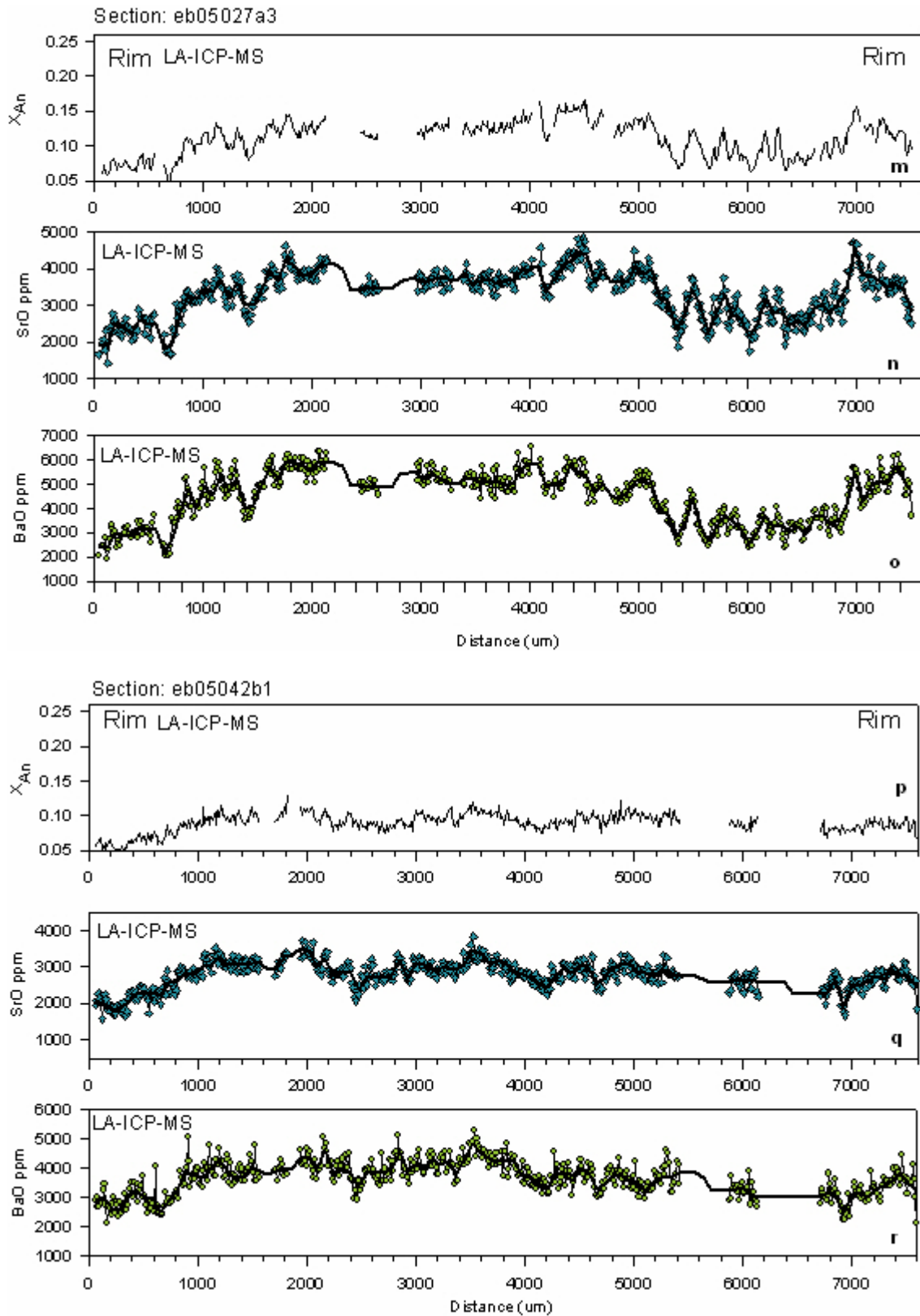


Figure 5.6 cont.

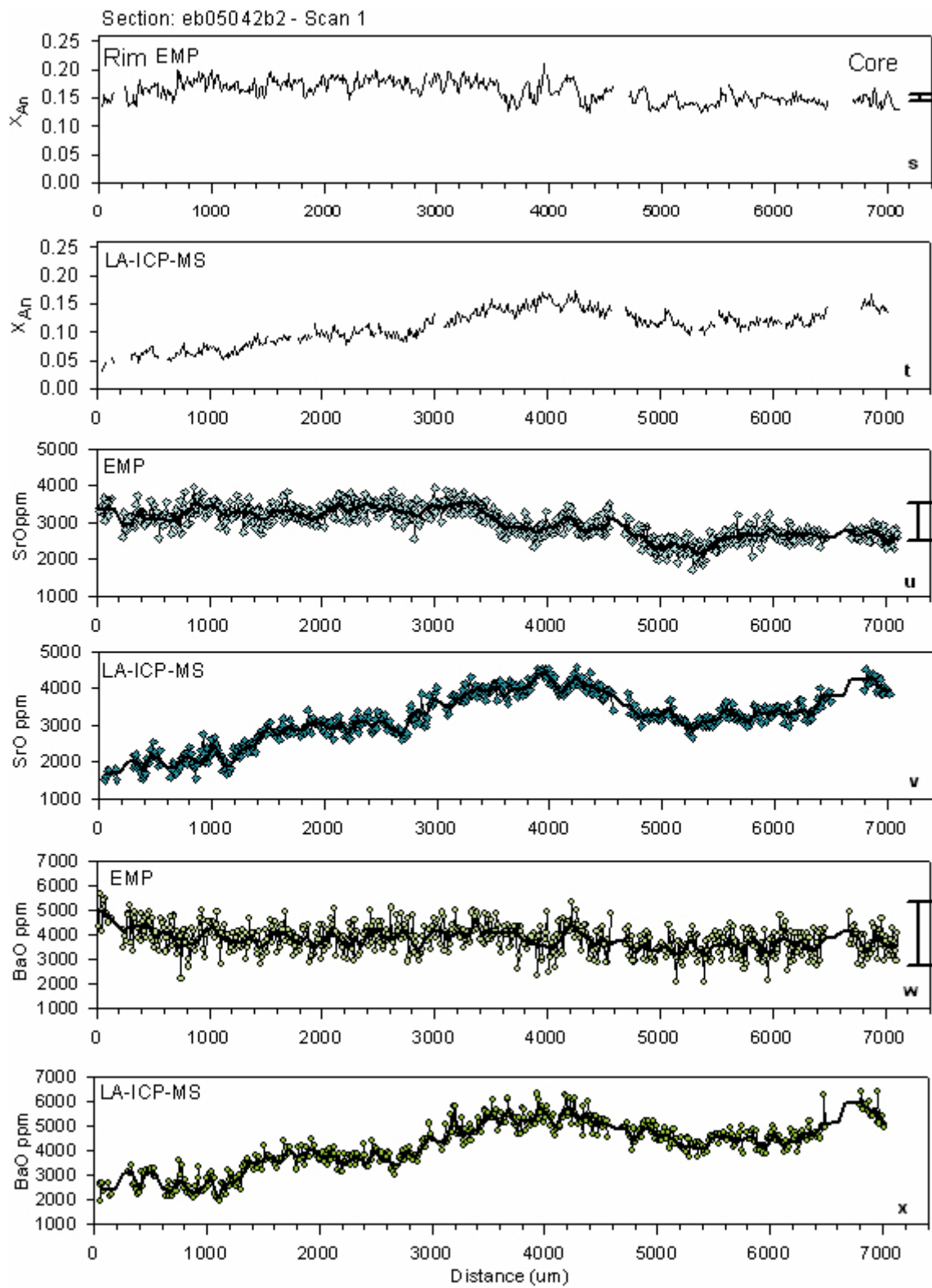


Figure 5.6 cont.

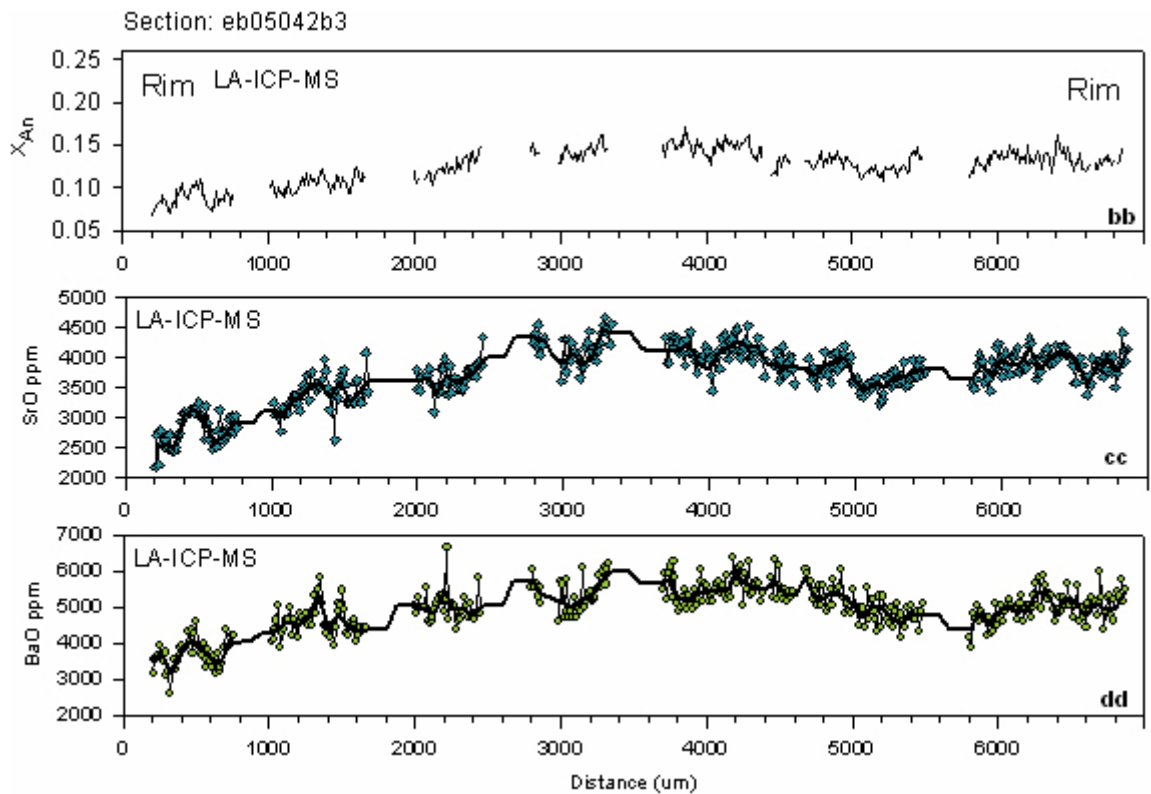
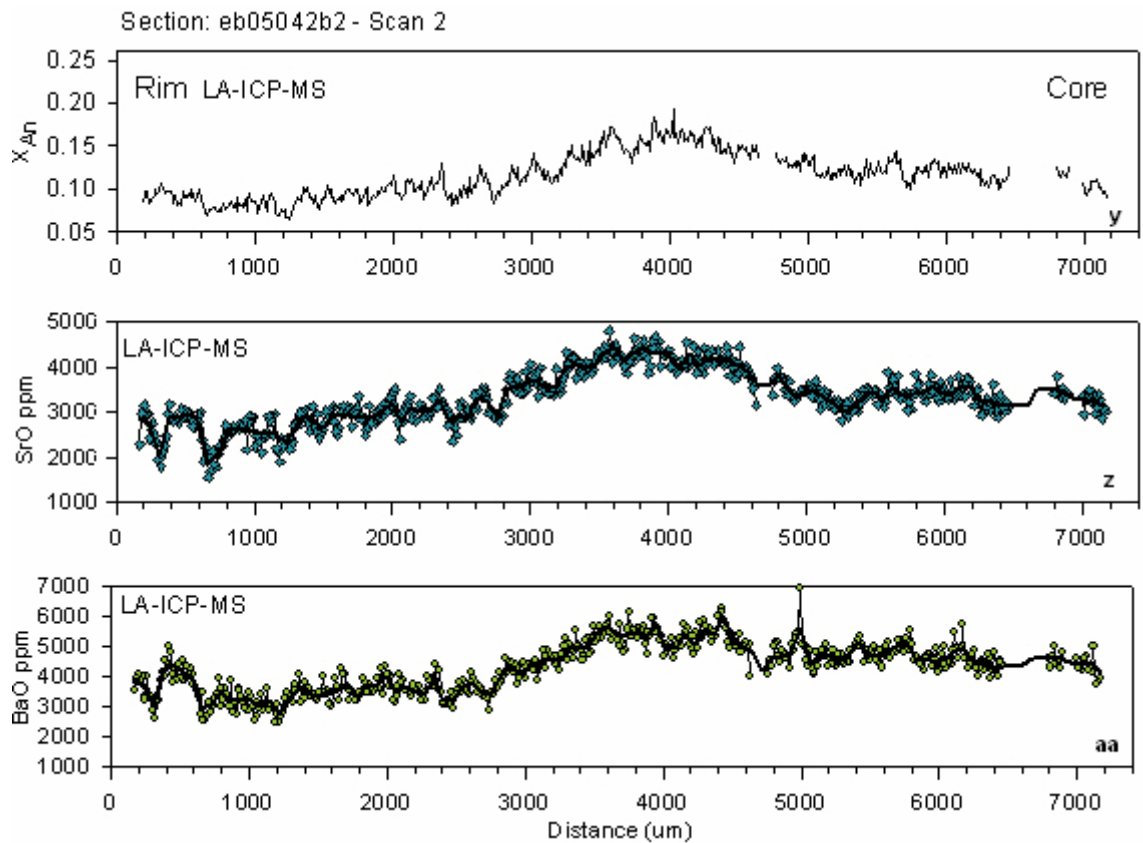
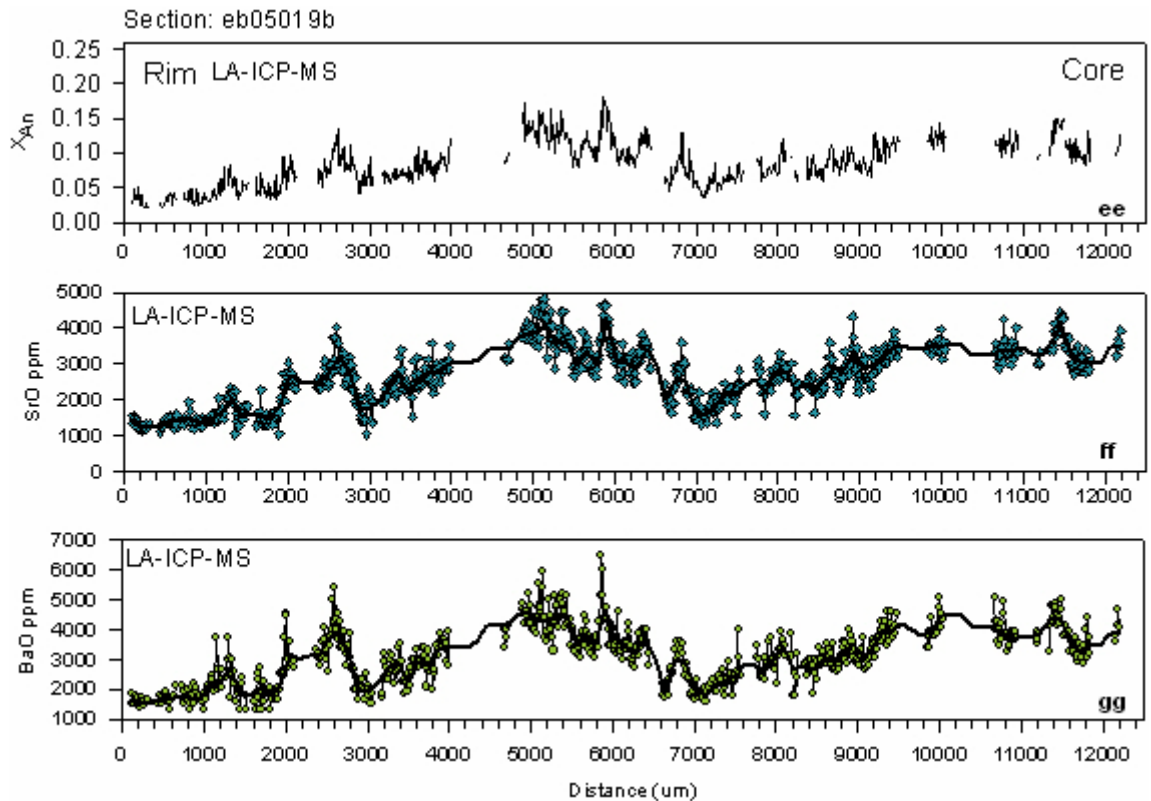


Figure 5.6 cont.



**Figure 5.6 cont.**

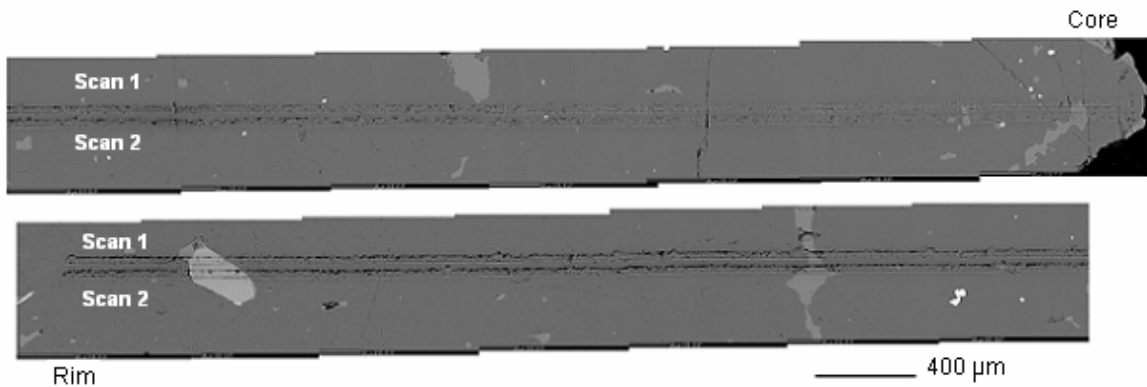
### 5.5 Anorthoclase Resistance to Laser Penetration

The patterns of elemental variations along crystal transects generated by different methods should not differ significantly; however, the exact compositional values and the magnitude of these changes may be expected to vary according to analytical precision. Transects shown in Figure 5.6 a-f, g-l and s-x, for elements Ca, Sr, and Ba show significant divergence of general trends when EMP and LAICPMS analyses are compared. These differences are more significant than anticipated for parallel transects only 50 $\mu$ m apart. Deviations from the EMP trend are identical for all isotopes analyzed by LA-ICP-MS. This indicates that the deviations are more likely the result of analytical problems than an compositional variation detected by a more sensitive instrument.

A blank solution containing 11 ppb indium was analyzed simultaneously with crystal material in the LA-ICP-MS. Isotopes were ratioed to  $^{115}\text{In}$  to remove the effects of analytical drift. This does not remove the discrepancies seen between techniques.

Composite BSE images of two LA-ICP-MS transects from crystal section eb05042b2 show that the laser tracks do not penetrate to a consistent depth across the transect length (Fig 5.7). The variations in depth are approximately the same for both transects shown. The starting position of each transect in Figure 5.7 is different (one beginning at the core and the other at the rim), making it unlikely that the laser is typically weak at either the beginning or end of the ablation period. One possibility is that the depth of penetration of the laser is related to the composition of the crystal at that location.

The variable depth of penetration creates artificial highs and lows in the transects due to the ICP-MS receiving a variable amount of material. When the laser ablates to a consistent depth the amount of material being sent through the mass spectrometer is the same yielding intensities that are proportional to the actual amount of material in the



**Figure 5. 7** Composite BSE image of tracked created by LA-ICP-MS on section eb05042b2 by scans 1 and 2. The depth of penetration is inconsistent over the length of the transects. Note that penetration is weakest closest to the rim, and largely consistent between the central melt inclusion and the core.

sample as well as highly accurate relative changes across the transect. A sudden drop in the material being sent through the instrument creates an artificial low. If the depth of penetration is consistent, albeit shallow during the artificial low the relative variations are accurate within that period until the depth of penetration changes once more.

The variable resistance of the anorthoclase samples to laser ablation makes it extremely difficult to quantify the error associated with these analyses. Further work should be done to understand this phenomenon so that it may be corrected for in future analyses.



## 6. Trace Element Diffusion Modeling of Anorthoclase Residence Time

### 6.1 Trace Element Diffusion Modeling

Residence time and growth history are important to understanding crystallization processes and the relationship between these processes and magma chamber dynamics. This study uses trace element diffusion modeling (TEDM) to estimate the residence time of anorthoclase samples. The basis for this technique has been discussed by Zellmer et al. (1999), Morgan and Blake (2006), and Zellmer and Clavero (2006) and their comments are summarized below.

During crystal growth in a magma chamber, a non-uniform trace element profile may develop containing both highs and lows. If the crystal remains at magmatic temperatures after some growth has occurred trace elements will diffuse, through solid state processes towards an equilibrium profile that may or may not be flat. The diffusion of trace elements in this way is the basis for TEDM. Employment of the technique requires that the profile of the trace element of interest at the time of growth (the initial profile) be estimated, and that the diffusion equation for the element in that mineral is well known. The diffusion equation is of the form:

$$D = D_0 e^{(-Q/RT)} \quad (\text{Eq. 6.1})$$

where  $D$  is the diffusion of a particular element through the crystal structure along a plane,  $D_0$  is the diffusion coefficient,  $Q$  stands for the activation energy,  $R$  is the universal gas constant, and  $T$  is temperature in Kelvin. At the time of eruption the trace element profile is frozen by the drop in temperature and is called the observed profile. If the crystal is given an infinite amount of time to diffuse the trace elements would reach a state of equilibrium where diffusion would cease, the profile at the point where diffusion

ceases is called the equilibrium profile. The equilibrium profile is not necessarily flat; for instance, if the equilibrium situation for each trace element is linked to the Ca site the equilibrium situation may closely resemble the Ca profile. If the sample has not had sufficient time to reach equilibrium then it is between the initial profile and equilibrium profile and can be used to estimate the residence time. Accurately determining the initial concentration profile can be difficult. To address this problem, Morgan and Blake (2006) developed a technique based on co-diffusion of two trace elements that does not require knowledge of the initial concentration profile. This technique is binary element diffusion modeling (BEDM).

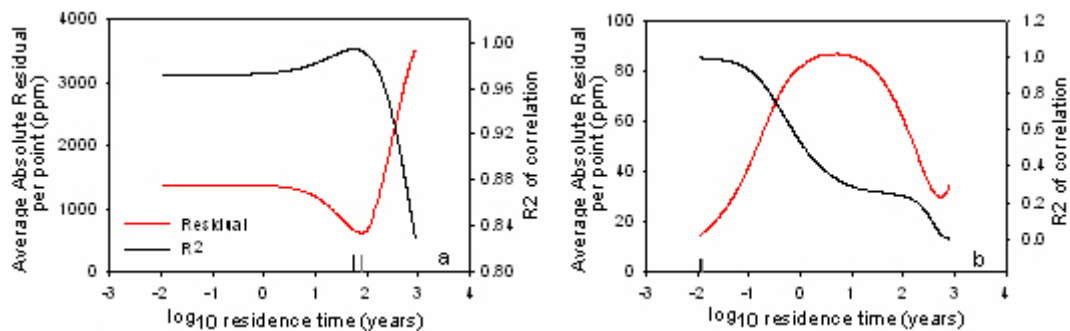
## *6.2 Binary Element Diffusion Modeling (BEDM)*

BEDM requires measurement of two trace elements that diffuse at different rates in the mineral of interest. The technique assumes that a relationship exists between the two elements when they are initially incorporated into the crystal structure, although this relationship need not be uniquely known. It is worth noting that the elements may be either positively or negatively correlated. Faster diffusion of one element over another modifies the original correlation between elements, and complete diffusion reestablishes the relationship over a narrower range of values. Visually, the faster diffusing element will be a smoothed and flattened version of the slower diffusing element profile, either positive or inverse. Morgan and Blake (2006) developed a forward modeling program that artificially diffuses the slower diffusing element to recouple the relationship; this creates an artificial profile. The time it takes to reestablish the relationship is related to the time it took to destroy it by the following equation

$$t_{\text{magma}} = \frac{t_{\text{rec}}}{\{(D_f / D_s) - 1\}} \quad (\text{Eq. 6.2})$$

where  $t_{\text{magma}}$  is the amount of time spent in the magma after crystallization,  $t_{\text{rec}}$  is the time required to recouple the relationship, and  $D_f$  and  $D_s$  are the known diffusivities of the fast and slow diffusing element respectively (Morgan and Blake, 2006).

Results of the forward modeling process are given for each of several hundred iterations. The values displayed in the results are as follows: a measure of the correlation between the fast diffusing element and the artificial profile created for the slower diffusing element ( $r^2$ ), a number that qualifies the fit of the relationship (residual), and an age. Ideally there is a single peak in the  $R^2$  data and corresponding low in the residual data that are located closely in time ( $t_{\text{rec}}$ ); a graph showing an example of approximately ideal results is shown in Figure 6.1a. An observed profile with a one to one relationship would represent either an initial or equilibrium profile where the two trace elements are distributed equally in a sample. Both cases would result in a zero age; an example of the results from this relationship is shown in Figure 6.1b for reference. The data used to generate these example profiles is given in Appendix G.



**Figure 6. 1** BEDM results for an ideally smooth observed profile (a), and a one to one equilibrium profile (b). The age range lies between the highest  $R^2$  (black tick on x-axis) and lowest residual (gray tick on x-axis) values.

### 6.3 Application and Results of BEDM for Erebus Anorthoclase Samples

BEDM requires high quality; closely spaced data points for two trace elements that are known to have related behavior. Strontium and Ba were used by Morgan and Blake (2006) for BEDM because of their known related behavior in sanidine, another high temperature alkali feldspar. Additionally they suggest that Rb, Ba, and Sr are good choices when applying this technique to alkali feldspars because these elements occupy the same lattice site despite the differences in valence and activation energy of each element. The Sr profile in Erebus anorthoclase samples is positively correlated with the Ba profile, and is a smoother version thereof. These observations indicate that Sr and Ba may be used in the application BEDM to Erebus anorthoclase samples.

Diffusion of Sr in anorthoclase was determined by Cherniak and Watson (1992) to be anisotropic, and was described by the following equations:

$$D_{\text{Sr}} = 4.51 \times 10^{-3} (+358, -5.6) e^{[-(372.79 \text{ kJ/mol})/RT]} \text{ m}^2 \text{ s}^{-1} \quad (\text{Eq. 6.3})$$

normal to {010}

$$D_{\text{Sr}} = 2.25 \times 10^{-2} (+1615, -31) e^{[-(373.63 \text{ kJ/mol})/RT]} \text{ m}^2 \text{ s}^{-1} \quad (\text{Eq. 6.4})$$

normal to {001}

where kJ is kilojoules, R is the universal gas constant, and  $T$  is temperature in Kelvin.

Diffusion of Ba in anorthoclase has not been addressed in the literature, and is estimated for this study. The diffusion of Ba in sanidine is approximately a factor of 30 slower than Sr diffusion along the same plane (Cherniak, 1996; Cherniak, 2002). Using the same exponential factor for Ba as for Sr we estimate the diffusion of Ba in anorthoclase to be proportionately slower as it is in sanidine (D.J. Cherniak, 2007, pers. comm.). The estimated equations are as follows:

$$D_{\text{Ba}} = 1.55 \times 10^{-4} e^{-(372.79 \text{ kJ/mol})/RT} \text{ m}^2 \text{ s}^{-1}, \text{ normal to } \{010\} \quad (\text{Eq. 6.5})$$

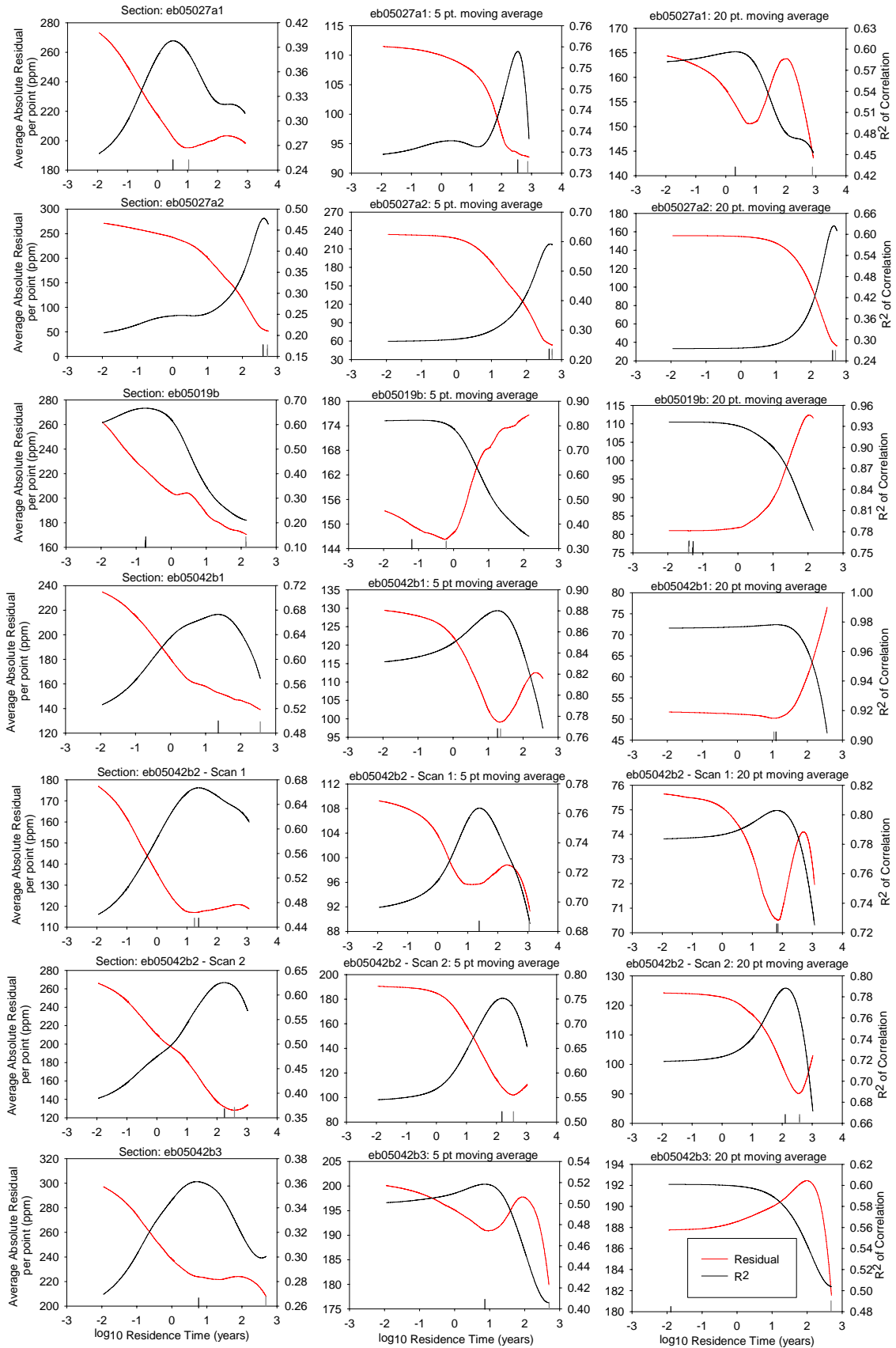
$$D_{\text{Ba}} = 7.50 \times 10^{-4} e^{-(373.63 \text{ kJ/mol})/RT} \text{ m}^2 \text{ s}^{-1}, \text{ normal to } \{001\} \quad (\text{Eq. 6.6})$$

Equation 6.5 is used for the crystal sections that were made along the {001} cleavage plane (eb05027a1-3 and eb05042b1-3). Equation 6.6 is used for eb05019b which was sectioned along the c-axis. Temperature and step size must also be specified in the program and are 1273.15 K and 12 $\mu\text{m}$ , respectively.

The resistance to laser ablation discussed in Section 5.5 is not well understood, therefore only portions of each section that appear to be ablated to a consistent depth were selected for BEDM. This was done by comparison of BSE images of laser tracks with the transect variations. Sections of data were chosen based on location in the crystal and the presence of Sr profile that was smooth in comparison to the Ba profile. The locations chosen were at or close to the core of the crystal in order to obtain the oldest residence time; the core of the crystal would be expected to yield the oldest possible age because it grew earliest and will have experienced the greatest amount of diffusion. BSE images of laser tracks are easily synchronized with transect variations using the location of large inclusions crossed by transects. Inclusions impose a second problem in that otherwise consistently ablated, continuous data is made discontinuous. In the rare event that an inclusion interrupts a desirable portion of transect, the missing values are artificially filled in to continue a trend that is shown on either side of the gap. Each transect portion chosen for BEDM was run first with raw data, then smoothed by a 5 and 20 point moving average to relax the small scale changes. All data points used for BEDM are shown in Appendix G. Results of BEDM are given in Table 6.1, and results curves are shown in Figure 6.2.

**Table 6. 1** BEDM result for anorthoclase sections. Results for the raw values are shown first for each section followed by the results for a 5 and then 20 point moving average of those values. The  $R^2$  or Residual value for each calculated residence time (RT) is shown to the left of the value.

<i>Section</i>	$R^2$ <i>max.</i>	<i>RT (years)</i>	<i>Residual min. (ppm)</i>	<i>RT (years)</i>
eb05027a1	0.40	3.3	195	8.9
5 pt. mv.avg.	0.75	344.0	93	823.3
20 pt. mv.avg.	0.60	2.1	44	823.3
eb05027a2	0.48	412.0	51	547.0
5 pt. mv.avg.	0.59	479.3	54	547.0
20 pt. mv.avg.	0.62	445.5	36	547.0
eb05019b	0.67	0.840	171	642.9
5 pt. mv.avg.	0.82	0.090	146	0.557
20 pt. mv.avg.	0.94	0.041	81	0.040
eb05042b1	0.67	23.1	139	366.5
5 pt. mv.avg.	0.88	18.6	99	21.4
20 pt. mv.avg.	0.98	13.0	50	11.8
eb05042b2 scan1	0.67	17.5	117	24.8
5 pt. mv.avg.	0.76	24.8	91	118.2
20 pt. mv.avg.	0.80	66.0	71	71.6
eb05042b2 scan2	0.63	174.8	128	372.2
5 pt. mv.avg.	0.75	157.9	102	360.9
20 pt. mv.avg.	0.79	129.7	90	349.6
eb05042b3	0.36	5.13	207	496.2
5 pt. mv.avg.	0.52	7.27	180	496.2
20 pt. mv.avg.	0.60	0.011	182	496.2



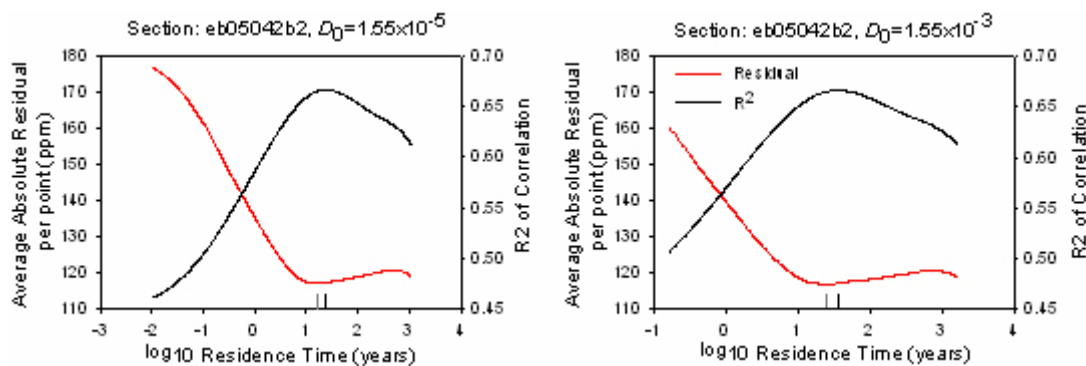
**Figure 6. 2** (previous page) Results curves for BEDM of anorthoclase sections from raw data (left column) and 5 (middle column) and 20 (right column) point moving averages. The highest  $R^2$  and lowest residual are marked on the x-axis by black and gray tick marks respectively.

#### *6.4 Sources of Error*

As stated previously, the diffusion equation for Ba in anorthoclase was estimated using knowledge of Ba and Sr diffusion in sanidine. It is important to constrain this value using experimental techniques and/or measurements to improve the accuracy of residence time estimates. Despite this, the estimated anorthoclase residence times shown above were only minimally effected when the barium diffusion equation was changed. Using crystal section eb05042b2 as an example, the results curved were not significantly changed (Figure 6.3). When the pre-exponential factor was made to be an order of magnitude slower (from  $1.55 \times 10^{-4}$  to  $1.55 \times 10^{-5}$ ) the residence time estimated by the correlation curve was change from 24.8 to 24.0 years, and the residual estimate changed from 17.5 to 16.9 years. Shifting the pre-exponential factor in the other direction ( $1.55 \times 10^{-3}$ ) changed the values to 36.5 and 25.7 respectively. The greatest effect was therefore created by bringing the rates of diffusion of Ba and Sr closer together, however, if the rate of Ba diffusion is made to be much faster it will be faster than strontium diffusion. It is therefore very important that experimental work be done to assess partitioning of Sr and Ba into anorthoclase, as well as determining the rates of diffusion of Ba.

Morgan and Blake (2006) state that the BEDM technique is best suited to high quality closed spaced data points, in a sample that has undergone much diffusion. The results above indicate that none of the samples used in this study were likely resident in





**Figure 6. 3** The results curves for crystal section eb05042b2 when the diffusion of barium is slower (left) or faster (right) than estimated.

the magma for more than a few hundred years, and as such diffusion was not extensive. Short residence times and only minimal diffusion is supported by the strong similarity of the Sr and Ba profiles generated by both EMP and LA-ICP-MS. Future analyses of larger Erebus anorthoclase samples would be expected to yield longer residence times, and possibly confirm the short residence of the samples analyzed here.

Trace element transects collected by LA-ICP-MS are shown here to be problematic, due to the variable resistance of anorthoclase to laser penetration. As mentioned earlier, because this phenomenon is not well understood the portions of data applied to BEDM were selected in part because of they were minimally effected. However, if the unusual variations in the LA-ICP-MS transects are in fact due to a variable amount of material being taken into the LA-ICP-MS this would not be expected to effect the ratio of Sr and Ba, only their exact values and therefore should not alter BEDM results.

Transects cross numerous melt and mineral inclusions making it difficult to select appropriate portions of each crystal for analysis with BEDM. In some cases the desired portion crossed only small inclusions and these values could be filled in by visually

assessing the trend that the data follows along either side of the gap; however this is rough, and does not accurately represent the crystal composition at the given location. The trace element transects for crystal section eb05027a3, for example, crosses numerous inclusions, and had such a variable resistance to the laser that it was not possible to select a portion of the transect for modeling purposes. Future trace element analyses should use techniques better suited to working with anorthoclase samples, and take care to avoid crossing inclusions.

Morgan and Blake (2006) indicate that point spacing, random noise, error in the diffusion equations (which has already been discussed), temperature errors, and diffusion effects during crystallization could all introduce error into the results. It appears unlikely that temperature would have a significant effect here, as the temperature of the magma is quite well constrained at 1000°C. However, if a crystal circulated to the surface of the lava lake and remained there for a significant amount of time the rate of diffusion would slow considerably because of the drop in temperature. This effect cannot be quantified, and is not accounted for in the results. Morgan and Blake (2006) suggest that diffusion effects during crystallization are most likely to be important in cool systems ( $T < 700^{\circ}\text{C}$ ) where there are large static boundary layers surrounding crystals. In view of the known temperatures for the Erebus system this may not have a significant effect.

Morgan and Blake (2006) suggest that the effects of insufficiently close points may result in an underestimate of crystal residence times. They also determined that random noise has very little effect on the outcome of results, showing that at ~6% random noise the ages predicted by the  $R^2$  and Residual begins to decouple.

## 6.5 Discussion of Results

### Crystal eb05027a

The data used for eb05027a1 was taken from the left hand side of the crystal center, and data for eb05027a2 was taken from the more central “lobe” of the heart shaped feature in that section (Fig. 5.3c), with the data centered on the lobe. The residence times predicted by the model are highly inconsistent for the first of these, ranging from less than 5 to greater than 800 years. The ages for the second, are very consistent, yielding ages from 412 to 547 years for the raw data, and 445 to 547 years for the most smoothed (20 point moving average) data. This data should be looked at in light of poor  $R^2$  maxima (0.48 to 0.62), and good (very low) Residuals (51 to 36 ppm). It seems reasonable that the true age of this crystal may be underestimated by the model but that the age is less than 1000 years.

### Crystal eb0519b

The data used for crystal section eb05019b were taken from an area close to the center of the crystal section; that portion of the transect did not cross any melt or mineral inclusions. Residence times estimated for this section were less than one year, with the exception of a single estimate by Residual yielding a value of 643 years. Eb05019b is the smallest of the crystals examined in this study (~ 2 cm in length, and less than 1 cm in width). The excessively young residence time estimates, considered with the size of the crystal, and that the trace element profile for Sr and Ba are extremely similar (see Section 5.3), make it likely that this crystal was not present for very long in the magma. It is therefore likely that the trace element profile represent either a minimally diffused or

equilibrium profile, either of which would result in a near zero residence time within the model.

#### Crystal eb05042b

The data used from section eb05042b1 was taken from the center of the crystal, and did not cross any inclusions. The broadest age range for this section came from the raw data – which also had the lowest  $R^2$  and highest Residual – giving values from 23 to 367 years. The 5 pt and 20 pt moving averages yielded residence time estimates of 19 to 21 years and 12 to 13 years respectively. The corresponding results curves for this sample are very good, but the ages are less than expected. Higher ages were expected for this crystal than for crystal eb05027a for the reason that textures seen in this crystal and not in eb05027a suggest that the crystal underwent significant resorption. Crystals eb05027a and eb05042b are approximately the same size (see Figure 5.1c and d). If the age of the crystal can be very roughly estimated by the crystal size, then crystal eb05042b2 would be expected to have been resident in the magma for a longer period of time than eb05027a.

The LA-ICP-MS transect of crystal eb05042b2 did not cross the entire crystal; because of this the useable data closest to the core was applied to the model. That data did cross a melt inclusion, such that values were filled in according to the pattern indicated by the surrounding values. For this section data was applied to the BEDM for each of two parallel scans. The data used for each scan was taken from approximately the same location.

The residence times predicted by section eb05042b2- Scan 1 are uniformly young, ranging from 18 to 25 years, 25 to 118 years, and 66 to 72 years for the raw data, and 5

pt. and 20 pt. moving averages respectively. Residence times predicted by Scan 2 are more uniform, but consistently older than for Scan 1: 175 to 372 years, 158 to 361 years, and 130 to 350 years, in the same order. These results are somewhat troubling considering the close proximity of the two scans, but can likely be explained by errors resulting from crystal resistance to ablation.

The data from section eb05042b3 was taken to one side of the core, to avoid inclusions and to utilize the highest quality data. The residence times predicted from these data are highly variable ranging from less than a year to nearly 500 years. The lowest  $R^2$  and highest Residuals for all model results are associated with this data. The laser trough imaged for this section is also quite variable, and it is unlikely that these results are significant.

Considering the variability of the results for this crystal, and the ages yielded, it seems very likely that these results are not indicative of the actual residence time, but rather an underestimate at the best. It is suggested that this crystal, like crystal eb05027a, was resident for more than the maximum time predicted, but less than 1000 years.

#### 6.5.1 Estimated Anorthoclase Growth Rate

Growth rates are calculated from residence times by dividing the crystal radius by maximum or preferred age estimate for crystals eb05027a and eb05042b. Table 6.2 displays the calculated growth rates for sections eb05019b, eb05027a1, eb05027a2, eb05042b1 and eb05042b2 (scans1 and 2) using the minimum and maximum ages from BEDM with the exception of eb05019b which uses a single age. Section eb05042b3 is excluded in light of very poor results, the crystal is amply represented by other sections.

**Table 6. 2** Anorthoclase growth rates calculated from crystal radii and BEDM estimates of residence time.

<i>Crystal Section</i>	<i>Radius*</i> ( $\mu\text{m}$ )	<i>Age</i> (years)	<i>Growth Rate</i> ( $\text{cm s}^{-1}$ )
eb05027a2	3440	412.0	$2.65 \times 10^{-11}$
eb05027a2	3440	547.0	$1.99 \times 10^{-11}$
eb05027a1	4081	344.0	$3.76 \times 10^{-11}$
eb05027a1	4081	823.3	$1.57 \times 10^{-11}$
eb05019b	3523	0.84	$1.33 \times 10^{-8}$
eb05042b1	3800	13.0	$9.27 \times 10^{-10}$
eb05042b1	3800	366.5	$3.29 \times 10^{-11}$
eb05042b2 (scan 2)	4000	17.5	$7.25 \times 10^{-10}$
eb05042b2 (scan 2)	4000	118.2	$1.07 \times 10^{-10}$
eb05042b2 (scan 2)	4000	129.7	$1.74 \times 10^{-10}$
eb05042b2 (scan 2)	4000	372.2	$7.26 \times 10^{-11}$
Avg. growth rate			$1.40 \times 10^{-9}$

\* The radius is for the shortest axis of each crystal.

The average growth rate is estimated as  $1.4 \times 10^{-9} \text{ cm s}^{-1}$ . Using residence time estimates to calculate a crystal growth rate assumes that growth is constant and that resorption has not occurred. A significant amount of resorption would produce a faster growth rate because of the larger crystal radius, although resorption may also produce an older residence time. Growth rates would also be faster if there are significant hiatuses in growth. The estimated growth rate is similar in magnitude to growth rates reported for other magmatic feldspars (Cashman, 1992; Dunbar et al., 1995) suggesting that BEDM yields reasonable residence time estimates for Erebus samples.

## 7. Mechanisms Controlling Crystal Growth Patterns

### 7.1 *External vs. Internal*

Zoning patterns in magmatic crystals are commonly attributed to external forcing – changes in the growth environment – by changing magma composition, temperature, pressure, and  $P_{H_2O}$  (e.g. Dunbar et al., 1994; Wallace and Bergantz, 2002; Ginibre et al., 2002; Ginibre et al., 2004; Wallace and Bergantz, 2005; Larsen, 2005). Patterns can then be interpreted as evidence of changes in the physical condition of the environment such as magma mixing, crystal settling, degassing, and convection through a gradient. Recent work has examined the possibility of internal control of crystal zoning as an alternative to the more traditional interpretations. Internally-controlled organization is not well understood, but is most often attributed to the formation of boundary layers surrounding the crystal. Chemical oscillators believed to cause zoning at the boundary layer give rise to spontaneous chemical variations through coupled substitution of elements in the crystal structure (Scott, 1994). Holten et al. (1997) cautions that it is unreasonable to make assumptions regarding the role of internal or external controls on zoning patterns if it cannot first be established that fluctuations in the growth environment occur on time scales very different from the crystal growth rate. Unfortunately this is very difficult to ascertain, although some inferences regarding these time scales may be made.

Holten (1997) states that in order for external forcing to dominate, the crystal must be near local equilibrium with the environment of growth so that chemical zoning directly reflects changes in the environment. Conversely, self-organized growth patterns would require that growth take place further from equilibrium. This situation may result

from a large mass or heat flux through or into an open system (Holten et al., 1997). L'Heureux and Fowler (1996a, b) suggest that under isothermal conditions the concentration of species at the growing front of a crystal may be different than the bulk composition due to diffusion, thereby inducing effective undercooling. That study also hypothesizes that effective undercooling and nonequilibrium partitioning provide the basic mechanism required to create oscillatory zoning.

### *7.2 Previous Models to Explain Erebus Anorthoclase Growth Patterns*

Models invoked to explain growth patterns seen in Erebus anorthoclase samples have focused on external forcing as the primary mechanism. Dunbar et al. (1994) suggested that the zoning patterns they observed occurred in response to shallow magmatic convection. Furthermore, that study proposed that an observed periodicity of ~500  $\mu\text{m}$  between type 1 and hieroglyphic zoning was an indication of the regularity of convection. Kelly et al. (2007) largely agreed with this interpretation, suggesting that crystallization patterns are caused by convection through a water gradient created by shallow degassing. Kelly et al. (2007) addressed other possible external controls, but found that degassing was the most favorable.

### *7.3 Proposed Models*

A model for crystallization of the Erebus anorthoclase crystals must address the composition of the magma, temperature variations, degassing, convection in the conduit and lava lake, melt inclusion composition, crystal residence time, and zoning patterns.



These factors have been discussed at length in this paper or in other papers (e.g. Dunbar et al., 1994; Eschenbacher, 1998; Calkins et al., 2007).

The external controls that may affect crystallization are magma composition, pressure, water content, and temperature. It has been shown by Kelly et al. (2007) that the composition of the Erebus phonolite has been constant for the last 26ka. The top of the conduit or magma chamber is not bearing a lithostatic load as indicated by the presence of the lava lake. That and the shallow depths of crystallization indicate that there is not likely to be any effects from pressure on the anorthoclase composition.  $P_{H_2O}$  and temperature are dealt with in Models 1 and 2 respectively, and Model 3 addresses internal controls.

### 7.3.1 Model 1: Externally Forced Crystal Growth: Degassing

As discussed above, a model of external forcing has been the primary explanation of growth patterns seen in Erebus anorthoclase samples. These models employ a degassing induced water gradient in the conduit, and convection through that gradient. Two important questions arise when examining this model: is there evidence to support a water gradient, and is the variability of water content in melt inclusions sufficient to explain the variability in the crystal composition?

Dunbar et al. (1994) concluded that crystallization is initiated at approximately 400m depth, and that exsolution of water into a vapor phase is likely shallow, occurring at <1km. Shallow degassing could create a gradient within the area of crystallization that may affect the composition of anorthoclase.

Seaman et al. (2006) studied the distribution of water within melt inclusions trapped inside a single anorthoclase sample from Erebus using FTIR Spectroscopy. The study found that there was variation of water concentrations between melt inclusions of 0.12 to 0.39 wt%. The study did not, however, find a relationship between the amount of water within inclusions and the location of inclusions within the crystal. Those findings cast some doubt on the viability of a water gradient being the primary cause of the observed zoning patterns. If water content of the magma were greatly influencing zoning patterns it would be expected that evidence of this would be preserved in the melt inclusion record.

There is reason to believe that a water gradient may exist in the area of the magma chamber where crystallization is thought to occur. At this time there is no experimental data that show a relationship between the composition of anorthoclase and the water content of magma. The results of Seaman et al. (2006) show both that there is variable amount of water in the magma, and also no relationship between the water content of melt inclusions and their location within the anorthoclase host. It is possible that the water content of the magma affects the growth of anorthoclase, but it is not clear that it is the primary control of zoning patterns.

### 7.3.2 Model 2: Externally Forced Crystal Growth – Temperature variations

Calkins et al. (2007) showed that the temperature of cooled slabs at the surface of the lava lake was approximately 500°C. It is possible that the extreme change in temperature at the surface of the lava lake creates a heat gradient, increasing downwards through the conduit. This is not likely though, as the temperature of the lava between

cooled slabs is consistently around 1000°C (Calkins et al., 2007). It is also unlikely that a temperature gradient exists between the center of the conduit and the conduit walls because the conduit is long lived and likely well insulated (Calkins et al., 2007).

Exsolution of a second feldspar has been shown to occur when temperatures fall below 700°C (Tuttle and Bowen, 1958). Since the temperature of cooled slabs is shown to be consistently lower than this temperature, and exsolution is not observed, it is reasonable to assume that crystallization of anorthoclase is not occurring to any significant degree at the surface of the lava lake. The lack of a second feldspar, and evidence of temperatures as high as 1000°C between cooled slabs at the surface of the lava lake make it unlikely that temperature variations affect crystallization patterns.

### 7.3.3 Model 3: Internal Organization of Crystal Growth Patterns

It has been previously mentioned that the favored environment for internal organization of crystallization patterns is an open system with a mass flux or temperature flux through the area of crystallization (Holten et al., 1997). Holten et al. (1997) does not clarify the need for such an environment, however, a mass or heat flux through the area of crystallization may be required to move the crystallizing mineral away from equilibrium for a time during which internal organization would dominate. The magmatic system at Erebus volcano has been referred to as open by many authors (Kyle, 1977; Eschenbacher, 1998; Calkins et al., 2007; Kelly et al. 2007). Calkins et al. (2007) has shown that there is a minimum mass flux of 201-353 kg/s required to support the sustained radiative heat flux from the lava lake.

Holten et al. (1997) suggests that in order for internal organization to occur it is necessary for the crystallizing phase be far from equilibrium. Growth itself is a non-equilibrium process; however, it would seem that if the crystallizing phase were continuously out of equilibrium with the magma it would not be able to form. Textures indicative of non-equilibrium conditions are ubiquitous within the anorthoclase samples imaged by X-ray mapping for this study. Embayed zone boundaries, patchy zones, and discontinuous zones demonstrate that resorption has taken place. Straight zone boundaries, the lack of previously mentioned textures, and an unknown amount of growth hiatuses demonstrate times during which anorthoclase is in equilibrium with its environment (see section 5.2 and Appendix E). Crystal imaging indicates that rather than being constantly out of equilibrium with the magma, the Erebus anorthoclase move episodically in and out of equilibrium.

Pearce and Kolisnik (1990) suggest that repetition is strong evidence for internal organization. Repetitive features may indicate growth by self organization because of the need for a feedback mechanism to instigate the repetition. Figure 5.4f is an excellent example of uniform repetitive zones in the anorthoclase crystals sampled for this study. Another example can be seen in Appendix E, Figure E.2.24. The repetitive zones seen in Figure 5.4f are  $\leq 100 \mu\text{m}$  in width and zone textures are dominantly patchy. Pearce and Kolisnik (1990) caution that zone boundaries may not represent time equivalent horizons, however, it is reasonable to assume that zone boundaries do represent an approximate time marker. Following this principle, repetition as shown here would require that a crystal go back and forth through an external gradient several times, or that

the composition of the magma in the area of growth change very quickly to create the patterns that are observed.

Two mechanisms for internal organization of growth patterns that have been suggested in the literature are chemical kinetics (boundary layer effects) and isothermal undercooling (L'Heureux and Fowler, 1996b). Shore and Fowler (1996) mention that the range of chemical variation in an oscillatory zoned mineral is strongly constrained by crystal chemistry and crystal-liquid equilibria. It is possible that in the case of internal organization a coupled chemical oscillator strongly influences the narrowness of that range. Melt inclusion data show that boundary layer formation may be important to the growth of Erebus anorthoclase samples (see Section 4.4). The formation of the boundary layer sampled by melt inclusions in sample eb05042b2 clearly influenced the composition of anorthoclase that grew following its formation. Boundary layer kinetics are therefore, at least in part, contributing to the composition of anorthoclase being crystallized, and therefore to the organization of crystallization patterns.

#### *7.4 Summary*

Magma degassing has been suggested by both Dunbar et al. (1994) and Kelly et al. (2007) to initiate anorthoclase growth and to effect crystal zoning patterns. This cannot be disputed at this time; however, it has been shown that internal organization of anorthoclase growth patterns may occur through intermittent boundary layer formation. The implications of this are that zoning patterns cannot be wholly attributed to convection through a degassing induced gradient, but may be significantly more complicated.

## 8. Conclusions

1.) Matrix glass analyses support the observations of previous authors, in showing that the composition of the lava lake is unchanging over both short and long periods of time. The movement of large quantities of gas and magma during the numerous eruptions of Erebus volcano in December 2005 did not effect the composition of the matrix glass sampled during that period.

2.) Melt inclusions sampled for this study cover the same range of compositions as matrix glass. Limited compositional variation based on location within host indicates that chemical boundary layers form intermittently during episodic crystal growth.

3.) X-ray maps of calcium and potassium distribution in anorthoclase samples show that zoning patterns are highly complicated on both large and small scales. Patchy zoning and embayed zone boundaries indicate that resorption is common. Small scale (tens of micrometers) repetition can be seen in some sections. Multiple sections from a single crystal, cut parallel to the c-axis for one crystal show widely different zoning patterns.

4.) Laser Ablation – Inductively Coupled Plasma – Mass Spectrometer analyses were shown to be inaccurate due to inconsistent ablation across the crystal profile. Closely spaced, parallel profiles were shown to have the same ablation patterns, indicating that the observed problems were not likely caused by the particular instrument. Further work should be done in order to understand the nature of the resistivity of the anorthoclase samples to laser ablation.

5.) Trace Element Diffusion modeling was applied to Erebus anorthoclase to determine the residence time of crystals. In order to improve the accuracy of these results it is important to use a highly accurate analytical method that is well suited to zoned anorthoclase samples. Analyses should avoid inclusions, and be closely spaced ( $\sim 5 \mu\text{m}$ ). Future studies should use a wider variety of sizes, having larger crystals available, such that the diffusion would have been able to take place for a longer period of time, making age estimations more accurate. Residence times determined for two crystals were on the order of several hundred years, but may be underestimates due to an unquantifiable amount of resorption. The most consistent results from BEDM were for section eb05027a2 (412-547yrs) and section eb05042b2 second scan (130-373yrs). An average growth rate estimate of  $1.4 \times 10^{-9} \text{ cm s}^{-1}$  is of a similar magnitude to other estimates of magmatic crystal growth rate implying that the BEDM residence time estimates are reasonable.

6.) Models of external forcing of crystal zoning patterns by either variations in temperature or convection through a degassing induced water gradient are not favored. The former because of the lack of a second feldspar variety which would be expected if temperatures fell below  $700^\circ\text{C}$ , and the second because of a lack of both experimental data and a relationship between the water content of anorthoclase hosted melt inclusions and their location within the crystal (Seaman et al. 2006).

7.) The presence of highly repetitive zoning patterns and growth in an open system with a mass flux through the area of crystallization, as well as melt inclusion evidence for the formation of chemical boundary layers indicates that self-organization is possibly a strong contributing factor in the formation of anorthoclase zoning. Future work should focus on modeling zoning patterns, and experimental studies of growth.



## References

- Allégre, C.J., Provost, A., Jaupart, C., 1981. Oscillatory zoning: a pathological case of crystal growth. *Nature*. 294, 223-228.
- Aster, R., McIntosh, W., Kyle, P., Esser, R., Bartel, B., Dunbar, N., McGowan, M., McNamara, S., Meertens, C., Pauly, B., Richmond, M., and Ruiz, M., 2004. Real-time data received from Mount Erebus Volcano, Antarctica. *EOS*. 85(10), 97-104.
- Caldwell, D.A., Kyle, P.R., 1994. Mineralogy and geochemistry of ejecta erupted from Mount Erebus, Antarctica, Between 1972 and 1986. In: P.R. Kyle (ed), *Volcanological and Environmental Studies of Mount Erebus, Antarctica*. *Antarct. Res.Ser.*, vol. 66, Am Geophys Union, Washington, D.C., 147-162.
- Calkins, J., Oppenheimer, C., Kyle, P.R., 2007. Ground-Based thermal imaging of phonolite lava lakes at Erebus Volcano, Antarctica. *Journal of Volcanology and Geothermal Research*. submitted.
- Cashman, K.V., 1992. Groundmass crystallization of Mount Saint Helens dacite, 1980-1986: a tool for interpreting shallow magmatic processes. *Contributions to Mineralogy and Petrology*. 109, 431-449.
- Cherniak, D.J., 1996. Strontium diffusion in sanidine and albite, and general comments on strontium diffusion in alkali feldspars. *Geochimica et Cosmochimica Acta*. 60(24), 5037-5043.
- Cherniak, D.J., 2002. Barium diffusion in feldspar. *Geochimica et Cosmochimica Acta*. 66(9), 1641-1650.
- Cherniak, D.J., Watson, E.B., 1992. A study of strontium diffusion in K-feldspar, Na-K feldspar and anorthite using Rutherford Backscattering Spectroscopy. *Earth and Planetary Science Letters*. 113, 411-425.
- Couch, S., Sparks, R.S.J., Carroll, M.R., 2001. Mineral disequilibrium in lavas explained by convective self-mixing in open magma chambers. *Nature*. 411, 1037-1039.
- Dunbar, N.W., Cashman, K.V. and Dupré, R., 1994. Crystallization processes of anorthoclase phenocrysts in the Mount Erebus magmatic system: evidence from crystal size distributions, and volatile contents of melt inclusions. In: P.R. Kyle (ed), *Volcanological and Environmental Studies of Mount Erebus, Antarctica*. *Antarct. Res.Ser.*, vol. 66, Am Geophys Union, Washington, D.C., 129-146.
- Dunbar, N.W., Jacobs, G.K., Naney, M.T., 1995. Crystallization processes in an artificial magma: variations in crystal shape, growth rate and composition with melt cooling history. *Contributions to Mineralogy and Petrology*. 120, 412-425.

- Eschenbacher, A.J., 1998. Open-system degassing of a fractionating, alkaline magma, Mount Erebus, Ross Island, Antarctica. Unpublished Masters Thesis. New Mexico Institute of Mining and Technology. Socorro, NM.
- Esser, R.P., Kyle, P.R., McIntosh, W.C., 2004.  $^{40}\text{Ar}/^{39}\text{Ar}$  dating of the eruptive history of Mount Erebus, Antarctica: Volcano evolution. *Bulletin of Volcanology*. 66(8), 671-686.
- Giggenbach, W.F., Kyle, P.R., Lyon, G.L., 1973. Present volcanic activity on Mount Erebus, Ross Island, Antarctica. *Geology*. 1(3), 135-136.
- Ginibre, C., Kronz, A., Worner, G., 2002. High-resolution quantitative imaging of plagioclase composition using accumulated backscattered electron images: new constraints on oscillatory zoning. *Contributions to Mineralogy and Petrology*. 142(4), 436-448.
- Ginibre, C., Worner, G., Kronz, A., 2004. Structure and dynamics of the Laacher See magma chamber (Eifel, Germany) from major and trace element zoning in sanidine: A cathodoluminescence and electron microprobe study. *Journal of Petrology*. 45(11), 2197-2223.
- Ginibre, C., Worner, G., Kronz, A., 2007. Crystal Zoning as an Archive for Magma Evolution. *Elements*. 3(4), 261-266.
- Halter, W.E., Pettke, T., Heinrich, C.A., 2004. Laser-ablation ICP-MS analysis of silicate and sulfide melt inclusions in an andesitic complex I: analytical approach and data evaluation. *Contributions to Mineralogy and Petrology*. 147, 385-396.
- Harlow, G.E., 1982. The anorthoclase structures - the effects of temperature and composition. *American Mineralogist*. 67, 975-996.
- Harpel, C.J., Kyle, P.R., Esser, R.P., McIntosh, W.C., Caldwell, D.A., 2004.  $^{40}\text{Ar}/^{39}\text{Ar}$  dating of the eruptive history of Mount Erebus, Antarctica: summit flows, tephra, and caldera collapse. *Bulletin of Volcanology*. 66, 687-702.
- Hasse, C.S, Chadam, J., Feinn, D., Ortoleva, P., 1980. Oscillatory zoning in plagioclase feldspar. *Science*. 209(4453), 272-274.
- Hattori, K., Sato, H., 1996. Magma evolution recorded in plagioclase zoning in 1991 Pinatubo eruption products. *American Mineralogist*. 81, 982-994.
- Holten, T., Jamtveit, B., Meakin, P., 2000. Noise and oscillatory zoning in minerals. *Geochimica et Cosmochimica Acta*. 64(11), 1893-1904.

- Holten, T., Jamtveit, B., Meakin, P., Cortini, M., Blundy, J., Austrheim, H., 1997. Statistical characteristics and origin of oscillatory zoning in crystals. *American Mineralogist*. 82, 596-606.
- Kelly, P.J., Kyle, P.R., Dunbar, N.W., Sims, K.W.W., 2007. Geochemistry and mineralogy of the phonolite lava lake, Erebus Volcano, Antarctica: 1974 to 2004 and comparison with older lavas. *Journal of Volcanology and Geothermal Research*. submitted.
- Kyle, P.R., 1977. Mineralogy and glass chemistry of recent volcanic ejecta from Mt Erebus, Ross Island, Antarctica. *N.Z. Journal of Geology and Geophysics*. 20(6), 1123-1146.
- Kyle, P., 1986. Volcanic activity of Mount Erebus, 1984-1986, *Antarctic Journal U.S.*, XXI, 7-8.
- Kyle, P.R., Moore, J.A., Thirlwall, M.F., 1992. Petrologic evolution of anorthoclase phonolite lavas at Mount Erebus, Ross Island, Antarctica. *Journal of Petrology*. 33(4), 849-875.
- Larsen, J.F., 2005. Experimental study of plagioclase rim growth around anorthite seed crystals in rhyodacitic melt. *American Mineralogist*. 90(2-3), 417-427.
- LeBas, M.J., LeMaitre, R.W., Streckeisen, A., Zanettin, B., 1986. A chemical classification of volcanic rocks based on the total alkali silica diagram. *Journal of Petrology*. 27, 745-750.
- L'Heureux, I., Fowler, A.D., 1996a. Dynamical model of oscillatory zoning in plagioclase with non-linear partition relation. *Geophysical Research Letters*. 23(1), 17-20.
- L'Heureux, I., Fowler, A.D., 1996b. Isothermal constitutive undercooling as a model for oscillatory zoning in plagioclase. *The Canadian Mineralogist*. 34, 1137-1147.
- Lowenstern, J.B., 1995. Applications of silicate-melt inclusions to the study of magmatic volatiles. In: J.F.A. Thompson (ed), *Magmas, Fluids, and Ore Deposits*. Mineralogical Association of Canada Short Course. 23, 71-99.
- Mason, R.A., Smith, J.V., Dawson, J.B., Treves, S.B., 1982. A reconnaissance of trace-elements in anorthoclase megacrysts. *Mineralogical Magazine*. 46(338), 7-11.
- Morgan, D. J., Blake, S., 2006. Magmatic residence times of zoned phenocrysts: introduction and application of the binary element diffusion modeling (BEDM) technique. *Contributions to Mineralogy and Petrology*. 151, 58-70.

- Nielsen, C.H., Sigurdsson, H., 1981. Quantitative methods for electron microprobe analysis of sodium in natural and synthetic glasses. *American Mineralogist*. 66, 547-552.
- Pearce, T.H., 1994. Recent work on oscillatory zoning in plagioclase. In: I. Parson (ed), *Feldspars and Their Reactions*. Kluwer Academic Publishers. Netherlands. 313-340.
- Pearce, T.H., Kolisnik, A.M., 1990. Observations of plagioclase zoning using interference imaging. *Earth-Science Reviews*. 29(1-4), 9-26.
- Qin, Z.W., Lu, F.Q., Anderson, A.T., 1992. Diffusive reequilibration of melt and fluid inclusions. *American Mineralogist*. 77(5-6), 565-576.
- Reagan, M.K., Volpe, A.M., Cashman, K.V., 1992.  $^{238}\text{U}$ - and  $^{232}\text{Th}$ -series chronology of phonolite fractionation at Mount Erebus, Antarctica. *Geochimica et Cosmochimica Acta*. 56, 1401-1407.
- Scott, S.K., 1994. *Oscillation, waves, and chaos in chemical kinetics*. Oxford University Press. Oxford.
- Seaman, S.J., Dyar, M.D., Marinkovic, N., Dunbar, N.W., 2006. An FTIR study of hydrogen in anorthoclase and associated melt inclusions. *American Mineralogist*. 91(1), 12-20.
- Shore, M., Fowler, A.D., 1996. Oscillatory zoning in minerals: A common phenomenon. *Canadian Mineralogist*. 34, 1111-1126.
- Singer, B.S., Dungan, M.A., Layne, G.D., 1995. Textures and Sr, Ba, Mg, Fe, K, and Ti compositional profiles in volcanic plagioclase: clues to the dynamics of calc-alkaline magma chambers. *American Mineralogist*. 80, 776-798.
- Spilliaert, N., Allard, P., Métrich, N., Sobolev, A.V., 2006. Melt inclusions record of the conditions of ascent, degassing, and extrusion of volatile-rich alkali basalt during the powerful 2002 flank eruption of Mount Etna (Italy). *Journal of Geophysical Research*, 111, B04203 1-19.
- Tuttle, O.F., Brown N.L., 1958. Origin of granite in the light of experimental studies in the system  $\text{NaAlSi}_3\text{O}_8$ - $\text{KAlSi}_3\text{O}_8$ - $\text{SiO}_2$ - $\text{H}_2\text{O}$ . The Geological Society of America Memoir Series. Vol 74. The Geological Society of America. New York.
- Wallace, G.S., Bergantz, G.W., 2002. Wavelet-based correlation (WBC) of zoned crystal populations and magma mixing. *Earth and Planetary Science Letters*. 202(1), 133-145.

- Wallace, G.S., Bergantz, G.W., 2005. Reconciling heterogeneity in crystal zoning data: An application of shared characteristic diagrams at Chaos Crags, Lassen Volcanic Center, California. *Contributions to Mineralogy and Petrology*. 149, 98-112.
- Wallace, P.J., Anderson, A.T. Jr., Davis, A.M., 1999. Gradients in H<sub>2</sub>O, CO<sub>2</sub>, and exsolved gas in a large-volume silicic magma system: Interpreting the record preserved in melt inclusions from the Bishop Tuff. *Journal of Geophysical Research*. 104 (B9), 20097-20122.
- Wallace, P.J., 2005. Volatiles in subduction zone magmas: concentrations and fluxes based on melt inclusion and volcanic gas data. *Journal of Volcanology and Geothermal Research*. 140, 217-240.
- Zellmer, G.F., Blake, S., Vance, D., Hawkesworth, C., Turner, S., 1999. Plagioclase residence times at two island arc volcanoes (Kameni Islands, Santorini, and Soufriere, St Vincent) determined by Sr diffusion systematics. *Contributions to Mineralogy and Petrology*. 136, 345-357.
- Zellmer, G.F., Clavero, J.E., 2006. Using trace element correlation patterns to decipher a sanidine crystal growth chronology: An example from Taapaca volcano, Central Andes. *Journal of Volcanology and Geothermal Research*. 156, 291-301.

## Appendix A: Analytical Electron Microprobe

**Table A.1** Electron Microprobe Instrument Settings

Material	Analysis Type	Settings:
Matrix Glass	Quantitative Points	Beam size: 20 - 25µm Accelerating potential: 15 kV Beam current: 10 nA*
Melt Inclusions	Quantitative Points	Beam size: 10 - 25 µm Accelerating potential: 15 kV Beam current: 10 nA
Anorthoclase	Quantitative Points	Beam size: 10µm Accelerating potential: 15 kV Beam current: 20 nA
	Line Scans	Beam size: 1µm Accelerating potential: 15 kV Spectrometer 1: crystal = PET element = Ca Spectrometer 2: crystal = TAP element = Na Spectrometer 3: crystal = LPET element = K Beam current: 20 nA
	X-ray Mapping	Beam size: 0 µm Accelerating potential: 15 kV Spectrometer 1: crystal = PET element = Ca Spectrometer 2: crystal = TAP element = Si Spectrometer 3: crystal = LPET element = K Resolution: 1024 X 768 Dwell time: 12 ms Beam current: 50 nA
	BSE Images	Beam size: 0 µm Accelerating potential: 15 kV Beam current: 50 nA

\* nA = nano-Amps

**Table A.2:** Electron Microprobe Standard Analyses

n	Accepted Measured			Accepted Measured			Accepted Measured			Accepted Measured		
	<b>KN-18</b>	KN-18		<b>VG-568</b>	VG-568		<b>Orthoclase</b>	Orthoclase		<b>Albite</b>	Albite	
		18	1 $\sigma$		18	1 $\sigma$		30	1 $\sigma$		30	1 $\sigma$
SiO <sub>2</sub>	<b>74.60</b>	74.73	0.38	<b>76.71</b>	76.39	0.44	<b>64.79</b>	64.63	0.50	<b>68.24</b>	68.72	0.27
TiO <sub>2</sub>	<b>0.18</b>	0.16	0.03	<b>0.12</b>	0.09	0.04						
Al <sub>2</sub> O <sub>3</sub>	<b>10.53</b>	10.65	0.09	<b>12.06</b>	12.05	0.17	<b>16.72</b>	16.84	0.29	<b>19.90</b>	20.35	0.14
*FeO	<b>3.45</b>	3.54	0.18	<b>1.23</b>	1.14	0.06	<b>1.88</b>	1.81	0.08		0.01	0.02
MnO	<b>0.06</b>	0.06	0.02	<b>0.03</b>	0.02	0.03						
MgO	<b>0.01</b>	0.00	0.01		0.02	0.01						
CaO	<b>0.15</b>	0.17	0.06	<b>0.50</b>	0.44	0.02		0.00	0.01	<b>0.03</b>	0.02	0.02
Na <sub>2</sub> O	<b>5.68</b>	5.78	1.04	<b>3.75</b>	4.24	0.30	<b>0.91</b>	0.94	0.03	<b>11.94</b>	11.85	0.12
K <sub>2</sub> O	<b>4.39</b>	4.63	0.11	<b>4.89</b>	5.07	0.11	<b>15.49</b>	15.49	0.12	<b>0.04</b>	0.02	0.01
P <sub>2</sub> O <sub>5</sub>		0.00	0.02		0.00	0.03						
SO <sub>2</sub>		0.01	0.02		0.00	0.01						
BaO							<b>0.05</b>	0.09	0.04		0.01	0.04
SrO								0.01	0.02		0.01	0.02
F		1.34	3.13		0.18	0.09						
Cl		0.31	0.02		0.10	0.01						

n = number of analyses, \*FeO = Total Fe

## **Appendix B: Analytical Laser Ablation-Inductively Coupled Plasma-Mass Spectrometry (LA-ICP-MS)**

B.1 LA-ICP-MS Analytical Procedures

B.2 LA-ICP-MS Analytical Settings

B.3 LA-ICP-MS Standard and Background Analyses

B.4 Possible Mass Interferences

B.5 Calibration Procedures



## Appendix B.1: LA-ICP-MS Analytical Procedures

Anorthoclase transects were collected with LA-ICP-MS by continuously ablating the sample along a predetermined line with a focused laser 30  $\mu\text{m}$  in diameter and resulting in an approximately 20  $\mu\text{m}$  wide burn. The ablated material was aspirated into the mass spectrometer along with a background fluid hereafter referred to as a blank. The blank contained distilled water and 11 ppb indium (In). The purpose of the indium blank is to provide a measure of machine drift without the use of standards; indium is used because it is not an element found in anorthoclase. Most workers prefer to measure a standard every two or three points during a session requiring that the standard be readily accessible; however, our standards could not be placed in the machine at the same time as the sample because of space restrictions. All isotopes measurements were ratioed to the indium measurements to remove drift effects after background measurements were subtracted.

## Appendix B.2: LA-ICP-MS Analytical Settings

**Table B.1** LA-ICP-MS Instrument Settings

Material	Analysis Type	Settings:
Anorthoclase	Continuous Transect	Spot Size: 30 $\mu\text{m}$ Scan Rate: 6 $\mu\text{m s}^{-1}$ Output: 100% Time per Run: 1.99 s No. of Runs: variable

## Appendix B.3: LA-ICP-MS Standard Analyses and Background Values

**Table B.2** LA-ICP-MS Standard Analyses

	Accepted Values		Measured Intensity	
	<i>KAN-1</i>	<i>PSU Or-1A</i>	<i>KAN-1</i>	<i>PSU-Or-1A</i>
<i>SiO<sub>2</sub></i> (wt%)	<b>66.31</b>	<b>63.62</b>		
<i>Al<sub>2</sub>O<sub>3</sub></i>	<b>20.55</b>	<b>19.24</b>		
<i>Fe<sub>2</sub>O<sub>3</sub></i>	<b>0.15</b>			
<i>MgO</i>			<i>Mg<sup>25</sup></i>	4487
<i>CaO</i>	<b>0.57</b>		<i>Ca<sup>43</sup></i>	12790
<i>Na<sub>2</sub>O</i>	<b>9.51</b>	<b>1.04</b>		6721
<i>K<sub>2</sub>O</i>	<b>2.54</b>	<b>15.01</b>		
<i>TiO<sub>2</sub></i>			<i>Ti<sup>47</sup></i>	12725
				696
<i>Ba</i> (ppm)	<b>840.00</b>	<b>1.03 (wt%)</b>	<i>Ba<sup>138</sup></i>	565165
<i>Rb</i>			<i>Rb<sup>85</sup></i>	4480545
				20583
<i>Sr</i> (ppm)	<b>2780.00</b>	<b>0.07 (wt%)</b>	<i>Sr<sup>88</sup></i>	218406
				1411827
				221017

KAN – Kakanui anorthoclase, PSU-Or-1A – Penn State University Orthoclase

**Table B.3** LA-ICP-MS Average Background Values

Isotope	Intensity
<b>Mg<sup>25</sup></b>	5098
<b>Ca<sup>43</sup></b>	4209
<b>Ti<sup>47</sup></b>	3588
<b>Ti<sup>49</sup></b>	619
<b>Rb<sup>85</sup></b>	2082
<b>Sr<sup>88</sup></b>	6745
<b>Ba<sup>138</sup></b>	5642

## Appendix B.4 Possible Mass Interferences

**Table B.4** Possible mass interferences for the isotopes analyzed in this study using an LA-ICP-MS (S. Birdwhistel, 2007, pers. comm.).

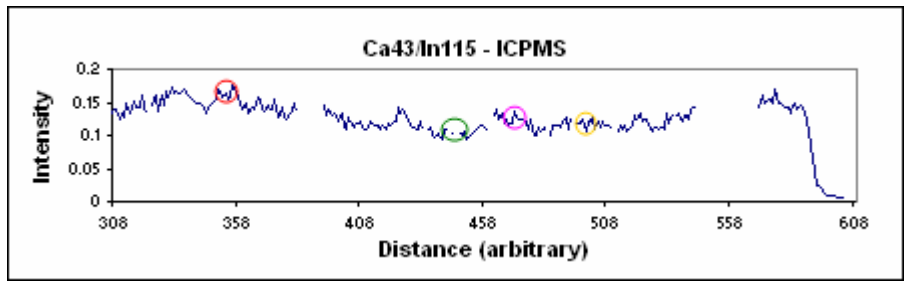
Isotope	Possible Interferences
$^{26}\text{Mg}$	$^{52}\text{Cr}^{++}$ , $^{10}\text{B}^{16}\text{O}$
$^{43}\text{Ca}$	$^{86}\text{Sr}^{++}$ , $^{86}\text{Kr}^{++}$ , $^{27}\text{Al}^{16}\text{O}$
$^{47}\text{Ti}$	$^{93}\text{Nb}^{++}$ , $^{94}\text{Mo}^{++}$ , $^{94}\text{Zr}^{++}$ , $^{31}\text{P}^{16}\text{O}$ , $^{11}\text{B}^{36}\text{Ar}$
$^{49}\text{Ti}$	$^{97}\text{Mo}^{++}$ , $^{98}\text{Ru}^{++}$ , $^{98}\text{Mo}^{++}$ , $^{33}\text{S}^{16}\text{O}$
$^{85}\text{Rb}$	$^{169}\text{Tm}^{++}$ , $^{47}\text{Ti}^{38}\text{Ar}$ , $^{49}\text{Ti}^{36}\text{Ar}$ , $^{45}\text{Sc}^{40}\text{Ar}$
$^{88}\text{Sr}$	$^{175}\text{Lu}^{++}$ , $^{50}\text{Ti}^{38}\text{Ar}$ , $^{52}\text{Cr}^{36}\text{Ar}$ , $^{48}\text{Ti}^{40}\text{Ar}$ , $^{48}\text{Cr}^{40}\text{Ar}$
$^{138}\text{Ba}$	$^{138}\text{Ce}$ , $^{122}\text{Sn}^{16}\text{O}$ , $^{120}\text{Sn}^{18}\text{O}$

## Appendix B.5 LA-ICP-MS Calibration Procedures

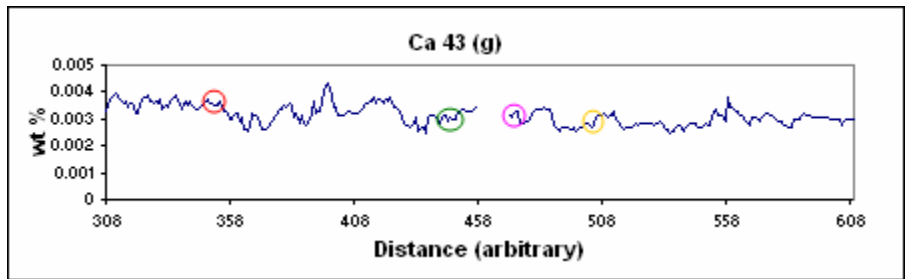
L- ICP-MS isotopic measurements are given as intensities; the intensity of the measured isotope is then related to the actual amount of that isotope in the sample. In order make a comparison to other studies it is necessary to convert intensities to concentrations. This section is a discussion of the method used in this study to calibrate LA ICP-MS intensities using EMP data.

Parallel  $^{43}\text{Ca}$  transects of crystal eb05042b2 from LA-ICP-MS and EMP (measured as oxide) are shown below (Figures B.1 and B.2 respectively); these profiles are used to demonstrate the calibration process. Although the far left side of the scans does not agree well the rest of the profile does and is the portion used for the calibration. The LA-ICP-MS profile is given as Ca43/In115 as discussed in section B.1. Three points

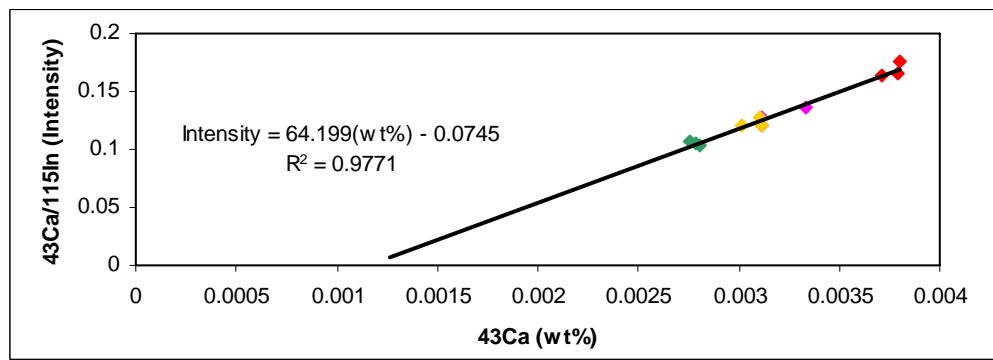
are selected from areas in each profile which can be visually correlated; the points selected from each scan are then plotted against each other in order to find a best fit relationship (Fig. B.3). The areas used for eb05042b2 calibration are shown circled on Figures B.1 and B.2.



**Figure B. 1**  $^{43}\text{Ca}/^{115}\text{In}$  profile of crystal section eb05042b2 as measured by LAICPMS. Circles represent areas from which data points were selected for calibration.



**Figure B. 2**  $^{43}\text{Ca}$  profile of crystal section eb05042b2 as measured by EMP. Circles represent areas from which data points were selected for calibration.



**Figure B. 3** Relationship between  $^{43}\text{Ca}$  measured by LAICPMS and by EMP. Colored symbols on this plot correspond to the circled located in Figures B.1 and B.2.

A plot of the  $^{43}\text{Ca}/^{115}\text{In}$  measured by LA-ICP-MS against  $^{43}\text{Ca}$  measured by EMP reveals a linear relationship. Using a linear conversion will also retain the relative changes which are the most important for use with Trace Element Diffusion Modeling.

$$(\text{CaO wt\%}) = ([(\text{Ca}^{43}/\text{In}^{115} \text{ int}) + 0.00745] / 64.199) / .00135 \quad (\text{Eq. B.1})$$

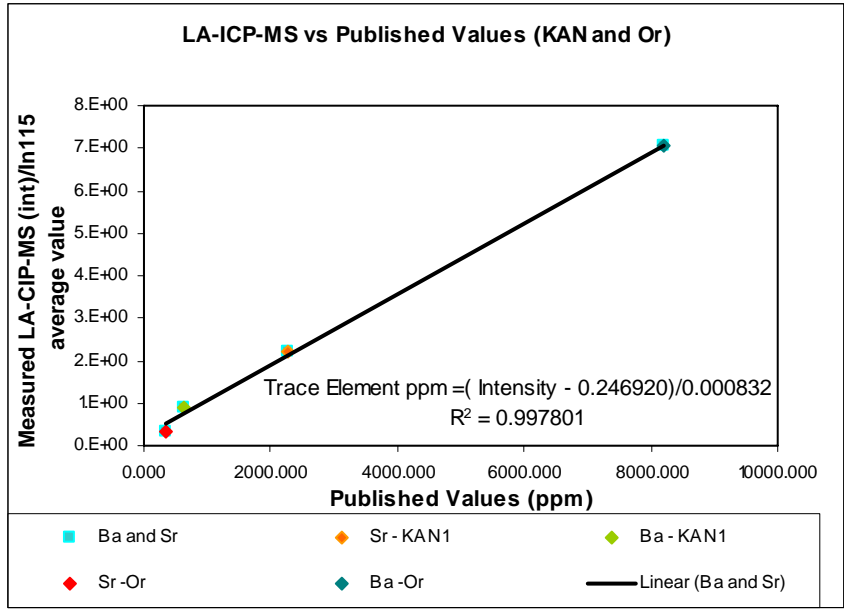
The concentrations of SrO and BaO are then calculated using the relationships between Ca and the trace element in both EMP and ICPMS, and rearranged such that the final value is calculated using only the measured intensities (Eqs. B.2 and B.3)

$$(\text{SrO ppm}) = \frac{[(\text{Sr}^{88}/\text{In}^{115} \times 0.024306) + 0.0745]}{(64.199 \times 0.0156 \times 0.8258 \times 87.62)} \times (103.62 \times 10000) \quad (\text{Eq. B.2})$$

$$(\text{BaO ppm}) = \frac{[(\text{Ba}^{138}/\text{In}^{115} \times 0.001979) + 0.0745]}{(64.199 \times 0.0135 \times 0.717 \times 137.34)} \times (153.34 \times 10000) \quad (\text{Eq. B.3})$$

The calibration equations derived above are used for all LA-ICP-MS scans to maintain continuity. Although the equations may over or underestimate exact values, it is the relative changes that are necessary for our purposes, and a linear calibration such as this maintains that relativity.

A calibration using standard analyses was considered; however, it was found that a calibration using the standards grossly overestimated expected values by several thousand ppm. That calibration was done using the relationship shown in Figure B.4. In order to use the indium ratios it was necessary to divide the standard analyses by an average indium value from crystal scans because indium was not measured during the standards analyses which were made before the indium method was employed.



**Figure B.4** Relationship found from calibration using standard analyses.

## Appendix C: Lava Bomb Sample Information

**Table C.1** Locations and eruption times for lava bombs collected during the 2005-2006 and 2006-2007 antarctic field seasons.

Sample	GPS (UTM)	Eruption Date (loc/UT)	Eruption Time (loc/UT)
eb05001	58 C 0552455 1393871	2005-2006 eruption date unknown	N/A N/A
eb05002	58 C 0552524 1393601	2005-2006 eruption date unknown	N/A N/A
eb05003	N/A	? 3-Dec-05 2-Dec-05	9:21 20:21
eb05004	N/A	2005-2006 eruption date unknown	N/A N/A
eb05005	N/A	3-Dec-05 3-Dec-05	23:32 10:32
eb05006	N/A	9-Dec-05 8-Dec-05	11:05 22:05
eb05007	N/A	11-Dec-05 11-Dec-05	13:00 0:00
eb05008	58 C 0552496 1393389	9-Dec-05 8-Dec-05	11:05 22:05
eb05009	58 C 0552472 1393299	11-Dec-05 11-Dec-05	13:00 0:00
eb05010	58 C 0552495 1393258	11-Dec-05 11-Dec-05	13:00 0:00
eb05011	58 C 0551863 1393684	12-Dec-05 11-Dec-05	N/A N/A
eb05012	58 C 0552024 1394013	12-Dec-05 11-Dec-05	4:50 15:50
eb05013	58 C 0551862 1393687	13-Dec-05 13-Dec-05	17:29 4:49
eb05014	N/A	13-Dec-05 13-Dec-05	17:29 4:49
eb05015	58 C 0554185 1340022	15-Dec-05 14-Dec-05	0:48 11:48
eb05016	58 C 0556819 1337743	17-Dec-05 17-Dec-05	17:28 4:28
eb05017	58 C 0551968 1393678	17-Dec-05 17-Dec-05	21:48 8:48
eb05018	58 C 0551930 1393704	N/A	N/A N/A
eb05019	58 C 0551910 1393720	N/A	N/A N/A
eb05020	58 C 0552369 1393305	17-Dec-05	N/A N/A
eb05021	58 C 0552541 1393359	N/A	N/A N/A
eb05022	58 C 0551988 1393592	21-Dec-05 20-Dec-05	10:22 21:22

**Table C.1 cont.**

Sample	GPS (UTM)	Eruption Date (loc/UT)	Eruption Time (loc/UT)
eb05023	58 C 0552034	21-Dec-05	10:22
	1393637	20-Dec-05	21:22
eb05024	58 C 0552076	21-Dec-05	10:22
	1393701	20-Dec-05	21:22
eb05025*	58 C 0551910	25-Dec-05	13:43
	1393810	25-Dec-05	0:43
eb05026*	58 C 0551805	25-Dec-05	13:43
	1393856	25-Dec-05	0:43
eb05027	58 C 0551912	25-Dec-05	7:15
	1393761	24-Dec-05	18:45
eb05028	58 C 0552048	25-Dec-05	7:15
	1393726	24-Dec-05	18:45
eb05029	58 C 0552036	25-Dec-05	13:43
	1393745	25-Dec-05	0:43
eb05030	58 C 0551996	25-Dec-05	13:43
	1393730	25-Dec-05	0:43
eb05031	58 C 0552492	26-Dec-05	9:09
	1393370	25-Dec-05	20:09
eb05032	58 C 0552465	26-Dec-05	9:09
	1393385	25-Dec-05	20:09
eb05033	58 C 0551954	27-Dec-05	4:57
	1393677	26-Dec-05	15:57
eb05034	58 C 0551942	27-Dec-05	4:57
	1393718	26-Dec-05	15:57
eb05035	58 C 0552088	28-Dec-05	17:09
	1393910	28-Dec-05	4:09
eb05036	58 C 0551975	25-Dec-05	13:43
	1399779	25-Dec-05	0:43
eb05037	58 C 0552083	29-Dec-05	14:23
	1393758	29-Dec-05	1:23
eb05038	58 C 0552219	29-Dec-05	14:23
	1393839	29-Dec-05	1:23
eb05039	58 C 0552429	31-Dec-05	9:41
	1393275	30-Dec-05	20:41
eb05040	58 C 0552217	30-Dec-05	18:36
	1393860	30-Dec-05	5:36
eb05041	58 C 0552227	31-Dec-05	23:55
	1393917	31-Dec-05	10:55
eb05042	58 C 0552196	31-Dec-05	23:55
	1394037	31-Dec-05	10:55



**Table C.1 cont.**

Sample	GPS (UTM)	Eruption Date (loc/UT)	Eruption Time (loc/UT)
eb0601	N/A N/A	Nov/Dec-06	N/A N/A
eb0602	N/A N/A	Nov/Dec-06	N/A N/A
eb0603	N/A N/A	Nov/Dec-06	N/A N/A
eb0604	58 C 0552022 1393607	Dec-06	N/A N/A
eb0605	58 C 0552104 1393690	10-Dec-06	N/A N/A
eb0606	58 C 0552356 1393390	Dec-06	N/A N/A

## Appendix D: Matrix Glass and Melt Inclusion Analyses

### Appendix D.1: Matrix Glass Analyses by EMP

**Table D.1.1** : Average EMP analyses of Matrix Glass from lava bombs Erupted from Erebus Volcano

<i>Sample</i>	<i>eb05001</i>		<i>eb05003</i>		<i>eb05004</i>		<i>eb05006</i>		<i>eb05007</i>		<i>eb05008</i>	
<i>n</i>	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$
SiO <sub>2</sub>	55.81	0.26	55.69	0.26	55.93	0.28	56.09	0.28	55.55	0.26	55.82	0.26
TiO <sub>2</sub>	1.03	0.08	1.03	0.08	1.01	0.08	1.03	0.08	0.97	0.08	1.01	0.08
Al <sub>2</sub> O <sub>3</sub>	19.59	0.30	19.63	0.30	19.49	0.30	19.48	0.30	19.40	0.19	19.63	0.30
FeO	5.43	0.25	5.47	0.25	5.17	0.24	5.18	0.25	5.75	0.25	5.49	0.25
MgO	0.85	0.07	0.86	0.07	0.84	0.07	0.84	0.07	0.85	0.07	0.87	0.07
MnO	0.28	0.05	0.28	0.05	0.24	0.05	0.26	0.05	0.27	0.05	0.29	0.05
CaO	1.94	0.10	1.95	0.10	1.93	0.10	1.93	0.10	1.90	0.10	1.94	0.10
Na <sub>2</sub> O	8.55	0.67	8.58	0.67	8.96	0.71	8.93	0.71	8.86	0.27	8.54	0.66
K <sub>2</sub> O	5.65	0.41	5.73	0.42	5.63	0.41	5.56	0.40	5.64	0.25	5.66	0.41
P <sub>2</sub> O <sub>5</sub>	0.30	0.05	0.30	0.06	0.30	0.05	0.30	0.06	0.31	0.06	0.27	0.05
SO <sub>2</sub>	0.11	0.03	0.08	0.03	0.08	0.04	0.07	0.04	0.08	0.03	0.08	0.03
F	0.22	0.20	0.24	0.21	0.24	0.21	0.19	0.22	0.26	0.21	0.22	0.21
Cl	0.24	0.04	0.17	0.04	0.16	0.04	0.16	0.04	0.16	0.04	0.19	0.04
	100.00		100.00		100.00		100.00		100.00		100.00	
<i>Sample</i>	<i>eb05009</i>		<i>eb05010</i>		<i>eb05012</i>		<i>eb05014</i>		<i>eb05017</i>		<i>eb05018</i>	
<i>n</i>	10	1 $\sigma$	11	1 $\sigma$	10	1 $\sigma$	50	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$
SiO <sub>2</sub>	55.73	0.26	56.06	0.28	55.48	0.26	55.53	0.26	55.94	0.28	55.52	0.26
TiO <sub>2</sub>	0.99	0.08	1.01	0.08	1.00	0.08	1.00	0.08	1.01	0.08	1.02	0.08
Al <sub>2</sub> O <sub>3</sub>	19.68	0.30	19.61	0.30	19.61	0.30	19.45	0.25	19.45	0.30	19.67	0.30
FeO	5.41	0.25	5.12	0.24	5.54	0.26	5.52	0.24	5.17	0.24	5.48	0.25
MgO	0.87	0.07	0.84	0.06	0.87	0.07	0.85	0.07	0.85	0.07	0.87	0.07
MnO	0.27	0.05	0.24	0.05	0.29	0.05	0.28	0.05	0.26	0.05	0.27	0.05
CaO	1.95	0.10	1.91	0.10	1.96	0.10	1.90	0.10	1.88	0.10	1.95	0.10
Na <sub>2</sub> O	8.68	0.67	8.85	0.71	8.82	0.69	8.97	0.52	9.02	0.72	8.78	0.68
K <sub>2</sub> O	5.67	0.41	5.59	0.41	5.66	0.41	5.71	0.34	5.63	0.41	5.67	0.41
P <sub>2</sub> O <sub>5</sub>	0.30	0.05	0.29	0.05	0.32	0.06	0.30	0.05	0.30	0.06	0.29	0.05
SO <sub>2</sub>	0.07	0.03	0.09	0.04	0.08	0.03	0.08	0.03	0.09	0.04	0.07	0.03
F	0.21	0.21	0.24	0.22	0.21	0.21	0.25	0.21	0.24	0.21	0.25	0.21
Cl	0.18	0.04	0.16	0.04	0.16	0.04	0.15	0.04	0.16	0.04	0.16	0.04
	100.00		100.00		100.00		100.00		100.00		100.00	
<i>Sample</i>	<i>eb05019</i>		<i>eb05020</i>		<i>eb05021</i>		<i>eb05023</i>		<i>eb05024</i>		<i>eb05025</i>	
<i>n</i>	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$	9	1 $\sigma$	10	1 $\sigma$
SiO <sub>2</sub>	55.92	0.28	55.57	0.26	55.51	0.26	55.65	0.26	55.91	0.25	55.52	0.26
TiO <sub>2</sub>	0.98	0.08	0.98	0.08	0.96	0.08	1.01	0.08	0.98	0.08	1.02	0.08
Al <sub>2</sub> O <sub>3</sub>	19.40	0.30	19.45	0.19	19.43	0.19	19.70	0.30	19.79	0.29	19.77	0.30
FeO	5.23	0.25	5.71	0.25	5.75	0.25	5.45	0.25	5.41	0.24	5.45	0.25
MgO	0.82	0.07	0.84	0.07	0.86	0.07	0.85	0.07	0.84	0.07	0.86	0.07
MnO	0.26	0.05	0.28	0.05	0.27	0.05	0.28	0.05	0.28	0.05	0.26	0.05
CaO	1.92	0.10	1.90	0.10	1.92	0.10	1.90	0.10	1.90	0.10	1.96	0.10
Na <sub>2</sub> O	8.96	0.71	8.84	0.27	8.91	0.27	8.65	0.67	8.42	0.63	8.68	0.67
K <sub>2</sub> O	5.76	0.42	5.66	0.25	5.61	0.25	5.69	0.41	5.69	0.40	5.68	0.41
P <sub>2</sub> O <sub>5</sub>	0.28	0.05	0.30	0.05	0.30	0.06	0.30	0.06	0.28	0.05	0.30	0.05
SO <sub>2</sub>	0.08	0.04	0.08	0.03	0.08	0.03	0.09	0.03	0.09	0.03	0.07	0.03
F	0.23	0.22	0.24	0.22	0.25	0.23	0.22	0.21	0.24	0.21	0.27	0.21
Cl	0.15	0.04	0.16	0.04	0.16	0.04	0.20	0.04	0.18	0.04	0.16	0.04
	100.00		100.00		100.00		100.00		100.00		100.00	

**Table D.1.1 cont.**

<i>Sample</i>	<i>eb05026</i>		<i>eb05027</i>		<i>eb05028</i>		<i>eb05029</i>		<i>eb05030</i>		<i>eb05031</i>	
<i>n</i>	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$
SiO <sub>2</sub>	55.65	0.26	55.54	0.26	55.64	0.26	55.84	0.26	55.87	0.26	56.17	0.28
TiO <sub>2</sub>	0.99	0.08	0.98	0.08	0.99	0.08	0.96	0.08	1.01	0.08	1.04	0.08
Al <sub>2</sub> O <sub>3</sub>	19.58	0.30	19.41	0.19	19.61	0.30	19.51	0.19	19.87	0.30	19.47	0.30
FeO	5.47	0.26	5.70	0.25	5.45	0.25	5.72	0.25	5.48	0.25	5.18	0.25
MgO	0.84	0.07	0.86	0.07	0.86	0.07	0.85	0.07	0.83	0.07	0.86	0.07
MnO	0.28	0.05	0.30	0.05	0.27	0.05	0.27	0.05	0.28	0.05	0.26	0.05
CaO	1.96	0.10	1.85	0.10	1.93	0.10	1.90	0.10	1.88	0.10	1.91	0.10
Na <sub>2</sub> O	8.71	0.67	8.94	0.27	8.75	0.68	8.53	0.26	8.28	0.64	8.69	0.69
K <sub>2</sub> O	5.70	0.41	5.66	0.25	5.74	0.42	5.66	0.25	5.77	0.42	5.64	0.41
P <sub>2</sub> O <sub>5</sub>	0.28	0.06	0.31	0.06	0.30	0.05	0.28	0.05	0.27	0.05	0.31	0.06
SO <sub>2</sub>	0.09	0.03	0.08	0.03	0.08	0.03	0.08	0.03	0.08	0.03	0.08	0.04
F	0.19	0.22	0.21	0.21	0.23	0.21	0.23	0.22	0.21	0.21	0.24	0.22
Cl	0.27	0.05	0.16	0.04	0.16	0.04	0.17	0.04	0.17	0.04	0.16	0.04
	100.00		100.00		100.00		100.00		100.00		100.00	
<i>Sample</i>	<i>eb05032</i>		<i>eb05034</i>		<i>eb05035</i>		<i>eb05036</i>		<i>eb05037</i>		<i>eb05039</i>	
<i>n</i>	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$
SiO <sub>2</sub>	55.61	0.26	55.63	0.26	55.41	0.26	55.62	0.26	55.55	0.26	55.61	0.26
TiO <sub>2</sub>	0.98	0.08	1.02	0.08	1.01	0.08	0.98	0.08	0.97	0.08	1.02	0.08
Al <sub>2</sub> O <sub>3</sub>	19.40	0.19	19.65	0.30	19.68	0.30	19.40	0.19	19.46	0.19	19.65	0.30
FeO	5.78	0.26	5.52	0.25	5.51	0.25	5.71	0.25	5.76	0.26	5.51	0.26
MgO	0.84	0.07	0.87	0.07	0.87	0.07	0.86	0.07	0.86	0.07	0.86	0.07
MnO	0.29	0.05	0.29	0.05	0.27	0.05	0.28	0.05	0.29	0.05	0.28	0.05
CaO	1.93	0.10	1.95	0.10	1.95	0.10	1.92	0.10	1.92	0.10	1.97	0.10
Na <sub>2</sub> O	8.83	0.27	8.65	0.67	8.80	0.68	8.83	0.27	8.89	0.27	8.66	0.67
K <sub>2</sub> O	5.57	0.25	5.65	0.41	5.70	0.41	5.66	0.25	5.60	0.25	5.67	0.41
P <sub>2</sub> O <sub>5</sub>	0.28	0.06	0.30	0.06	0.32	0.06	0.29	0.06	0.30	0.06	0.31	0.06
SO <sub>2</sub>	0.08	0.03	0.07	0.03	0.09	0.03	0.08	0.03	0.07	0.03	0.09	0.03
F	0.24	0.22	0.24	0.22	0.22	0.22	0.21	0.21	0.20	0.42	0.22	0.21
Cl	0.16	0.04	0.16	0.04	0.18	0.05	0.16	0.04	0.15	0.04	0.15	0.04
	100.00		100.00		100.00		100.00		100.00		100.00	
<i>Sample</i>	<i>eb05040</i>		<i>eb05041</i>		<i>eb06001</i>		<i>eb0604</i>		<i>eb0606</i>		<i>eb0607</i>	
<i>n</i>	10	1 $\sigma$	10	1 $\sigma$	9	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$	10	1 $\sigma$
SiO <sub>2</sub>	55.60	0.26	56.25	0.28	55.63	0.25	55.51	0.25	55.37	0.25	55.52	0.25
TiO <sub>2</sub>	0.99	0.08	1.02	0.08	1.01	0.08	0.98	0.08	0.97	0.08	1.04	0.08
Al <sub>2</sub> O <sub>3</sub>	19.37	0.19	19.48	0.30	19.66	0.28	19.54	0.16	19.46	0.16	19.54	0.16
FeO	5.76	0.25	5.18	0.24	5.49	0.24	5.56	0.21	5.61	0.21	5.50	0.20
MgO	0.87	0.07	0.86	0.07	0.83	0.07	0.84	0.07	0.85	0.07	0.84	0.07
MnO	0.28	0.05	0.25	0.05	0.27	0.05	0.29	0.05	0.30	0.05	0.28	0.05
CaO	1.93	0.10	1.94	0.10	1.93	0.10	1.88	0.10	1.90	0.10	1.87	0.09
Na <sub>2</sub> O	8.85	0.27	8.67	0.69	8.81	0.66	9.07	0.23	9.10	0.23	9.07	0.23
K <sub>2</sub> O	5.61	0.25	5.62	0.41	5.67	0.40	5.58	0.18	5.61	0.18	5.63	0.18
P <sub>2</sub> O <sub>5</sub>	0.29	0.05	0.28	0.05	0.27	0.05	0.30	0.05	0.31	0.06	0.27	0.05
SO <sub>2</sub>	0.09	0.03	0.08	0.04	0.08	0.03	0.08	0.03	0.09	0.03	0.08	0.03
F	0.19	0.21	0.21	0.22	0.19	0.21	0.20	0.17	0.26	0.17	0.20	0.17
Cl	0.17	0.04	0.16	0.04	0.16	0.04	0.16	0.04	0.16	0.04	0.16	0.04
	100.00		100.00		100.00		100.00		100.00		100.00	

\* Total Fe reported as FeO; Analyses normalized to 100, 1 $\sigma$  Standard Deviation from counting statistics

**Table D.1.2:** EMP analyses of Matrix Glass from lava bombs Erupted from Erebus Volcano

Sample - n	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl
eb05001-01	55.80	0.97	19.71	5.44	0.23	0.85	1.93	8.62	5.69	0.30	0.11	0.16	0.18
eb05001-02	55.59	1.11	19.68	5.40	0.27	0.83	1.96	8.71	5.65	0.26	0.14	0.23	0.17
eb05001-03	55.75	1.03	19.48	5.69	0.28	0.84	1.89	8.60	5.54	0.33	0.09	0.30	0.17
eb05001-04	55.82	1.05	19.40	5.46	0.25	0.89	1.99	8.67	5.53	0.31	0.12	0.31	0.21
eb05001-05	55.84	1.09	19.49	5.42	0.29	0.82	2.08	8.41	5.64	0.32	0.09	0.28	0.24
eb05001-06	55.85	0.96	19.74	5.33	0.29	0.86	1.86	8.38	5.68	0.26	0.12	0.26	0.39
eb05001-07	56.02	1.07	19.52	5.34	0.34	0.84	1.90	8.47	5.74	0.34	0.06	0.12	0.25
eb05001-08	55.52	0.98	19.59	5.45	0.30	0.89	1.92	8.63	5.73	0.33	0.08	0.23	0.34
eb05001-09	55.55	1.07	19.67	5.49	0.26	0.82	1.97	8.72	5.65	0.26	0.14	0.21	0.18
eb05001-10	56.39	1.01	19.63	5.28	0.26	0.90	1.94	8.28	5.63	0.24	0.10	0.13	0.22
eb05003-01	55.61	0.99	19.59	5.45	0.32	0.85	1.93	8.54	5.85	0.36	0.08	0.26	0.16
eb05003-02	56.02	1.03	19.56	5.34	0.23	0.84	1.87	8.55	5.76	0.29	0.09	0.27	0.14
eb05003-03	55.70	1.04	19.56	5.35	0.29	0.84	1.93	8.55	5.78	0.33	0.07	0.38	0.18
eb05003-04	55.69	0.97	19.71	5.52	0.25	0.82	2.04	8.55	5.80	0.31	0.03	0.14	0.17
eb05003-05	55.57	1.05	19.69	5.45	0.30	0.90	1.96	8.58	5.77	0.28	0.08	0.18	0.17
eb05003-06	55.70	1.01	19.66	5.52	0.32	0.92	1.97	8.49	5.66	0.22	0.11	0.23	0.19
eb05003-07	55.61	1.03	19.78	5.43	0.27	0.86	1.85	8.69	5.66	0.30	0.08	0.26	0.17
eb05003-08	55.55	1.07	19.51	5.61	0.26	0.87	2.07	8.67	5.68	0.26	0.06	0.22	0.17
eb05003-09	55.59	1.09	19.73	5.61	0.29	0.85	1.91	8.55	5.59	0.32	0.09	0.18	0.20
eb05003-10	55.82	0.99	19.48	5.45	0.27	0.83	1.94	8.62	5.77	0.30	0.10	0.27	0.16
eb05004-01	55.99	0.97	19.51	5.22	0.22	0.89	1.90	8.75	5.79	0.25	0.12	0.25	0.16
eb05004-02	55.86	1.02	19.70	5.15	0.23	0.86	1.98	8.96	5.53	0.22	0.07	0.25	0.17
eb05004-03	55.68	1.00	19.53	5.09	0.23	0.84	1.94	8.98	5.83	0.37	0.09	0.28	0.16
eb05004-04	56.17	0.98	19.63	4.97	0.26	0.83	1.96	8.99	5.48	0.33	0.10	0.14	0.15
eb05004-05	56.22	1.02	19.32	5.20	0.27	0.83	1.95	8.95	5.52	0.24	0.10	0.21	0.14
eb05004-06	55.79	1.04	19.29	5.30	0.25	0.82	1.88	9.05	5.70	0.33	0.10	0.26	0.16
eb05004-07	55.94	0.96	19.64	4.99	0.26	0.82	1.84	9.09	5.62	0.28	0.08	0.32	0.15
eb05004-08	55.78	1.06	19.52	5.28	0.28	0.83	1.97	8.94	5.56	0.32	0.09	0.23	0.14
eb05004-09	56.00	0.98	19.32	5.23	0.24	0.85	1.96	8.90	5.73	0.35	0.01	0.25	0.18
eb05004-10	55.90	1.03	19.47	5.29	0.21	0.87	1.92	9.00	5.54	0.33	0.07	0.19	0.18
eb05006-01	55.98	1.09	19.61	5.05	0.27	0.84	1.92	8.96	5.67	0.29	0.06	0.10	0.17
eb05006-02	55.97	1.07	19.47	5.25	0.23	0.80	1.97	8.97	5.55	0.28	0.06	0.23	0.16
eb05006-03	55.91	0.99	19.56	5.24	0.28	0.89	1.97	8.83	5.55	0.33	0.09	0.19	0.16
eb05006-04	55.92	1.02	19.49	5.22	0.27	0.79	1.92	8.98	5.64	0.30	0.11	0.19	0.14
eb05006-05	56.38	0.95	19.40	5.23	0.25	0.84	1.91	8.91	5.46	0.27	0.07	0.16	0.17
eb05006-06	55.86	1.04	19.61	5.23	0.27	0.85	1.94	9.00	5.38	0.31	0.07	0.26	0.17
eb05006-07	55.88	1.10	19.27	5.11	0.28	0.89	1.90	9.17	5.61	0.29	0.04	0.31	0.15
eb05006-08	55.97	1.02	19.45	5.23	0.22	0.85	2.01	8.93	5.57	0.27	0.10	0.21	0.16
eb05006-09	56.62	1.04	19.42	5.19	0.22	0.87	1.96	8.59	5.58	0.29	0.02	0.04	0.15
eb05006-10	56.41	0.97	19.52	5.01	0.26	0.77	1.82	8.92	5.55	0.32	0.05	0.21	0.17
eb05007-01	55.69	1.01	19.38	5.74	0.30	0.82	1.95	8.93	5.44	0.30	0.11	0.19	0.16
eb05007-02	55.62	0.97	19.46	5.72	0.33	0.83	1.87	8.64	5.74	0.32	0.07	0.27	0.15
eb05007-03	55.44	0.91	19.47	5.88	0.24	0.91	1.87	8.85	5.70	0.30	0.09	0.15	0.18
eb05007-04	55.46	0.98	19.23	5.75	0.29	0.89	1.94	8.86	5.71	0.33	0.07	0.35	0.16
eb05007-05	55.38	1.00	19.37	5.91	0.29	0.80	1.91	8.85	5.62	0.38	0.07	0.26	0.16
eb05007-06	55.53	0.97	19.42	5.70	0.23	0.87	1.85	9.00	5.60	0.36	0.08	0.25	0.15
eb05007-07	55.70	0.93	19.42	5.74	0.29	0.85	1.94	8.78	5.62	0.27	0.06	0.27	0.15
eb05007-08	55.36	0.92	19.41	5.83	0.27	0.86	1.85	8.92	5.73	0.28	0.08	0.31	0.19
eb05007-09	55.43	1.04	19.39	5.64	0.22	0.87	1.92	9.03	5.64	0.28	0.08	0.31	0.17
eb05007-10	55.93	0.98	19.43	5.57	0.26	0.81	1.88	8.76	5.64	0.29	0.09	0.22	0.17

\* Total Fe reported as FeO; Analyses normalized to 100; n= analysis number

**Table D.1.2 continued**

Sample - n	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl
eb05008-01	55.46	1.05	19.65	5.65	0.28	0.83	1.89	8.73	5.69	0.29	0.09	0.19	0.19
eb05008-02	55.61	1.01	19.58	5.56	0.30	0.86	1.89	8.75	5.70	0.20	0.10	0.29	0.17
eb05008-03	55.77	1.00	19.55	5.45	0.29	0.90	1.90	8.72	5.73	0.23	0.04	0.25	0.16
eb05008-04	55.92	0.95	19.65	5.44	0.36	0.85	1.91	8.49	5.61	0.29	0.10	0.22	0.20
eb05008-05	55.92	1.02	19.58	5.37	0.29	0.88	2.00	8.57	5.66	0.35	0.10	0.10	0.16
eb05008-06	56.10	0.97	19.78	5.50	0.27	0.87	1.99	8.18	5.56	0.29	0.07	0.22	0.16
eb05008-07	55.78	1.06	19.55	5.58	0.26	0.88	1.97	8.56	5.66	0.22	0.08	0.15	0.26
eb05008-08	55.71	1.09	19.74	5.52	0.26	0.86	1.83	8.53	5.70	0.27	0.07	0.31	0.14
eb05008-09	55.92	0.91	19.36	5.46	0.29	0.85	2.05	8.61	5.71	0.26	0.10	0.26	0.24
eb05008-10	56.00	1.02	19.82	5.33	0.27	0.90	1.97	8.31	5.56	0.29	0.07	0.22	0.25
eb05009-01	55.62	1.01	19.49	5.42	0.27	0.93	1.89	8.77	5.76	0.24	0.10	0.30	0.20
eb05009-02	55.84	0.86	19.55	5.40	0.26	0.87	2.00	8.57	5.83	0.28	0.05	0.30	0.19
eb05009-03	55.72	1.04	19.70	5.28	0.28	0.81	1.92	8.72	5.73	0.34	0.04	0.24	0.20
eb05009-04	55.48	1.03	19.85	5.51	0.27	0.90	1.96	8.65	5.65	0.30	0.03	0.19	0.16
eb05009-05	55.79	1.01	19.73	5.41	0.28	0.88	1.88	8.61	5.57	0.34	0.04	0.28	0.18
eb05009-06	55.83	1.03	19.65	5.47	0.26	0.87	2.00	8.56	5.76	0.26	0.06	0.10	0.14
eb05009-07	55.61	0.98	19.77	5.46	0.30	0.81	1.93	8.76	5.57	0.32	0.09	0.22	0.16
eb05009-08	55.76	0.97	19.70	5.44	0.27	0.85	1.98	8.79	5.51	0.31	0.10	0.18	0.15
eb05009-09	55.81	0.99	19.63	5.44	0.23	0.85	2.02	8.68	5.67	0.29	0.10	0.07	0.19
eb05009-10	55.86	0.92	19.74	5.27	0.30	0.91	1.92	8.65	5.64	0.29	0.07	0.24	0.20
eb05010-01	55.88	1.02	19.69	5.08	0.27	0.83	1.85	8.81	5.73	0.31	0.08	0.28	0.17
eb05010-02	56.28	0.98	19.56	5.05	0.20	0.86	1.97	8.66	5.67	0.28	0.06	0.30	0.15
eb05010-03	56.09	1.07	19.71	5.20	0.22	0.86	1.92	8.75	5.45	0.32	0.03	0.24	0.18
eb05010-04	55.83	1.07	19.67	5.11	0.21	0.86	1.84	8.85	5.53	0.27	0.08	0.53	0.16
eb05010-05	56.12	0.99	19.60	5.16	0.22	0.83	1.96	8.83	5.57	0.29	0.10	0.19	0.15
eb05010-06	56.22	1.01	19.67	5.04	0.26	0.84	1.85	8.68	5.71	0.27	0.11	0.17	0.16
eb05010-07	56.25	1.02	19.48	5.16	0.20	0.82	1.86	9.02	5.41	0.28	0.09	0.24	0.16
eb05010-08	55.92	0.96	19.70	5.10	0.23	0.80	1.85	9.17	5.51	0.34	0.10	0.16	0.16
eb05010-09	56.01	1.02	19.43	5.09	0.26	0.86	1.93	9.08	5.70	0.27	0.10	0.09	0.16
eb05010-10	55.77	1.00	19.73	5.19	0.28	0.84	2.00	8.85	5.57	0.33	0.12	0.19	0.16
eb05010-11	56.35	0.96	19.49	5.11	0.27	0.83	1.96	8.64	5.64	0.23	0.10	0.28	0.14
eb05012-01	55.37	0.97	19.73	5.51	0.30	0.91	1.99	8.80	5.54	0.33	0.08	0.28	0.17
eb05012-02	55.32	1.00	19.55	5.70	0.28	0.88	1.95	8.81	5.66	0.37	0.07	0.27	0.16
eb05012-03	55.54	1.00	19.40	5.51	0.35	0.86	1.95	8.78	5.81	0.35	0.05	0.22	0.17
eb05012-04	55.63	1.06	19.55	5.50	0.27	0.88	2.01	8.72	5.57	0.30	0.06	0.27	0.16
eb05012-05	55.80	1.04	19.59	5.35	0.27	0.84	1.91	8.72	5.79	0.29	0.07	0.19	0.15
eb05012-06	55.66	1.01	19.65	5.47	0.26	0.83	1.96	8.91	5.60	0.29	0.07	0.13	0.15
eb05012-07	55.45	0.97	19.49	5.50	0.23	0.90	2.02	9.02	5.53	0.33	0.13	0.27	0.15
eb05012-08	55.05	0.99	19.86	5.61	0.27	0.90	1.92	8.89	5.82	0.31	0.11	0.10	0.18
eb05012-09	55.39	1.00	19.69	5.63	0.33	0.86	1.96	8.76	5.60	0.31	0.08	0.25	0.12
eb05012-10	55.58	0.97	19.53	5.59	0.35	0.87	1.97	8.75	5.70	0.33	0.07	0.12	0.15
eb05014-01	55.51	0.97	19.38	5.65	0.30	0.86	1.96	9.01	5.54	0.30	0.08	0.26	0.18
eb05014-02	55.47	1.04	19.30	5.65	0.29	0.90	1.89	8.97	5.68	0.30	0.07	0.29	0.16
eb05014-03	55.62	1.00	19.25	5.69	0.29	0.86	1.87	9.00	5.55	0.32	0.04	0.36	0.16
eb05014-04	55.59	1.01	19.37	5.82	0.35	0.86	1.86	8.85	5.43	0.32	0.10	0.26	0.16
eb05014-05	55.49	1.00	19.29	5.79	0.27	0.85	1.96	8.97	5.78	0.22	0.08	0.18	0.14
eb05014-06	55.35	1.00	19.49	5.81	0.27	0.86	1.92	8.95	5.71	0.22	0.06	0.17	0.18
eb05014-07	55.24	1.05	19.06	5.76	0.36	0.84	1.97	8.88	5.56	0.23	0.07	0.83	0.17
eb05014-08	55.56	1.00	19.15	5.85	0.32	0.88	1.92	8.76	5.79	0.33	0.06	0.22	0.17
eb05014-09	55.59	0.92	19.29	5.74	0.33	0.86	1.95	8.99	5.66	0.26	0.06	0.19	0.15
eb05014-10	55.33	0.97	19.35	5.76	0.30	0.86	1.86	9.00	5.77	0.29	0.11	0.24	0.16

\* Total Fe reported as FeO; Analyses normalized to 100; n= analysis number

**Table D.1.2 continued**

Sample - n	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl
eb05014-11	55.68	0.90	19.69	5.37	0.30	0.87	1.85	8.75	5.83	0.34	0.11	0.12	0.21
eb05014-12	55.54	0.93	19.60	5.39	0.30	0.82	1.90	8.71	5.93	0.32	0.10	0.31	0.16
eb05014-13	55.64	0.96	19.45	5.50	0.28	0.85	1.88	8.95	5.57	0.36	0.10	0.28	0.16
eb05014-14	55.11	0.95	19.27	5.46	0.25	0.83	1.97	9.05	5.93	0.25	0.14	0.19	0.59
eb05014-15	55.38	1.05	19.47	5.50	0.32	0.86	1.95	8.88	5.76	0.34	0.09	0.24	0.15
eb05014-16	55.78	0.99	19.66	5.36	0.29	0.80	1.88	8.88	5.60	0.31	0.04	0.25	0.16
eb05014-17	55.59	0.98	19.73	5.61	0.29	0.87	1.81	8.86	5.71	0.24	0.09	0.11	0.13
eb05014-18	55.71	1.03	19.52	5.28	0.27	0.84	1.93	8.99	5.69	0.28	0.05	0.24	0.17
eb05014-19	55.22	1.10	19.60	5.54	0.31	0.85	1.86	9.05	5.66	0.29	0.07	0.29	0.16
eb05014-20	55.61	1.00	19.54	5.50	0.32	0.86	1.85	8.85	5.65	0.36	0.12	0.10	0.23
eb05014-21	55.72	1.00	19.65	5.28	0.20	0.85	1.96	8.71	5.83	0.30	0.08	0.25	0.16
eb05014-22	55.32	1.04	19.57	5.43	0.24	0.89	1.87	8.95	5.79	0.35	0.09	0.32	0.14
eb05014-23	55.47	0.99	19.73	5.59	0.26	0.85	1.91	8.87	5.62	0.30	0.09	0.17	0.17
eb05014-24	55.54	1.02	19.57	5.46	0.28	0.85	1.92	8.89	5.79	0.30	0.05	0.18	0.15
eb05014-25	55.59	1.02	19.68	5.55	0.29	0.87	1.87	8.81	5.68	0.24	0.06	0.18	0.16
eb05014-26	55.54	1.04	19.56	5.56	0.28	0.84	1.91	8.75	5.78	0.34	0.08	0.19	0.14
eb05014-27	55.18	1.06	19.74	5.54	0.32	0.88	1.86	8.81	5.85	0.25	0.08	0.31	0.14
eb05014-28	55.52	1.01	19.72	5.51	0.27	0.85	1.88	8.91	5.81	0.24	0.05	0.07	0.16
eb05014-29	55.31	1.01	19.49	5.61	0.27	0.79	1.98	8.92	5.79	0.26	0.08	0.32	0.16
eb05014-30	55.48	1.00	19.56	5.41	0.27	0.89	1.90	9.00	5.57	0.34	0.07	0.34	0.17
eb05014-31	55.87	0.96	19.37	5.15	0.30	0.87	1.91	8.92	5.82	0.26	0.08	0.35	0.15
eb05014-32	55.67	1.06	19.45	5.27	0.24	0.83	1.95	9.01	5.76	0.29	0.07	0.25	0.16
eb05014-33	55.75	1.04	19.43	5.28	0.23	0.85	1.86	9.01	5.64	0.36	0.12	0.31	0.14
eb05014-34	55.66	1.02	19.44	5.21	0.25	0.91	1.99	9.13	5.57	0.34	0.14	0.20	0.14
eb05014-35	55.60	1.02	19.33	5.32	0.27	0.89	1.86	9.18	5.75	0.30	0.09	0.26	0.15
eb05014-36	55.55	0.99	19.42	5.28	0.27	0.86	1.91	9.21	5.73	0.28	0.08	0.21	0.16
eb05014-37	55.74	1.03	19.39	5.16	0.22	0.83	1.93	9.05	5.76	0.32	0.15	0.25	0.17
eb05014-38	55.60	1.01	19.42	5.17	0.25	0.84	1.91	9.12	5.82	0.29	0.10	0.33	0.15
eb05014-39	55.99	1.03	19.34	5.23	0.23	0.80	1.86	9.11	5.75	0.22	0.06	0.25	0.13
eb05014-40	55.76	0.99	19.51	5.12	0.25	0.90	1.98	8.97	5.84	0.35	0.02	0.11	0.21
eb05014-41	55.36	1.06	19.48	5.63	0.25	0.81	1.91	9.13	5.63	0.29	0.06	0.23	0.15
eb05014-42	55.93	1.05	19.47	5.77	0.33	0.84	1.86	9.19	5.61	0.35	0.06	0.28	0.15
eb05014-43	55.76	0.96	19.54	5.70	0.35	0.86	1.84	9.20	5.66	0.31	0.04	0.34	0.16
eb05014-44	55.49	0.98	19.56	5.67	0.28	0.87	1.83	8.95	5.63	0.33	0.11	0.21	0.14
eb05014-45	55.41	0.95	19.37	5.88	0.31	0.83	1.91	8.99	5.78	0.32	0.04	0.23	0.14
eb05014-46	55.60	1.02	19.20	5.64	0.32	0.84	1.86	9.06	5.67	0.35	0.08	0.30	0.14
eb05014-47	55.46	1.01	19.15	5.57	0.30	0.84	1.94	9.17	5.59	0.31	0.07	0.30	0.15
eb05014-48	55.46	1.04	19.39	5.59	0.34	0.87	2.00	9.16	5.66	0.33	0.08	0.33	0.13
eb05014-49	55.75	1.03	19.30	5.78	0.28	0.89	1.91	9.12	5.84	0.29	0.08	0.23	0.12
eb05014-50	55.60	0.93	19.51	5.61	0.26	0.85	1.92	8.93	5.69	0.34	0.08	0.21	0.13
eb05017-01	55.87	1.02	19.53	5.14	0.27	0.88	1.89	8.93	5.62	0.29	0.12	0.28	0.17
eb05017-02	56.11	1.08	19.35	5.06	0.28	0.86	1.75	9.09	5.68	0.26	0.04	0.30	0.15
eb05017-03	56.09	0.96	19.33	5.24	0.25	0.86	1.87	9.10	5.56	0.34	0.04	0.19	0.17
eb05017-04	56.04	0.96	19.46	5.06	0.27	0.83	1.91	9.03	5.65	0.31	0.11	0.20	0.15
eb05017-05	56.05	0.97	19.58	5.16	0.25	0.85	1.82	8.96	5.58	0.36	0.04	0.23	0.14
eb05017-06	55.73	1.06	19.39	5.33	0.31	0.84	1.93	9.04	5.54	0.36	0.09	0.23	0.15
eb05017-07	55.89	1.00	19.43	5.13	0.26	0.81	1.92	8.91	5.62	0.28	0.18	0.40	0.15
eb05017-08	56.19	1.00	19.53	5.18	0.23	0.84	1.84	9.04	5.52	0.22	0.04	0.21	0.15
eb05017-09	55.77	1.02	19.52	5.29	0.27	0.85	1.92	9.00	5.67	0.33	0.13	0.09	0.15
eb05017-10	55.68	1.05	19.39	5.11	0.20	0.89	1.99	9.10	5.83	0.24	0.12	0.24	0.18

\* Total Fe reported as FeO; Analyses normalized to 100; n= analysis number

**Table D.1.2 continued**

Sample - n	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl
eb05018-01	55.64	1.03	19.59	5.58	0.25	0.83	1.98	8.74	5.74	0.24	0.07	0.18	0.14
eb05018-02	55.76	0.98	19.66	5.18	0.26	0.91	1.84	8.73	5.99	0.27	0.07	0.19	0.16
eb05018-03	55.64	1.11	19.59	5.50	0.28	0.79	1.94	8.75	5.56	0.24	0.07	0.36	0.15
eb05018-04	55.52	0.96	19.70	5.44	0.21	0.88	1.97	8.83	5.63	0.29	0.06	0.33	0.17
eb05018-05	55.75	1.01	19.53	5.46	0.30	0.87	1.91	8.76	5.66	0.22	0.10	0.26	0.16
eb05018-06	55.50	0.99	19.89	5.54	0.27	0.89	1.91	8.76	5.61	0.23	0.05	0.22	0.17
eb05018-07	55.26	0.97	19.87	5.62	0.23	0.85	1.98	8.84	5.57	0.32	0.05	0.25	0.18
eb05018-08	55.54	1.00	19.54	5.57	0.33	0.92	1.96	8.66	5.64	0.40	0.08	0.21	0.15
eb05018-09	55.38	0.99	19.62	5.48	0.31	0.86	2.00	8.84	5.65	0.29	0.09	0.33	0.15
eb05018-10	55.23	1.18	19.74	5.46	0.27	0.86	1.98	8.86	5.63	0.36	0.09	0.20	0.14
eb05019-01	55.88	0.98	19.44	5.11	0.26	0.83	1.92	9.05	5.83	0.29	0.10	0.16	0.16
eb05019-02	55.51	0.92	19.22	5.66	0.27	0.81	1.94	9.20	5.70	0.30	0.09	0.23	0.13
eb05019-03	55.78	1.07	19.42	5.11	0.25	0.79	1.87	9.09	5.84	0.31	0.02	0.30	0.15
eb05019-04	55.51	0.99	19.52	5.41	0.27	0.85	1.98	9.12	5.54	0.31	0.04	0.28	0.15
eb05019-05	56.09	1.00	19.46	5.03	0.29	0.83	1.97	8.92	5.78	0.29	0.08	0.14	0.12
eb05019-06	56.35	0.95	19.29	5.25	0.23	0.79	1.95	8.72	5.76	0.26	0.10	0.19	0.18
eb05019-07	56.25	0.98	19.39	5.25	0.27	0.81	1.96	8.66	5.79	0.22	0.10	0.16	0.16
eb05019-08	55.67	1.01	19.26	5.43	0.30	0.88	1.96	8.92	5.69	0.36	0.06	0.30	0.17
eb05019-09	55.86	0.98	19.48	5.15	0.25	0.88	1.89	9.02	5.76	0.21	0.10	0.29	0.14
eb05019-10	56.24	0.96	19.55	4.94	0.23	0.77	1.75	8.93	5.88	0.29	0.07	0.25	0.14
eb05020-01	55.46	0.98	19.37	5.83	0.30	0.84	1.97	8.91	5.56	0.32	0.12	0.21	0.15
eb05020-02	55.67	0.95	19.37	5.79	0.26	0.81	1.79	8.86	5.74	0.26	0.05	0.28	0.17
eb05020-03	55.49	0.97	19.54	5.66	0.30	0.84	1.88	8.95	5.60	0.32	0.07	0.20	0.19
eb05020-04	55.50	0.96	19.35	5.64	0.32	0.82	1.91	8.79	5.54	0.27	0.07	0.65	0.17
eb05020-05	55.69	1.00	19.41	5.55	0.33	0.82	1.84	8.85	5.87	0.32	0.06	0.08	0.18
eb05020-06	55.70	0.97	19.48	5.67	0.25	0.86	1.97	8.81	5.64	0.26	0.08	0.16	0.17
eb05020-07	55.59	1.01	19.51	5.78	0.24	0.86	1.87	8.79	5.63	0.34	0.07	0.18	0.16
eb05020-08	55.29	0.89	19.52	5.77	0.28	0.83	1.95	8.86	5.71	0.35	0.08	0.34	0.14
eb05020-09	55.49	1.05	19.33	5.81	0.28	0.89	1.97	8.78	5.72	0.31	0.07	0.14	0.15
eb05020-10	55.76	0.99	19.63	5.64	0.21	0.81	1.84	8.84	5.56	0.30	0.09	0.16	0.16
eb05021-01	54.95	1.02	19.41	5.93	0.25	0.86	1.89	8.82	5.50	0.34	0.08	0.79	0.17
eb05021-02	55.63	1.00	19.47	5.71	0.24	0.83	2.04	8.69	5.64	0.29	0.09	0.23	0.16
eb05021-03	55.62	0.95	19.53	5.80	0.28	0.85	1.89	8.80	5.64	0.31	0.07	0.09	0.16
eb05021-04	55.52	0.99	19.41	5.85	0.26	0.86	1.91	8.96	5.55	0.28	0.05	0.23	0.16
eb05021-05	55.48	0.94	19.41	5.75	0.28	0.88	1.90	9.06	5.51	0.33	0.08	0.24	0.14
eb05021-06	55.85	0.92	19.55	5.65	0.29	0.87	1.90	8.88	5.50	0.28	0.07	0.10	0.16
eb05021-07	55.54	0.92	19.30	5.63	0.28	0.84	1.95	8.98	5.76	0.26	0.09	0.29	0.16
eb05021-08	55.46	0.94	19.48	5.75	0.25	0.88	1.84	8.98	5.64	0.39	0.08	0.14	0.17
eb05021-09	55.52	0.97	19.34	5.67	0.30	0.82	1.98	8.93	5.74	0.27	0.10	0.22	0.14
eb05021-10	55.50	0.96	19.37	5.73	0.29	0.89	1.91	9.00	5.61	0.31	0.11	0.19	0.17
eb05023-01	55.65	0.96	19.66	5.49	0.28	0.82	1.96	8.64	5.74	0.31	0.08	0.21	0.20
eb05023-02	55.78	1.02	19.75	5.37	0.24	0.84	1.84	8.70	5.62	0.30	0.11	0.21	0.23
eb05023-03	55.92	0.99	19.80	5.32	0.28	0.81	1.90	8.63	5.70	0.24	0.12	0.09	0.20
eb05023-04	55.58	1.04	19.82	5.41	0.28	0.85	1.77	8.76	5.75	0.22	0.08	0.27	0.16
eb05023-05	55.68	0.97	19.74	5.39	0.29	0.90	1.88	8.53	5.70	0.22	0.10	0.39	0.19
eb05023-06	55.48	1.07	19.67	5.51	0.32	0.86	1.96	8.69	5.53	0.37	0.08	0.29	0.16
eb05023-07	55.52	1.02	19.67	5.52	0.30	0.87	1.95	8.59	5.61	0.34	0.13	0.29	0.17
eb05023-08	55.67	0.97	19.60	5.46	0.24	0.82	1.95	8.62	5.75	0.36	0.11	0.26	0.20
eb05023-09	55.73	0.99	19.57	5.53	0.35	0.85	1.84	8.72	5.72	0.32	0.08	0.11	0.20
eb05023-10	55.53	1.07	19.73	5.50	0.25	0.86	1.95	8.62	5.78	0.32	0.05	0.10	0.24

\* Total Fe reported as FeO; Analyses normalized to 100; n= analysis number

**Table D.1.2 continued**

Sample - n	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl
eb05024-01	55.85	1.00	19.63	5.50	0.29	0.82	1.99	8.53	5.64	0.28	0.08	0.13	0.25
eb05024-02	56.34	0.99	19.75	5.48	0.30	0.82	1.99	7.90	5.57	0.31	0.11	0.24	0.18
eb05024-03	56.46	0.96	19.97	5.39	0.27	0.87	1.96	7.57	5.81	0.28	0.10	0.16	0.18
eb05024-04	55.95	1.00	19.80	5.52	0.29	0.87	1.89	8.32	5.61	0.28	0.09	0.21	0.18
eb05024-05	55.66	0.96	19.61	5.14	0.25	0.82	1.54	9.44	5.67	0.25	0.04	0.50	0.12
eb05024-07	55.73	0.92	19.69	5.40	0.26	0.84	1.96	8.57	5.82	0.32	0.09	0.20	0.19
eb05024-08	55.77	1.02	19.73	5.35	0.29	0.90	1.94	8.56	5.70	0.22	0.10	0.24	0.18
eb05024-09	55.66	0.98	19.96	5.51	0.27	0.80	1.93	8.48	5.64	0.29	0.12	0.20	0.16
eb05024-10	55.83	0.98	20.00	5.39	0.28	0.82	1.87	8.36	5.69	0.27	0.07	0.24	0.20
eb05025-01	55.52	1.10	19.72	5.47	0.33	0.86	1.91	8.49	5.71	0.33	0.07	0.31	0.17
eb05025-02	55.63	0.98	19.63	5.54	0.25	0.87	1.94	8.69	5.75	0.28	0.12	0.18	0.16
eb05025-03	55.46	1.04	19.70	5.51	0.25	0.87	1.98	8.84	5.50	0.31	0.08	0.30	0.17
eb05025-04	55.47	1.11	19.60	5.40	0.27	0.88	1.98	8.78	5.69	0.26	0.10	0.32	0.17
eb05025-05	55.64	0.99	19.69	5.49	0.25	0.82	1.96	8.66	5.81	0.22	0.05	0.28	0.15
eb05025-06	55.67	0.95	19.96	5.44	0.22	0.90	1.96	8.52	5.59	0.30	0.05	0.28	0.15
eb05025-07	55.92	1.05	19.69	5.44	0.28	0.86	1.96	8.37	5.65	0.34	0.01	0.28	0.16
eb05025-08	55.20	1.01	19.73	5.50	0.28	0.85	2.10	8.88	5.59	0.36	0.12	0.23	0.16
eb05025-09	55.40	0.97	20.01	5.47	0.26	0.91	1.90	8.73	5.54	0.36	0.05	0.21	0.18
eb05025-10	55.32	1.03	19.99	5.21	0.24	0.81	1.87	8.82	5.92	0.23	0.07	0.34	0.14
eb05026-01	55.30	1.02	19.58	5.59	0.30	0.91	2.07	8.57	5.71	0.23	0.14	0.31	0.25
eb05026-02	55.60	0.94	19.61	5.39	0.32	0.80	1.89	9.02	5.71	0.24	0.11	0.10	0.28
eb05026-03	55.22	0.93	19.55	5.29	0.27	0.81	1.94	9.08	6.02	0.22	0.08	0.10	0.47
eb05026-04	56.02	1.00	19.75	5.43	0.28	0.90	1.93	8.31	5.60	0.37	0.08	0.19	0.15
eb05026-05	55.50	1.07	19.64	5.54	0.23	0.86	2.01	8.56	5.68	0.33	0.10	0.22	0.28
eb05026-06	55.74	1.03	19.60	5.23	0.26	0.85	1.99	8.63	5.53	0.28	0.12	0.31	0.41
eb05026-07	55.70	0.94	19.77	5.54	0.25	0.82	1.90	8.67	5.78	0.21	0.06	0.19	0.17
eb05026-08	56.09	0.90	19.46	5.42	0.36	0.81	1.88	8.88	5.66	0.23	0.03	0.12	0.18
eb05026-09	55.83	1.02	19.34	5.68	0.31	0.83	1.98	8.68	5.57	0.32	0.06	0.19	0.18
eb05026-10	55.49	1.00	19.47	5.56	0.26	0.84	1.98	8.70	5.70	0.35	0.10	0.18	0.37
eb05027-01	55.71	1.00	19.27	5.74	0.34	0.81	1.92	9.01	5.50	0.37	0.06	0.14	0.16
eb05027-02	55.43	1.02	19.56	5.73	0.33	0.87	1.78	8.88	5.56	0.31	0.12	0.26	0.16
eb05027-03	55.91	0.97	19.46	5.39	0.24	0.82	1.69	8.93	5.88	0.29	0.06	0.22	0.15
eb05027-04	55.52	0.97	19.41	5.62	0.30	0.88	1.95	8.98	5.74	0.30	0.08	0.09	0.15
eb05027-05	55.54	0.91	19.26	5.81	0.35	0.88	1.84	8.89	5.69	0.30	0.09	0.27	0.16
eb05027-06	55.28	0.99	19.36	5.84	0.31	0.91	1.84	8.90	5.75	0.38	0.06	0.22	0.16
eb05027-07	55.57	1.00	19.47	5.68	0.25	0.86	1.88	8.93	5.68	0.29	0.06	0.14	0.19
eb05027-08	55.59	1.03	19.49	5.61	0.27	0.85	1.75	8.91	5.80	0.23	0.09	0.23	0.14
eb05027-09	55.36	0.96	19.41	5.80	0.29	0.92	1.96	8.98	5.48	0.32	0.09	0.27	0.16
eb05027-10	55.51	0.92	19.42	5.80	0.29	0.84	1.92	9.01	5.46	0.30	0.07	0.30	0.18
eb05028-01	55.68	1.04	19.66	5.49	0.30	0.90	1.91	8.77	5.50	0.33	0.03	0.25	0.17
eb05028-02	55.49	0.92	19.70	5.50	0.28	0.85	1.98	8.54	5.92	0.32	0.08	0.24	0.18
eb05028-03	55.46	1.00	19.79	5.44	0.30	0.84	1.90	8.81	5.59	0.33	0.12	0.23	0.18
eb05028-04	55.62	0.95	19.66	5.47	0.29	0.82	1.93	8.83	5.67	0.25	0.07	0.29	0.17
eb05028-05	55.77	0.95	19.65	5.50	0.24	0.85	1.90	8.76	5.70	0.35	0.06	0.11	0.16
eb05028-06	55.83	0.98	19.48	5.41	0.26	0.87	1.90	8.74	5.83	0.27	0.11	0.19	0.15
eb05028-07	55.72	1.01	19.41	5.61	0.24	0.87	2.02	8.70	5.72	0.30	0.05	0.22	0.13
eb05028-08	55.43	1.06	19.60	5.34	0.29	0.87	1.91	8.85	5.77	0.28	0.08	0.36	0.15
eb05028-09	55.49	1.00	19.66	5.35	0.29	0.81	1.90	8.85	5.88	0.32	0.09	0.19	0.15
eb05028-10	55.90	1.00	19.54	5.38	0.26	0.88	1.89	8.65	5.79	0.24	0.08	0.24	0.16

\* Total Fe reported as FeO; Analyses normalized to 100; n= analysis number



**Table D.1.2 continued**

Sample - n	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl
eb05029-01	55.96	1.04	19.46	5.53	0.27	0.79	1.81	8.56	5.76	0.23	0.09	0.32	0.21
eb05029-02	55.90	0.96	19.72	5.89	0.31	0.83	1.84	8.27	5.65	0.27	0.08	0.07	0.18
eb05029-03	56.03	0.91	19.49	5.53	0.27	0.87	1.98	8.29	5.66	0.28	0.10	0.41	0.20
eb05029-04	55.66	0.91	19.41	5.85	0.26	0.90	1.94	8.51	5.82	0.30	0.06	0.22	0.16
eb05029-05	55.77	0.96	19.73	5.69	0.26	0.90	1.96	8.35	5.67	0.36	0.04	0.15	0.16
eb05029-06	55.71	0.98	19.39	5.87	0.26	0.81	1.92	8.58	5.74	0.31	0.08	0.18	0.19
eb05029-07	55.84	0.93	19.52	5.75	0.30	0.85	1.94	8.69	5.48	0.26	0.07	0.22	0.14
eb05029-08	55.98	0.99	19.48	5.65	0.22	0.86	1.93	8.49	5.74	0.25	0.07	0.20	0.17
eb05029-09	55.86	0.98	19.56	5.66	0.26	0.84	1.85	8.62	5.67	0.23	0.07	0.24	0.17
eb05029-10	55.74	0.99	19.37	5.75	0.30	0.90	1.83	8.91	5.38	0.31	0.10	0.26	0.15
eb05030-01	56.00	1.02	19.98	5.53	0.24	0.82	1.87	8.20	5.74	0.19	0.05	0.17	0.16
eb05030-02	55.74	1.04	19.82	5.40	0.30	0.84	1.88	8.42	5.75	0.26	0.08	0.28	0.19
eb05030-03	56.21	0.95	19.78	5.33	0.25	0.81	1.92	8.30	5.70	0.32	0.07	0.21	0.15
eb05030-04	55.92	1.06	19.81	5.49	0.31	0.84	1.92	8.11	5.67	0.33	0.11	0.28	0.14
eb05030-05	55.79	1.00	19.77	5.54	0.36	0.86	1.87	8.22	5.83	0.25	0.11	0.23	0.17
eb05030-06	55.95	1.01	19.98	5.44	0.26	0.81	1.88	8.31	5.73	0.22	0.05	0.22	0.15
eb05030-07	55.62	1.00	19.86	5.51	0.25	0.81	1.96	8.27	5.98	0.27	0.09	0.21	0.17
eb05030-08	55.92	0.99	19.84	5.58	0.28	0.86	1.87	8.39	5.65	0.26	0.10	0.09	0.19
eb05030-09	55.78	0.99	19.86	5.51	0.27	0.84	1.86	8.29	5.88	0.29	0.08	0.19	0.16
eb05030-10	55.77	1.00	20.01	5.50	0.26	0.82	1.79	8.33	5.75	0.30	0.08	0.21	0.19
eb05031-01	56.58	1.03	19.44	5.17	0.25	0.87	1.88	8.55	5.56	0.31	0.09	0.14	0.15
eb05031-02	56.11	1.01	19.73	5.21	0.29	0.87	1.82	8.70	5.56	0.33	0.08	0.11	0.17
eb05031-03	56.61	1.05	19.06	5.25	0.24	0.83	1.96	8.70	5.51	0.29	0.05	0.28	0.17
eb05031-04	56.24	0.99	19.47	5.21	0.29	0.82	1.96	8.56	5.68	0.27	0.09	0.26	0.17
eb05031-05	55.64	1.07	19.42	5.27	0.27	0.91	2.07	8.79	5.65	0.36	0.06	0.31	0.16
eb05031-06	56.31	1.09	19.72	4.76	0.24	0.81	1.80	8.61	5.90	0.32	0.10	0.16	0.17
eb05031-07	55.99	1.05	19.50	5.29	0.23	0.90	1.96	8.74	5.64	0.24	0.09	0.22	0.16
eb05031-08	56.07	1.06	19.49	5.24	0.23	0.83	1.92	8.77	5.73	0.34	0.07	0.09	0.15
eb05031-09	56.42	1.03	19.16	5.13	0.26	0.86	1.90	8.58	5.56	0.27	0.12	0.55	0.15
eb05031-10	55.72	0.99	19.66	5.30	0.28	0.86	1.81	8.91	5.60	0.34	0.09	0.29	0.16
eb05032-01	55.48	1.01	19.48	5.82	0.32	0.84	1.92	8.89	5.51	0.30	0.08	0.19	0.15
eb05032-02	55.51	0.98	19.37	5.83	0.28	0.82	1.94	8.91	5.61	0.25	0.04	0.29	0.18
eb05032-03	55.61	0.96	19.35	5.84	0.31	0.86	1.92	8.81	5.54	0.35	0.10	0.22	0.16
eb05032-04	55.71	1.00	19.39	5.81	0.26	0.84	1.93	8.66	5.66	0.30	0.05	0.22	0.18
eb05032-05	55.59	0.92	19.49	5.77	0.31	0.84	1.91	8.83	5.59	0.25	0.09	0.22	0.18
eb05032-06	55.79	0.91	19.47	5.64	0.25	0.86	1.89	8.80	5.46	0.35	0.09	0.29	0.18
eb05032-07	55.78	0.97	19.36	5.70	0.27	0.83	1.95	8.89	5.49	0.27	0.09	0.27	0.15
eb05032-08	55.46	1.03	19.37	5.76	0.31	0.81	1.97	8.89	5.67	0.26	0.10	0.23	0.15
eb05032-09	55.63	0.97	19.39	5.81	0.27	0.84	1.93	8.84	5.56	0.29	0.09	0.21	0.16
eb05032-10	55.50	1.01	19.31	5.78	0.33	0.85	1.97	8.83	5.65	0.24	0.11	0.28	0.13
eb05034-01	55.86	1.03	19.63	5.55	0.28	0.86	1.99	8.32	5.76	0.32	0.05	0.17	0.16
eb05034-02	55.85	1.03	19.88	5.63	0.30	0.92	1.98	8.08	5.64	0.27	0.07	0.20	0.14
eb05034-03	55.79	0.97	19.75	5.42	0.28	0.87	1.92	8.67	5.69	0.19	0.09	0.21	0.14
eb05034-04	55.61	1.00	19.63	5.60	0.26	0.86	1.90	8.61	5.58	0.36	0.09	0.33	0.16
eb05034-05	55.58	1.04	19.67	5.55	0.30	0.89	1.97	8.67	5.46	0.37	0.05	0.29	0.14
eb05034-06	55.63	1.07	19.70	5.53	0.29	0.91	1.88	8.79	5.51	0.21	0.08	0.21	0.15
eb05034-07	55.66	1.00	19.53	5.44	0.27	0.82	1.98	8.70	5.75	0.37	0.09	0.23	0.14
eb05034-08	55.36	1.01	19.72	5.34	0.27	0.88	1.99	9.01	5.64	0.30	0.10	0.23	0.16
eb05034-09	55.53	1.05	19.38	5.47	0.31	0.86	1.91	8.80	5.81	0.33	0.09	0.22	0.21
eb05034-10	55.34	1.02	19.59	5.64	0.29	0.85	1.98	8.81	5.68	0.29	0.03	0.33	0.16

\* Total Fe reported as FeO; Analyses normalized to 100; n= analysis number

**Table D.1.2 continued**

Sample - n	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*Fe O	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl
eb05035-01	55.96	1.03	19.74	5.40	0.28	0.80	1.91	8.64	5.53	0.25	0.09	0.19	0.17
eb05035-02	55.88	0.98	19.64	5.46	0.25	0.88	1.87	8.64	5.68	0.36	0.08	0.07	0.19
eb05035-03	55.64	1.00	19.69	5.42	0.24	0.86	2.01	8.75	5.62	0.27	0.12	0.17	0.19
eb05035-04	55.37	0.99	19.46	5.43	0.28	0.86	1.99	8.85	5.88	0.31	0.07	0.31	0.19
eb05035-05	55.14	1.05	19.65	5.60	0.25	0.92	1.96	8.85	5.65	0.35	0.06	0.33	0.18
eb05035-06	55.27	1.03	19.77	5.53	0.29	0.89	1.89	8.85	5.67	0.36	0.09	0.17	0.18
eb05035-07	55.01	0.95	19.55	5.49	0.24	0.89	1.97	8.86	5.91	0.32	0.07	0.52	0.22
eb05035-08	55.78	1.00	19.34	5.58	0.28	0.86	1.91	8.94	5.61	0.34	0.09	0.12	0.16
eb05035-09	54.73	1.06	20.12	5.60	0.29	0.87	2.01	8.81	5.83	0.27	0.09	0.13	0.19
eb05035-10	55.29	1.00	19.91	5.57	0.31	0.87	1.99	8.77	5.59	0.33	0.09	0.15	0.15
eb05036-01	55.64	1.04	19.25	5.61	0.25	0.84	1.93	8.69	5.91	0.35	0.08	0.26	0.14
eb05036-02	55.66	1.01	19.29	5.90	0.24	0.83	1.92	8.84	5.64	0.27	0.09	0.16	0.17
eb05036-03	55.40	1.01	19.49	5.72	0.26	0.86	1.96	8.74	5.80	0.30	0.09	0.23	0.17
eb05036-04	55.60	1.01	19.35	5.81	0.28	0.87	1.93	8.80	5.72	0.24	0.10	0.13	0.17
eb05036-05	55.53	1.03	19.48	5.58	0.25	0.84	1.90	8.95	5.57	0.30	0.07	0.32	0.17
eb05036-06	55.80	1.00	19.39	5.70	0.25	0.86	1.91	8.79	5.59	0.25	0.08	0.24	0.14
eb05036-07	55.52	0.86	19.50	5.86	0.30	0.85	1.88	8.79	5.65	0.37	0.07	0.19	0.15
eb05036-08	55.61	0.94	19.40	5.57	0.36	0.88	1.95	9.08	5.51	0.28	0.05	0.25	0.13
eb05036-09	55.69	1.04	19.35	5.69	0.28	0.86	1.96	8.78	5.68	0.25	0.08	0.17	0.16
eb05036-10	55.78	0.92	19.52	5.70	0.29	0.88	1.88	8.82	5.56	0.30	0.05	0.15	0.16
eb05037-01	55.59	1.02	19.38	5.79	0.25	0.90	1.94	8.97	5.48	0.31	0.10	0.12	0.14
eb05037-02	55.76	0.97	19.43	5.76	0.27	0.83	1.97	8.85	5.48	0.31	0.06	0.20	0.15
eb05037-03	55.32	0.87	19.81	5.81	0.33	0.89	1.97	9.23	5.49	0.29	0.09	0.00	0.15
eb05037-04	55.07	0.98	19.37	5.73	0.32	0.87	1.91	9.33	5.62	0.29	0.04	0.31	0.15
eb05037-05	55.47	1.02	19.42	5.65	0.27	0.86	1.86	8.89	5.72	0.35	0.07	0.27	0.17
eb05037-06	55.94	0.98	19.45	5.65	0.21	0.85	1.76	8.68	5.71	0.26	0.07	0.27	0.17
eb05037-07	55.70	0.96	19.45	5.83	0.29	0.85	1.95	8.52	5.67	0.31	0.07	0.27	0.15
eb05037-08	55.56	0.93	19.55	5.86	0.33	0.81	1.95	8.80	5.53	0.37	0.08	0.09	0.14
eb05037-09	55.49	0.97	19.47	5.71	0.31	0.86	1.95	8.86	5.74	0.26	0.08	0.14	0.16
eb05037-10	55.76	0.98	19.31	5.79	0.31	0.85	1.96	8.74	5.54	0.24	0.07	0.31	0.17
eb05039-01	55.31	1.07	19.76	5.37	0.31	0.82	2.00	8.67	5.82	0.35	0.07	0.28	0.17
eb05039-02	55.42	1.08	19.74	5.67	0.20	0.91	1.95	8.60	5.70	0.31	0.09	0.18	0.15
eb05039-03	55.59	1.08	19.57	5.55	0.28	0.86	1.92	8.76	5.67	0.26	0.09	0.24	0.14
eb05039-04	55.53	1.04	19.55	5.61	0.30	0.87	1.88	8.74	5.64	0.34	0.08	0.33	0.14
eb05039-05	55.82	0.96	19.78	5.34	0.29	0.87	1.91	8.72	5.64	0.28	0.08	0.16	0.14
eb05039-06	55.71	0.95	19.62	5.66	0.26	0.83	2.09	8.63	5.63	0.33	0.11	0.08	0.12
eb05039-07	55.68	1.00	19.49	5.52	0.31	0.85	1.99	8.67	5.64	0.26	0.13	0.32	0.15
eb05039-08	55.58	0.98	19.67	5.46	0.31	0.86	1.99	8.74	5.50	0.34	0.10	0.32	0.16
eb05039-09	55.82	1.00	19.60	5.52	0.31	0.87	2.00	8.38	5.75	0.33	0.10	0.15	0.15
eb05039-10	55.68	1.01	19.69	5.42	0.25	0.87	1.95	8.69	5.75	0.27	0.07	0.19	0.17
eb05040-01	55.56	0.99	19.24	5.78	0.28	0.90	1.97	8.84	5.77	0.26	0.11	0.16	0.15
eb05040-02	55.77	1.03	19.43	5.70	0.24	0.89	2.01	8.81	5.50	0.26	0.07	0.15	0.14
eb05040-03	55.74	0.94	19.49	5.68	0.31	0.83	1.90	8.74	5.51	0.37	0.08	0.20	0.17
eb05040-04	55.65	1.00	19.46	5.65	0.26	0.90	1.94	8.89	5.50	0.28	0.05	0.25	0.19
eb05040-05	55.77	0.96	19.31	5.73	0.29	0.88	1.91	8.78	5.62	0.28	0.10	0.16	0.19
eb05040-06	55.48	0.96	19.24	5.92	0.28	0.85	1.85	8.91	5.67	0.32	0.11	0.22	0.18
eb05040-07	55.62	1.00	19.36	5.78	0.29	0.82	1.96	8.90	5.63	0.30	0.07	0.14	0.15
eb05040-08	55.35	1.03	19.32	5.86	0.29	0.85	1.96	8.91	5.59	0.30	0.13	0.24	0.18
eb05040-09	55.61	0.96	19.52	5.71	0.29	0.86	1.92	8.99	5.51	0.26	0.08	0.15	0.17
eb05040-10	55.50	1.03	19.34	5.78	0.25	0.90	1.93	8.78	5.78	0.30	0.06	0.20	0.16

\* Total Fe reported as FeO; Analyses normalized to 100; n= analysis number

**Table D.1.2 continued**

Sample - n	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl
eb05041-01	56.78	1.06	19.36	5.12	0.20	0.87	1.92	8.63	5.46	0.27	0.07	0.10	0.16
eb05041-02	56.09	1.04	19.53	5.22	0.27	0.86	1.95	8.68	5.53	0.25	0.12	0.28	0.17
eb05041-03	56.28	0.99	19.57	5.20	0.24	0.85	1.95	8.50	5.64	0.27	0.09	0.27	0.15
eb05041-04	56.57	0.94	19.18	5.19	0.26	0.87	1.94	8.62	5.69	0.30	0.11	0.21	0.15
eb05041-05	56.15	1.09	19.59	5.07	0.23	0.83	1.93	8.75	5.54	0.37	0.09	0.17	0.16
eb05041-06	56.07	0.92	19.54	5.30	0.27	0.87	1.98	8.64	5.66	0.35	0.01	0.24	0.15
eb05041-07	55.96	1.06	19.59	5.17	0.24	0.85	1.93	8.82	5.81	0.25	0.07	0.08	0.15
eb05041-08	56.25	1.00	19.43	5.18	0.24	0.87	1.91	8.77	5.58	0.23	0.08	0.28	0.18
eb05041-09	56.06	1.09	19.47	5.21	0.27	0.83	2.00	8.58	5.70	0.28	0.05	0.29	0.19
eb05041-10	56.31	1.02	19.58	5.11	0.27	0.87	1.94	8.73	5.57	0.27	0.07	0.15	0.13
eb06001-01	55.71	1.03	19.75	5.40	0.29	0.84	1.95	8.75	5.61	0.21	0.10	0.19	0.15
eb06001-03	55.47	1.06	19.69	5.54	0.28	0.87	1.90	8.93	5.58	0.26	0.05	0.21	0.17
eb06001-04	55.34	1.04	19.52	5.60	0.33	0.79	1.92	8.77	5.86	0.29	0.07	0.30	0.16
eb06001-05	55.70	1.05	19.61	5.45	0.22	0.85	1.79	8.92	5.82	0.29	0.06	0.13	0.12
eb06001-06	55.56	0.99	19.74	5.53	0.27	0.86	1.96	8.75	5.58	0.29	0.08	0.19	0.18
eb06001-07	55.61	0.99	19.72	5.57	0.24	0.85	1.92	8.68	5.73	0.37	0.06	0.14	0.15
eb06001-08	55.91	0.98	19.51	5.43	0.26	0.80	1.93	8.77	5.67	0.26	0.08	0.22	0.16
eb06001-09	55.60	0.95	19.70	5.42	0.28	0.81	2.01	8.86	5.60	0.30	0.12	0.19	0.15
eb06001-10	55.78	0.96	19.67	5.45	0.29	0.83	1.98	8.81	5.60	0.21	0.09	0.14	0.17
eb0604-01	55.62	0.96	19.69	5.41	0.30	0.87	1.85	8.98	5.56	0.24	0.08	0.27	0.16
eb0604-02	55.39	0.98	19.59	5.67	0.32	0.89	1.88	9.03	5.53	0.33	0.04	0.20	0.16
eb0604-03	55.62	1.00	19.52	5.53	0.25	0.83	1.80	8.96	5.65	0.29	0.10	0.28	0.17
eb0604-04	55.64	1.00	19.49	5.56	0.32	0.82	1.81	9.03	5.54	0.32	0.10	0.22	0.15
eb0604-05	55.25	0.95	19.48	5.62	0.28	0.83	1.93	9.22	5.69	0.32	0.09	0.21	0.14
eb0604-06	55.66	1.01	19.49	5.55	0.34	0.81	1.93	8.82	5.61	0.38	0.08	0.13	0.18
eb0604-07	55.61	0.98	19.60	5.56	0.33	0.82	1.86	9.07	5.59	0.21	0.08	0.13	0.16
eb0604-08	55.19	1.02	19.60	5.48	0.30	0.83	1.89	9.38	5.55	0.32	0.09	0.19	0.15
eb0604-09	55.51	0.98	19.42	5.71	0.25	0.83	1.88	8.99	5.59	0.29	0.10	0.29	0.17
eb0604-10	55.55	0.96	19.53	5.53	0.25	0.86	2.01	9.22	5.43	0.29	0.08	0.11	0.18
eb0606-01	55.25	0.97	19.58	5.62	0.24	0.86	1.94	9.11	5.57	0.30	0.11	0.26	0.17
eb0606-02	55.49	1.00	19.50	5.59	0.30	0.84	1.85	9.02	5.58	0.29	0.09	0.30	0.15
eb0606-03	55.43	0.97	19.50	5.53	0.30	0.87	1.93	9.10	5.58	0.25	0.12	0.27	0.15
eb0606-04	55.20	0.96	19.34	5.73	0.34	0.87	1.88	9.18	5.63	0.34	0.04	0.31	0.15
eb0606-05	55.40	0.97	19.59	5.65	0.31	0.83	1.88	9.02	5.41	0.37	0.11	0.30	0.17
eb0606-06	55.23	0.99	19.41	5.67	0.29	0.80	1.96	9.19	5.64	0.28	0.09	0.32	0.15
eb0606-07	55.51	0.95	19.37	5.54	0.29	0.86	1.87	9.05	5.74	0.29	0.07	0.32	0.14
eb0606-08	55.39	0.98	19.49	5.54	0.32	0.89	1.87	9.24	5.59	0.26	0.13	0.13	0.17
eb0606-09	55.43	1.01	19.38	5.59	0.29	0.87	1.89	9.04	5.72	0.32	0.11	0.21	0.14
eb0606-10	55.34	0.95	19.47	5.67	0.35	0.83	1.90	9.04	5.57	0.40	0.09	0.23	0.17
eb0607-01	55.49	1.04	19.62	5.68	0.25	0.84	1.86	8.98	5.59	0.23	0.09	0.19	0.15
eb0607-02	55.47	1.09	19.61	5.56	0.29	0.83	1.85	9.03	5.58	0.27	0.08	0.18	0.16
eb0607-03	55.62	1.00	19.52	5.53	0.28	0.88	1.90	9.04	5.60	0.21	0.10	0.14	0.17
eb0607-04	55.51	1.07	19.64	5.38	0.29	0.84	1.87	9.13	5.50	0.33	0.08	0.17	0.18
eb0607-05	55.56	1.04	19.61	5.26	0.27	0.84	1.93	9.02	5.70	0.26	0.09	0.25	0.16
eb0607-06	55.79	1.03	19.55	5.34	0.27	0.82	1.86	9.08	5.70	0.24	0.06	0.14	0.13
eb0607-07	55.61	1.00	19.54	5.44	0.28	0.78	1.80	9.00	5.76	0.23	0.07	0.30	0.17
eb0607-08	55.54	1.03	19.52	5.51	0.27	0.86	1.88	9.08	5.55	0.29	0.07	0.22	0.16
eb0607-09	55.26	1.01	19.43	5.63	0.24	0.85	1.85	9.24	5.67	0.30	0.11	0.25	0.18
eb0607-10	55.34	1.06	19.35	5.68	0.31	0.87	1.93	9.13	5.62	0.36	0.08	0.12	0.15

\* Total Fe reported as FeO; Analyses normalized to 100; n= analysis number

## Appendix D.2: Melt Inclusion Analyses by EMP

**Table D.2.1:** EMP analyses of Matrix Glass from lava bombs Erupted from Erebus Volcano

Zone	mi	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl	Total
019b: <i>i</i>	019bmi-01	56.18	1.12	19.16	5.73	0.28	0.89	1.95	8.05	5.88	0.24	0.10	0.27	0.14	100.00
019b: <i>i</i>	019bmi-02	55.88	1.02	19.26	5.66	0.30	0.89	1.93	8.52	5.70	0.36	0.08	0.25	0.15	100.00
019b: <i>i</i>	019bmi-03	55.72	1.06	19.32	5.73	0.26	0.85	1.90	8.45	5.87	0.31	0.08	0.31	0.15	100.00
019b: <i>i</i>	019bmi-04	55.64	1.04	19.44	5.85	0.31	0.98	2.00	8.27	5.78	0.33	0.09	0.14	0.15	100.00
019b: <i>i</i>	019bmi-05	56.37	1.18	19.20	5.47	0.31	0.92	1.83	8.16	5.80	0.26	0.02	0.37	0.13	100.00
019b: <i>i</i>	019bmi-06	55.26	1.35	18.81	6.13	0.38	0.99	2.07	8.09	5.95	0.47	0.12	0.23	0.16	100.00
019b: <i>i</i>	019bmi-07	56.43	1.02	19.41	5.52	0.29	0.89	1.93	7.89	6.01	0.24	0.06	0.14	0.15	100.00
019b: <i>i</i>	019bmi-08	55.97	1.14	18.72	5.71	0.29	0.89	1.64	8.13	6.56	0.35	0.06	0.39	0.17	100.00
019b: <i>i</i>	019bmi-09	56.01	1.06	19.44	5.51	0.27	0.87	1.85	8.03	6.22	0.31	0.09	0.19	0.15	100.00
019b: <i>i</i>	019bmi-10	56.03	1.01	19.27	5.75	0.29	0.88	1.71	8.14	6.18	0.26	0.10	0.21	0.18	100.00
019b: <i>i</i>	019bmi-11	55.96	0.95	19.40	5.77	0.29	0.85	1.98	8.21	5.82	0.27	0.07	0.27	0.16	100.00
019b: <i>i</i>	019bmi-12	55.09	1.26	18.28	6.09	0.27	1.00	1.51	9.36	6.26	0.38	0.14	0.22	0.15	100.00
019b: <i>i</i>	019bmi-13	56.02	1.07	19.07	5.51	0.27	0.82	1.91	8.35	6.27	0.29	0.11	0.14	0.17	100.00
019b: <i>i</i>	019bmi-14	56.01	1.12	18.93	6.00	0.24	0.94	1.89	7.85	6.23	0.38	0.13	0.15	0.13	100.00
019b: <i>i</i>	019bmi-15	56.00	0.93	19.08	5.69	0.35	0.86	1.86	8.27	6.21	0.31	0.05	0.26	0.14	100.00
019b: <i>i</i>	019bmi-16	55.73	1.01	18.88	5.83	0.30	0.88	1.92	8.31	6.25	0.33	0.09	0.31	0.17	100.00
019b: <i>i</i>	019bmi-17	55.84	1.01	18.60	5.81	0.26	0.91	1.92	8.44	6.38	0.35	0.06	0.27	0.15	100.00
019b: <i>i</i>	019bmi-18	56.34	0.95	19.36	4.99	0.29	0.76	1.51	8.43	6.59	0.24	0.06	0.34	0.12	100.00
019b: <i>i</i>	019bmi-19	56.29	0.97	18.93	5.46	0.23	0.83	1.72	8.16	6.59	0.29	0.04	0.36	0.14	100.00
019b: <i>i</i>	019bmi-20	55.89	1.05	18.73	5.81	0.29	0.87	1.92	8.41	6.37	0.35	0.10	0.05	0.14	100.00
019b: <i>i</i>	019bmi-21	55.82	1.02	18.52	5.99	0.31	0.93	1.95	8.38	6.20	0.41	0.07	0.25	0.13	100.00
019b: <i>i</i>	019bmi-22	56.18	1.02	19.04	5.76	0.26	0.86	1.65	8.10	6.41	0.25	0.05	0.26	0.15	100.00
019b: <i>i</i>	019bmi-23	56.16	0.96	19.18	5.74	0.30	0.88	1.86	8.12	6.19	0.26	0.10	0.07	0.16	100.00
019b: <i>i</i>	019bmi-24	56.31	1.01	19.10	5.55	0.31	0.90	1.56	8.20	6.41	0.19	0.11	0.21	0.16	100.00
019b: <i>i</i>	019bmi-25	55.79	1.15	19.07	5.70	0.26	0.93	1.86	8.09	6.26	0.42	0.10	0.19	0.15	100.00
019b: <i>i</i>	019bmi-26	56.16	0.96	18.75	5.54	0.26	0.91	1.77	8.09	6.64	0.37	0.09	0.31	0.14	100.00
019b: <i>i</i>	019bmi-27	55.72	1.06	18.73	5.61	0.30	0.88	1.61	8.79	6.47	0.32	0.08	0.25	0.16	100.00
019b: <i>i</i>	019bmi-28	55.61	1.09	18.75	5.81	0.29	0.89	1.63	8.37	6.67	0.32	0.10	0.33	0.14	100.00
019b: <i>i</i>	019bmi-29	55.60	1.09	18.73	5.80	0.35	0.88	1.83	8.58	6.40	0.33	0.07	0.19	0.15	100.00
019b: <i>i</i>	019bmi-30	56.22	1.07	18.81	5.71	0.34	0.85	1.86	8.24	6.29	0.27	0.04	0.18	0.13	100.00
019b: <i>i</i>	019bmi-31	56.01	0.99	18.89	5.79	0.31	0.89	1.88	8.07	6.43	0.33	0.09	0.14	0.17	100.00
019b: <i>i</i>	019bmi-32	55.80	0.96	19.57	5.62	0.26	0.85	1.81	8.25	6.14	0.30	0.10	0.20	0.13	100.00
019b: <i>i</i>	019bmi-33	55.44	1.18	19.08	5.94	0.29	0.91	1.94	8.20	6.23	0.35	0.08	0.22	0.14	100.00
019b: <i>ii</i>	019bmi-34	56.06	0.97	18.76	5.71	0.36	0.85	1.79	8.39	6.36	0.30	0.09	0.22	0.14	100.00
019b: <i>ii</i>	019bmi-35	55.72	1.11	19.06	5.50	0.24	0.86	1.84	8.51	6.44	0.27	0.10	0.21	0.12	100.00
019b: <i>ii</i>	019bmi-36	55.44	1.04	19.25	5.63	0.27	0.88	1.89	8.73	6.27	0.23	0.06	0.20	0.12	100.00
019b: <i>ii</i>	019bmi-37	56.01	1.11	18.97	5.41	0.27	0.83	1.86	8.44	6.36	0.25	0.07	0.27	0.14	100.00
019b: <i>ii</i>	019bmi-38	55.90	1.08	19.26	5.40	0.29	0.91	1.67	8.48	6.39	0.24	0.09	0.17	0.15	100.00
019b: <i>ii</i>	019bmi-39	55.93	1.00	18.95	5.52	0.27	0.87	1.93	8.54	6.27	0.26	0.08	0.25	0.11	100.00
019b: <i>ii</i>	019bmi-40	55.77	1.12	18.82	5.49	0.36	0.86	1.90	8.62	6.21	0.34	0.09	0.28	0.13	100.00
019b: <i>ii</i>	019bmi-41	56.12	1.14	19.06	5.56	0.28	0.85	1.81	8.05	6.46	0.21	0.09	0.22	0.13	100.00
019b: <i>ii</i>	019bmi-42	56.39	1.09	19.06	5.41	0.30	0.86	1.83	8.23	6.14	0.32	0.08	0.17	0.14	100.00
019b: <i>ii</i>	019bmi-43	55.51	1.18	18.83	5.73	0.36	0.95	1.61	8.87	6.20	0.28	0.12	0.25	0.14	100.00

**Table D.2.1. cont.**

Zone	mi	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl	Total
019b: ii	019bmi-44	55.48	1.00	19.13	5.35	0.32	0.90	1.83	8.78	6.28	0.41	0.05	0.33	0.14	100.00
019b: ii	019bmi-45	55.95	1.15	18.80	5.76	0.30	0.85	1.78	8.58	6.30	0.28	0.07	0.04	0.14	100.00
019b: ii	019bmi-46	55.49	1.07	19.25	5.61	0.25	0.89	1.87	8.58	6.22	0.30	0.09	0.23	0.15	100.00
019b: ii	019bmi-47	56.19	1.07	18.90	5.30	0.27	0.88	1.60	8.67	6.57	0.27	0.06	0.09	0.13	100.00
019b: ii	019bmi-48	55.27	1.48	18.57	6.27	0.34	1.05	2.13	7.77	6.06	0.57	0.11	0.22	0.16	100.00
019b: ii	019bmi-49	55.71	0.95	19.10	5.56	0.33	0.91	1.90	8.35	6.38	0.32	0.07	0.29	0.14	100.00
019b: ii	019bmi-50	55.47	1.06	19.01	5.61	0.27	0.94	1.95	8.76	6.12	0.29	0.08	0.25	0.18	100.00
019b: ii	019bmi-51	55.56	0.97	19.12	5.50	0.26	0.87	1.82	8.86	6.29	0.25	0.09	0.24	0.16	100.00
019b: ii	019bmi-52	55.83	1.18	18.48	6.06	0.30	0.97	1.96	7.93	6.23	0.55	0.08	0.29	0.15	100.00
019b: ii	019bmi-53	56.14	1.03	19.02	6.05	0.34	0.92	1.82	8.12	5.94	0.30	0.07	0.09	0.15	100.00
019b: ii	019bmi-54	56.13	0.96	19.75	5.20	0.28	0.84	2.00	8.23	5.81	0.37	0.04	0.25	0.16	100.00
019b: ii	019bmi-55	55.99	1.00	18.89	6.01	0.27	0.91	2.00	8.47	5.82	0.26	0.08	0.15	0.17	100.00
019b: ii	019bmi-56	56.01	1.04	18.77	6.02	0.26	0.94	1.98	8.52	5.68	0.35	0.07	0.20	0.17	100.00
019b: iii	019bmi-57	54.98	0.94	20.25	5.21	0.27	0.80	1.90	9.16	5.75	0.27	0.10	0.21	0.15	100.00
019b: iii	019bmi-58	55.43	0.98	19.90	5.20	0.29	0.86	1.87	8.93	5.81	0.26	0.08	0.24	0.16	100.00
019b: iii	019bmi-59	55.40	0.93	19.92	5.33	0.31	0.81	1.88	8.99	5.80	0.17	0.07	0.24	0.14	100.00
019b: iii	019bmi-60	55.41	0.86	20.01	5.11	0.23	0.78	1.68	9.15	6.09	0.22	0.08	0.25	0.13	100.00
019b: iii	019bmi-61	55.17	0.97	20.04	5.36	0.28	0.81	1.84	8.93	5.87	0.31	0.06	0.20	0.16	100.00
019b: iii	019bmi-62	55.28	0.97	20.03	5.31	0.27	0.74	1.81	9.06	5.77	0.23	0.08	0.28	0.15	100.00
019b: iii	019bmi-63	55.47	0.93	19.91	5.36	0.32	0.77	1.94	8.72	5.78	0.32	0.07	0.23	0.18	100.00
019b: iii	019bmi-64	55.47	0.88	19.90	5.27	0.22	0.85	1.86	8.94	5.86	0.24	0.09	0.28	0.13	100.00
019b: iii	019bmi-65	56.00	0.92	19.87	5.12	0.23	0.88	1.91	8.32	6.16	0.25	0.08	0.11	0.15	100.00
019b: iii	019bmi-66	55.14	1.03	20.09	5.44	0.22	0.82	1.85	8.69	6.12	0.21	0.06	0.18	0.14	100.00
019b: iii	019bmi-67	55.50	0.90	20.09	5.33	0.31	0.82	1.92	8.62	5.91	0.22	0.08	0.12	0.15	100.00
019b: iii	019bmi-68	55.50	0.92	19.86	5.10	0.28	0.75	1.78	9.06	6.00	0.26	0.05	0.26	0.15	100.00
019b: iii	019bmi-69	55.12	0.86	19.93	5.43	0.26	0.77	1.85	9.12	6.03	0.24	0.06	0.19	0.13	100.00
019b: iii	019bmi-70	55.17	0.96	20.13	5.32	0.26	0.73	1.86	9.00	5.88	0.21	0.10	0.22	0.14	100.00
019b: iii	019bmi-71	55.18	0.88	19.87	5.17	0.29	0.77	1.77	8.83	6.37	0.35	0.08	0.30	0.14	100.00
019b: iii	019bmi-72	55.33	0.91	19.83	5.37	0.29	0.79	1.86	8.84	6.02	0.32	0.07	0.22	0.15	100.00
019b: iii	019bmi-73	55.07	0.99	19.93	5.39	0.23	0.81	1.92	9.02	5.79	0.31	0.05	0.33	0.14	100.00
019b: iii	019bmi-74	54.48	1.08	19.58	5.88	0.32	0.97	1.94	8.97	5.93	0.36	0.16	0.18	0.15	100.00
019b: iii	019bmi-75	55.48	0.89	19.76	5.28	0.28	0.84	1.87	8.94	5.78	0.32	0.07	0.31	0.16	100.00
019b: iii	019bmi-76	54.57	0.80	19.73	5.72	0.31	0.88	1.86	9.02	6.23	0.26	0.08	0.35	0.17	100.00
019b: iii	019bmi-77	55.78	0.90	20.12	5.26	0.27	0.74	1.84	8.54	5.95	0.21	0.10	0.14	0.15	100.00
019b: iii	019bmi-78	55.31	0.93	19.44	5.70	0.27	0.85	1.97	8.65	6.02	0.39	0.08	0.21	0.17	100.00
019b: iii	019bmi-79	55.38	0.92	19.94	5.30	0.27	0.81	1.90	8.99	5.85	0.29	0.08	0.11	0.16	100.00
019b: iii	019bmi-80	55.13	0.87	20.11	5.27	0.26	0.79	1.87	9.07	5.80	0.33	0.07	0.25	0.17	100.00
019b: iii	019bmi-81	55.80	0.90	19.92	5.15	0.30	0.87	1.90	8.56	5.92	0.31	0.08	0.17	0.14	100.00
019b: iii	019bmi-82	55.48	0.88	19.93	5.25	0.29	0.77	1.89	8.95	5.84	0.27	0.09	0.18	0.15	100.00
019b: iii	019bmi-83	55.22	0.98	19.61	5.68	0.31	0.85	1.87	8.88	5.90	0.33	0.08	0.10	0.17	100.00
019b: iii	019bmi-84	55.11	1.03	19.68	5.59	0.21	0.84	1.82	8.98	5.98	0.32	0.06	0.22	0.14	100.00
019b: iii	019bmi-85	55.75	1.05	19.60	5.59	0.23	0.90	1.91	8.30	5.87	0.29	0.09	0.26	0.17	100.00
019b: iii	019bmi-86	55.45	0.92	19.90	5.18	0.30	0.82	1.88	9.00	5.87	0.33	0.07	0.14	0.14	100.00

**Table D.2.1. cont.**

Zone	mi	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl	Total
027a1:i	027a1mi-30	55.50	0.93	19.84	5.21	0.28	0.82	1.90	8.76	5.93	0.37	0.09	0.21	0.16	100.00
027a1:i	027a1mi-31	56.26	0.92	19.89	5.28	0.27	0.87	1.87	8.11	5.85	0.29	0.04	0.21	0.16	100.00
027a1:i	027a1mi-32	55.63	0.94	19.88	5.48	0.26	0.79	1.92	8.83	5.56	0.33	0.08	0.09	0.15	100.00
027a1:i	027a1mi-33	56.46	1.15	20.03	5.90	0.29	0.90	1.94	6.84	5.59	0.42	0.08	0.23	0.17	100.00
027a1:i	027a1mi-34	56.68	0.95	20.04	5.71	0.32	0.88	1.91	7.14	5.67	0.28	0.10	0.20	0.15	100.00
027a1:i	027a1mi-35	56.84	0.94	19.75	5.57	0.29	0.80	1.87	7.48	5.68	0.26	0.03	0.34	0.15	100.00
027a1:i	027a1mi-36	55.98	0.87	19.90	5.33	0.26	0.79	1.92	8.43	5.80	0.35	0.06	0.16	0.15	100.00
027a1:i	027a1mi-37	55.47	1.09	19.18	6.41	0.33	0.98	2.01	7.99	5.77	0.35	0.09	0.17	0.17	100.00
027a1:i	027a1mi-38	56.11	0.86	19.86	5.29	0.32	0.81	1.92	8.36	5.82	0.34	0.05	0.09	0.16	100.00
027a1:i	027a1mi-39	56.25	0.88	19.81	5.36	0.29	0.82	1.94	7.94	5.92	0.28	0.06	0.29	0.15	100.00
027a1:i	027a1mi-40	55.61	1.06	19.24	6.10	0.32	0.93	1.95	8.01	5.89	0.31	0.08	0.32	0.17	100.00
027a1:i	027a1mi-41	56.21	1.18	19.96	5.97	0.26	1.00	2.01	6.91	5.64	0.33	0.09	0.26	0.18	100.00
027a1:ii	027a1mi-42	55.76	0.85	19.77	5.44	0.26	0.78	2.07	8.62	5.69	0.28	0.07	0.23	0.17	100.00
027a1:ii	027a1mi-43	55.83	1.12	19.75	5.68	0.26	0.92	1.87	8.09	5.62	0.32	0.10	0.24	0.20	100.00
027a1:ii	027a1mi-44	55.84	0.85	19.68	5.36	0.29	0.83	1.95	8.63	5.76	0.30	0.06	0.30	0.16	100.00
027a1:ii	027a1mi-45	55.69	1.12	19.86	5.70	0.27	0.89	2.00	7.90	5.70	0.42	0.12	0.13	0.18	100.00
027a1:ii	027a1mi-46	56.05	1.10	20.31	5.65	0.26	0.83	1.91	7.14	6.01	0.33	0.04	0.21	0.17	100.00
027a1:ii	027a1mi-47	56.96	0.90	19.98	5.09	0.24	0.82	1.89	7.34	5.64	0.38	0.09	0.49	0.17	100.00
027a1:iii	027a1mi-48	55.62	1.07	19.61	5.99	0.30	0.91	1.95	8.18	5.56	0.39	0.09	0.16	0.18	100.00
027a1:iii	027a1mi-49	56.52	0.85	20.24	5.13	0.27	0.83	2.04	7.45	5.87	0.31	0.07	0.28	0.16	100.00
027a1:iii	027a1mi-50	56.11	0.98	20.16	5.42	0.25	0.79	2.12	7.62	5.74	0.31	0.09	0.25	0.17	100.00
027a1:iii	027a1mi-51	55.70	0.85	19.71	5.34	0.29	0.80	2.04	8.76	5.66	0.34	0.05	0.22	0.17	100.00
027a1:iii	027a1mi-52	55.99	0.92	19.78	5.35	0.32	0.85	1.98	8.38	5.73	0.26	0.06	0.22	0.14	100.00
027a1:iii	027a1mi-53	55.49	0.94	19.81	5.53	0.31	0.82	1.96	8.65	5.84	0.27	0.06	0.15	0.16	100.00
027a1:iii	027a1mi-54	55.54	0.90	19.67	5.45	0.31	0.82	2.05	8.62	5.67	0.35	0.07	0.38	0.15	100.00
027a1:iii	027a1mi-55	56.11	1.10	20.06	5.79	0.27	0.90	2.01	7.49	5.62	0.32	0.09	0.03	0.20	100.00
027a1:iv	027a1mi-56	55.45	0.85	19.99	5.25	0.29	0.80	1.97	8.71	5.83	0.37	0.04	0.26	0.17	100.00
027a1:iv	027a1mi-57	56.07	0.81	19.96	5.38	0.18	0.79	2.04	8.41	5.67	0.35	0.10	0.06	0.16	100.00
027a1:iv	027a1mi-58	55.29	1.05	19.83	5.49	0.32	0.87	1.93	8.48	5.89	0.32	0.14	0.22	0.18	100.00
027a1:iv	027a1mi-59	55.79	0.97	19.73	5.32	0.29	0.81	1.97	8.52	5.87	0.27	0.08	0.24	0.15	100.00
027a1:v	027a1mi-01	55.93	0.92	19.72	5.33	0.25	0.89	2.01	8.50	5.75	0.31	0.10	0.13	0.16	100.00
027a1:v	027a1mi-02	55.85	0.91	19.76	5.41	0.21	0.82	2.01	8.53	5.69	0.32	0.04	0.26	0.16	100.00
027a1:v	027a1mi-03	55.51	1.06	19.73	6.04	0.33	0.88	1.81	8.22	5.68	0.30	0.03	0.25	0.17	100.00
027a1:v	027a1mi-04	55.65	0.98	19.60	5.30	0.25	0.90	2.04	8.76	5.69	0.27	0.07	0.34	0.14	100.00
027a1:v	027a1mi-05	55.64	0.96	19.85	5.38	0.25	0.86	2.02	8.58	5.68	0.29	0.09	0.25	0.14	100.00
027a1:v	027a1mi-06	56.07	1.01	19.74	5.86	0.33	0.94	1.91	7.47	5.73	0.32	0.07	0.39	0.17	100.00
027a1:v	027a1mi-07	56.50	1.08	19.72	5.97	0.38	0.97	1.85	7.41	5.33	0.31	0.06	0.25	0.18	100.00
027a1:v	027a1mi-08	56.21	0.97	19.81	5.49	0.29	0.86	1.87	8.29	5.61	0.24	0.06	0.15	0.15	100.00
027a1:v	027a1mi-09	55.36	0.91	20.18	5.33	0.28	0.84	1.86	8.62	5.80	0.29	0.07	0.32	0.15	100.00
027a1:vi	027a1mi-10	56.28	0.93	20.58	5.27	0.29	0.78	1.82	7.52	5.78	0.28	0.06	0.29	0.15	100.00
027a1:vi	027a1mi-11	56.88	0.84	19.97	5.31	0.32	0.80	1.99	7.51	5.73	0.30	0.06	0.14	0.16	100.00
027a1:vi	027a1mi-12	55.85	1.08	19.46	5.88	0.31	0.92	1.96	7.97	5.70	0.36	0.06	0.27	0.19	100.00
027a1:vi	027a1mi-13	55.99	0.98	19.75	5.28	0.30	0.83	2.04	8.47	5.59	0.33	0.08	0.20	0.15	100.00

**Table D.2.1. cont.**

Zone	mi	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl	Total
027a1:vi	027a1mi-14	55.78	0.99	19.53	5.73	0.26	0.86	2.05	8.58	5.50	0.27	0.06	0.24	0.17	100.00
027a1:vi	027a1mi-15	56.08	0.99	19.78	5.12	0.27	0.77	1.90	8.40	5.87	0.30	0.09	0.31	0.12	100.00
027a1:vi	027a1mi-16	55.88	0.86	19.94	5.18	0.31	0.81	1.95	8.78	5.64	0.28	0.08	0.15	0.15	100.00
027a1:vi	027a1mi-17	55.60	1.05	19.62	6.02	0.32	0.91	2.00	8.03	5.74	0.27	0.06	0.22	0.18	100.00
027a1:vi	027a1mi-18	55.01	1.16	19.52	5.90	0.32	0.84	2.05	8.68	5.62	0.36	0.08	0.26	0.17	100.00
027a1:vi	027a1mi-19	55.48	1.04	19.63	5.76	0.29	0.89	1.93	8.56	5.71	0.33	0.06	0.15	0.16	100.00
027a1:vii	027a1mi-20	55.11	0.91	19.69	5.73	0.28	0.91	2.11	8.62	5.69	0.32	0.11	0.35	0.16	100.00
027a1:vii	027a1mi-21	55.38	0.96	19.71	5.35	0.32	0.84	2.07	8.90	5.57	0.36	0.10	0.27	0.15	100.00
027a1:vii	027a1mi-22	55.98	0.99	19.68	5.57	0.34	0.85	1.95	7.99	5.86	0.37	0.09	0.17	0.18	100.00
027a1:vii	027a1mi-23	55.61	0.93	19.67	5.39	0.25	0.86	2.12	8.78	5.70	0.31	0.07	0.14	0.16	100.00
027a1:vii	027a1mi-24	55.58	0.95	19.62	5.51	0.36	0.80	2.10	8.61	5.56	0.33	0.05	0.35	0.16	100.00
027a1:vii	027a1mi-25	56.03	0.90	19.51	5.51	0.27	0.81	2.07	8.54	5.63	0.29	0.04	0.20	0.16	100.00
027a1:vii	027a1mi-26	55.92	1.04	19.81	5.84	0.29	0.87	2.00	7.43	5.85	0.38	0.10	0.28	0.19	100.00
027a1:vii	027a1mi-27	56.08	0.87	19.90	5.38	0.30	0.80	1.93	8.35	5.77	0.25	0.07	0.15	0.16	100.00
027a1:vii	027a1mi-28	55.38	1.14	19.63	6.05	0.34	0.97	1.96	8.16	5.63	0.34	0.05	0.21	0.15	100.00
027a1:vii	027a1mi-29	56.17	1.02	19.42	6.18	0.34	0.95	2.03	7.40	5.66	0.35	0.08	0.21	0.19	100.00
027a2:i	027a2mi-38	55.78	0.95	19.79	5.31	0.34	0.83	1.97	8.63	5.61	0.26	0.09	0.23	0.18	100.00
027a2:i	027a2mi-39	55.21	0.97	19.62	5.64	0.38	0.84	1.91	8.80	5.82	0.33	0.07	0.26	0.14	100.00
027a2:i	027a2mi-40	55.31	0.98	19.80	5.50	0.29	0.80	2.05	8.72	5.73	0.37	0.05	0.23	0.15	100.00
027a2:i	027a2mi-41	55.20	0.93	20.00	5.50	0.27	0.85	1.91	8.79	5.96	0.23	0.05	0.17	0.15	100.00
027a2:i	027a2mi-42	55.24	1.16	19.58	5.87	0.34	0.96	1.91	8.27	6.01	0.34	0.12	0.05	0.14	100.00
027a2:i	027a2mi-43	55.14	1.04	19.97	5.67	0.31	0.84	1.85	8.57	5.82	0.36	0.09	0.16	0.16	100.00
027a2:i	027a2mi-44	55.95	1.04	20.00	5.52	0.31	0.89	1.87	7.90	5.85	0.31	0.07	0.16	0.14	100.00
027a2:i	027a2mi-45	55.44	0.90	19.75	5.51	0.23	0.90	1.82	8.75	6.02	0.25	0.07	0.21	0.14	100.00
027a2:ii	027a2mi-46	55.88	0.94	19.84	5.08	0.29	0.82	1.89	8.66	5.82	0.32	0.09	0.26	0.15	100.00
027a2:ii	027a2mi-47	56.02	0.87	19.80	5.13	0.24	0.76	1.93	8.71	5.87	0.33	0.03	0.13	0.14	100.00
027a2:ii	027a2mi-48	55.67	1.07	19.46	5.77	0.36	0.93	1.91	8.18	5.75	0.43	0.09	0.22	0.19	100.00
027a2:ii	027a2mi-49	55.79	0.90	19.56	5.41	0.27	0.84	1.87	8.67	5.86	0.29	0.06	0.37	0.14	100.00
027a2:ii	027a2mi-50	55.95	0.95	19.56	5.43	0.22	0.79	1.88	8.57	5.96	0.31	0.05	0.17	0.16	100.00
027a2:ii	027a2mi-51	55.97	0.88	20.03	5.38	0.27	0.82	1.90	7.79	5.96	0.39	0.08	0.37	0.17	100.00
027a2:ii	027a2mi-52	56.11	1.04	19.25	6.18	0.32	0.99	1.97	7.70	5.57	0.34	0.12	0.27	0.17	100.00
027a2:iii	027a2mi-28	56.01	0.97	19.62	5.59	0.26	0.83	1.95	8.51	5.61	0.28	0.09	0.12	0.14	100.00
027a2:iii	027a2mi-29	55.93	1.14	19.21	5.79	0.29	0.90	1.98	8.09	5.88	0.37	0.07	0.20	0.17	100.00
027a2:iii	027a2mi-30	55.74	0.90	19.80	5.45	0.33	0.82	1.93	8.57	5.76	0.28	0.09	0.17	0.16	100.00
027a2:iii	027a2mi-31	55.83	0.94	19.60	5.29	0.30	0.80	1.95	8.88	5.64	0.30	0.04	0.22	0.15	100.00
027a2:iii	027a2mi-32	55.86	1.00	19.24	5.85	0.32	0.87	1.96	8.18	5.93	0.33	0.09	0.21	0.16	100.00
027a2:iii	027a2mi-33	55.69	0.84	19.57	5.57	0.23	0.81	1.92	8.70	5.89	0.38	0.08	0.19	0.13	100.00
027a2:iii	027a2mi-34	55.53	1.00	19.70	5.33	0.35	0.82	1.96	8.69	5.73	0.28	0.09	0.34	0.17	100.00
027a2:iii	027a2mi-35	55.57	0.94	19.76	5.37	0.25	0.80	1.97	8.77	5.78	0.24	0.14	0.18	0.17	100.00
027a2:iii	027a2mi-36	56.19	1.04	19.48	5.68	0.28	0.95	2.03	7.64	5.92	0.35	0.08	0.21	0.17	100.00
027a2:iii	027a2mi-37	55.50	1.06	19.42	5.57	0.34	0.88	1.99	8.68	5.73	0.33	0.09	0.28	0.14	100.00
027a2:iv	027a2mi-14	55.60	0.99	19.43	5.77	0.30	0.90	2.02	8.49	5.79	0.25	0.09	0.20	0.18	100.00
027a2:iv	027a2mi-15	56.00	0.97	18.97	5.95	0.28	0.96	1.97	8.48	5.74	0.28	0.09	0.16	0.16	100.00

**Table D.2.1. cont.**

Zone	mi	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl	Total
027a2:iv	027a2mi-16	55.84	0.95	19.44	5.54	0.28	0.89	1.90	8.58	5.81	0.33	0.08	0.18	0.15	100.00
027a2:iv	027a2mi-17	55.49	1.00	19.24	5.66	0.34	0.87	2.03	8.78	5.59	0.40	0.10	0.32	0.16	100.00
027a2:iv	027a2mi-18	55.46	1.03	19.38	5.85	0.28	0.82	2.10	8.76	5.47	0.36	0.10	0.25	0.15	100.00
027a2:iv	027a2mi-19	55.88	0.95	19.62	5.63	0.32	0.87	1.98	8.26	5.80	0.29	0.06	0.18	0.17	100.00
027a2:iv	027a2mi-20	55.73	0.96	19.67	5.38	0.26	0.82	1.84	8.45	6.02	0.34	0.07	0.28	0.18	100.00
027a2:iv	027a2mi-21	55.77	1.16	19.29	6.02	0.30	0.95	1.95	8.00	5.77	0.35	0.08	0.18	0.18	100.00
027a2:iv	027a2mi-22	55.99	0.90	19.42	5.80	0.32	0.89	1.98	8.14	5.92	0.26	0.06	0.18	0.15	100.00
027a2:iv	027a2mi-23	56.25	1.03	19.56	5.92	0.30	0.87	1.85	7.83	5.73	0.23	0.09	0.19	0.16	100.00
027a2:iv	027a2mi-24	55.80	0.96	19.79	5.38	0.22	0.76	1.91	8.81	5.71	0.34	0.05	0.13	0.14	100.00
027a2:iv	027a2mi-25	55.46	1.01	19.43	5.67	0.30	0.86	2.02	8.74	5.64	0.37	0.11	0.20	0.15	100.00
027a2:iv	027a2mi-26	55.97	1.01	19.72	5.47	0.29	0.88	1.95	7.84	5.94	0.27	0.09	0.40	0.15	100.00
027a2:iv	027a2mi-27	55.90	0.96	19.51	5.62	0.31	0.94	1.89	8.26	5.78	0.37	0.08	0.25	0.17	100.00
027a2:v	027a2mi-01	55.24	0.97	19.83	5.61	0.28	0.79	2.04	8.73	5.71	0.34	0.03	0.27	0.14	100.00
027a2:v	027a2mi-03	56.35	0.92	20.47	5.06	0.29	0.82	1.74	7.88	5.82	0.27	0.07	0.16	0.15	100.00
027a2:v	027a2mi-04	55.47	0.93	20.14	5.34	0.26	0.85	1.86	8.35	6.02	0.27	0.06	0.30	0.15	100.00
027a2:v	027a2mi-05	55.84	0.93	19.88	5.43	0.30	0.81	1.96	8.11	5.85	0.32	0.10	0.29	0.18	100.00
027a2:v	027a2mi-06	55.76	0.97	19.54	5.58	0.29	0.79	2.04	8.56	5.82	0.27	0.06	0.11	0.18	100.00
027a2:v	027a2mi-07	55.72	0.96	19.68	5.52	0.28	0.86	1.98	8.13	6.13	0.33	0.11	0.12	0.17	100.00
027a2:v	027a2mi-08	56.23	1.10	20.11	5.62	0.24	0.87	1.78	7.64	5.74	0.30	0.07	0.16	0.16	100.00
027a2:v	027a2mi-09	55.37	1.02	19.80	5.74	0.30	0.85	1.86	8.58	5.74	0.25	0.10	0.25	0.14	100.00
027a2:v	027a2mi-10	55.24	1.01	19.69	5.33	0.30	0.79	1.99	8.81	5.94	0.27	0.08	0.38	0.15	100.00
027a2:v	027a2mi-11	55.51	1.00	20.30	5.29	0.25	0.81	1.83	8.39	5.79	0.28	0.07	0.30	0.16	100.00
027a2:v	027a2mi-12	55.37	0.92	19.78	5.24	0.25	0.82	1.96	8.84	5.93	0.31	0.08	0.31	0.17	100.00
027a2:v	027a2mi-13	55.41	0.86	20.29	5.21	0.27	0.80	1.94	8.74	5.89	0.23	0.06	0.16	0.16	100.00
042b1:i	042b1mi-01	56.79	0.90	19.19	5.31	0.23	0.80	1.23	8.29	6.47	0.24	0.09	0.27	0.16	100.00
042b1:i	042b1mi-02	56.41	0.96	19.48	5.20	0.30	0.82	1.38	8.06	6.56	0.24	0.09	0.33	0.17	100.00
042b1:i	042b1mi-03	56.02	0.94	19.58	5.34	0.28	0.79	1.58	8.08	6.63	0.28	0.09	0.24	0.16	100.00
042b1:i	042b1mi-04	55.77	0.93	19.39	5.33	0.24	0.78	1.43	8.89	6.40	0.25	0.10	0.35	0.15	100.00
042b1:i	042b1mi-05	55.68	0.96	19.01	5.84	0.24	0.86	1.77	8.70	6.14	0.33	0.10	0.22	0.14	100.00
042b1:i	042b1mi-06	55.97	0.90	19.36	5.48	0.26	0.80	1.39	8.77	6.24	0.30	0.10	0.27	0.16	100.00
042b1:i	042b1mi-07	55.93	1.04	19.71	5.32	0.26	0.81	1.61	8.06	6.44	0.25	0.12	0.31	0.15	100.00
042b1:i	042b1mi-08	55.77	0.89	19.24	5.43	0.29	0.83	1.70	8.53	6.64	0.25	0.07	0.20	0.18	100.00
042b1:i	042b1mi-09	55.98	0.94	19.39	5.46	0.27	0.83	1.63	8.19	6.53	0.20	0.09	0.31	0.17	100.00
042b1:i	042b1mi-10	55.67	0.92	19.36	5.47	0.27	0.74	1.56	8.63	6.43	0.29	0.07	0.44	0.15	100.00
042b1:i	042b1mi-11	55.98	0.97	19.66	5.12	0.25	0.77	1.59	8.28	6.71	0.24	0.06	0.22	0.16	100.00
042b1:i	042b1mi-12	56.13	0.98	19.43	5.27	0.31	0.80	1.59	8.39	6.52	0.23	0.08	0.15	0.17	100.00
042b1:i	042b1mi-13	55.52	0.96	19.38	5.53	0.30	0.79	1.76	8.37	6.53	0.21	0.08	0.39	0.16	100.00
042b1:i	042b1mi-14	56.31	1.01	19.46	5.32	0.26	0.80	1.76	8.07	6.19	0.27	0.08	0.29	0.15	100.00
042b1:i	042b1mi-15	55.54	0.96	19.25	5.70	0.28	0.80	1.90	8.65	6.12	0.28	0.11	0.29	0.11	100.00
042b1:i	042b1mi-16	56.11	0.98	19.56	5.29	0.31	0.88	1.54	8.26	6.23	0.25	0.14	0.28	0.17	100.00
042b1:i	042b1mi-17	56.35	0.98	19.45	5.14	0.28	0.80	1.53	8.10	6.49	0.29	0.09	0.32	0.16	100.00
042b1:i	042b1mi-18	55.95	0.99	19.25	5.32	0.31	0.77	1.31	8.42	6.75	0.31	0.09	0.32	0.20	100.00
042b1:i	042b1mi-19	56.23	1.00	19.47	5.32	0.29	0.77	1.47	8.08	6.74	0.27	0.09	0.13	0.15	100.00



**Table D.2.1. cont.**

Zone	mi	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl	Total
042b1:i	042b1mi-20	55.97	1.00	19.29	5.43	0.27	0.82	1.83	8.27	6.44	0.24	0.08	0.19	0.16	100.00
042b1:i	042b1mi-21	55.66	0.99	19.31	5.56	0.26	0.82	1.65	8.50	6.53	0.27	0.08	0.22	0.15	100.00
042b1:i	042b1mi-22	55.45	1.00	19.28	5.74	0.27	0.80	1.68	8.46	6.53	0.25	0.10	0.27	0.16	100.00
042b1:i	042b1mi-23	56.55	1.06	18.86	5.69	0.24	0.87	1.70	8.07	6.36	0.23	0.07	0.15	0.16	100.00
042b1:i	042b1mi-24	55.80	0.98	19.11	5.42	0.29	0.79	1.74	8.50	6.61	0.26	0.07	0.31	0.13	100.00
042b1:i	042b1mi-25	55.50	0.90	19.26	5.49	0.32	0.78	1.76	8.73	6.50	0.23	0.07	0.27	0.18	100.00
042b1:i	042b1mi-26	55.84	0.93	19.56	5.41	0.27	0.81	1.69	8.13	6.47	0.30	0.09	0.37	0.17	100.00
042b1:i	042b1mi-27	55.89	1.00	19.36	5.44	0.27	0.86	1.72	8.43	6.27	0.27	0.08	0.27	0.14	100.00
042b1:i	042b1mi-28	55.73	0.93	19.38	5.57	0.25	0.79	1.67	8.50	6.46	0.26	0.05	0.24	0.15	100.00
042b1:i	042b1mi-29	56.28	0.85	19.43	5.45	0.28	0.76	1.72	7.99	6.48	0.33	0.10	0.15	0.17	100.00
042b1:i	042b1mi-30	55.52	0.98	19.29	5.32	0.23	0.80	1.72	8.55	6.68	0.25	0.10	0.42	0.16	100.00
042b1:ii	042b1mi-31	56.15	1.18	19.05	5.86	0.29	0.88	1.47	8.00	6.11	0.39	0.12	0.35	0.16	100.00
042b1:ii	042b1mi-32	55.95	0.99	19.34	5.47	0.24	0.85	1.71	8.61	5.95	0.30	0.09	0.32	0.17	100.00
042b1:ii	042b1mi-33	55.97	0.92	19.47	5.36	0.32	0.81	1.90	8.42	6.03	0.30	0.08	0.26	0.16	100.00
042b1:ii	042b1mi-34	55.75	0.89	19.39	5.56	0.27	0.80	1.88	8.48	6.20	0.27	0.09	0.23	0.17	100.00
042b1:ii	042b1mi-35	55.27	0.95	19.44	5.56	0.29	0.85	1.99	8.78	6.15	0.18	0.06	0.31	0.16	100.00
042b1:ii	042b1mi-36	55.08	0.98	18.71	6.24	0.28	0.95	1.68	8.96	6.28	0.27	0.09	0.31	0.16	100.00
042b1:ii	042b1mi-37	55.62	0.92	19.57	5.33	0.25	0.79	1.70	8.73	6.27	0.25	0.10	0.32	0.14	100.00
042b1:ii	042b1mi-38	55.98	0.94	19.37	5.38	0.25	0.79	1.66	8.53	6.28	0.25	0.11	0.30	0.17	100.00
042b1:ii	042b1mi-39	55.50	1.02	19.37	5.54	0.29	0.81	1.84	8.83	6.05	0.25	0.08	0.21	0.17	100.00
042b1:ii	042b1mi-40	55.70	0.93	19.38	5.63	0.25	0.89	1.95	8.80	5.87	0.27	0.09	0.09	0.17	100.00
042b1:ii	042b1mi-41	55.48	1.03	19.35	5.64	0.31	0.85	1.77	8.93	6.01	0.24	0.07	0.13	0.18	100.00
042b1:ii	042b1mi-42	55.70	0.97	19.49	5.54	0.29	0.78	1.83	8.76	5.80	0.30	0.05	0.32	0.14	100.00
042b1:ii	042b1mi-43	55.37	0.94	19.58	5.67	0.24	0.86	1.89	8.70	5.83	0.34	0.09	0.29	0.18	100.00
042b1:ii	042b1mi-44	55.72	0.97	19.49	5.66	0.27	0.83	1.87	8.69	5.73	0.27	0.09	0.23	0.17	100.00
042b1:ii	042b1mi-45	55.54	0.93	19.71	5.49	0.28	0.86	1.87	8.52	5.96	0.29	0.09	0.29	0.16	100.00
042b1:ii	042b1mi-46	55.69	0.86	19.75	5.40	0.22	0.81	1.89	8.47	6.06	0.27	0.09	0.34	0.16	100.00
042b1:ii	042b1mi-47	55.53	0.79	19.86	5.48	0.31	0.89	1.76	8.74	6.03	0.23	0.07	0.19	0.15	100.00
042b1:ii	042b1mi-48	55.63	0.97	19.59	5.49	0.31	0.77	1.93	8.67	5.82	0.33	0.09	0.23	0.16	100.00
042b1:ii	042b1mi-49	55.65	1.01	19.17	5.59	0.30	0.81	1.84	8.79	6.10	0.19	0.08	0.29	0.16	100.00
042b1:ii	042b1mi-50	55.81	0.97	19.56	5.50	0.32	0.80	1.91	8.76	5.66	0.25	0.08	0.23	0.15	100.00
042b2:i	042b2mi-01	55.65	0.84	19.17	5.78	0.28	0.81	1.70	8.46	6.45	0.30	0.10	0.30	0.18	100.00
042b2:i	042b2mi-02	56.18	1.00	19.38	5.51	0.32	0.79	1.52	8.11	6.39	0.24	0.09	0.30	0.16	100.00
042b2:i	042b2mi-03	56.36	0.94	19.46	5.40	0.26	0.81	1.43	8.28	6.29	0.27	0.11	0.21	0.16	100.00
042b2:i	042b2mi-04	55.81	1.01	19.30	5.58	0.33	0.79	1.69	8.41	6.37	0.27	0.09	0.20	0.13	100.00
042b2:i	042b2mi-05	56.42	1.03	19.36	5.45	0.24	0.80	1.36	8.28	6.39	0.25	0.09	0.20	0.15	100.00
042b2:i	042b2mi-06	55.55	0.94	19.20	5.68	0.32	0.84	1.63	8.63	6.49	0.22	0.08	0.23	0.17	100.00
042b2:i	042b2mi-07	56.01	0.94	19.46	5.44	0.28	0.79	1.50	8.21	6.56	0.25	0.09	0.30	0.17	100.00
042b2:i	042b2mi-08	55.83	0.88	19.24	5.37	0.30	0.80	1.61	8.60	6.57	0.28	0.09	0.29	0.17	100.00
042b2:i	042b2mi-09	56.27	0.98	19.30	5.25	0.33	0.82	1.21	8.51	6.55	0.27	0.08	0.27	0.18	100.00
042b2:i	042b2mi-10	55.89	0.94	19.46	5.59	0.27	0.77	1.66	8.41	6.35	0.23	0.07	0.17	0.18	100.00
042b2:i	042b2mi-11	55.73	0.91	19.40	5.38	0.29	0.78	1.53	8.46	6.64	0.33	0.10	0.27	0.17	100.00
042b2:i	042b2mi-12	56.35	0.95	19.36	5.16	0.25	0.77	1.35	8.45	6.61	0.25	0.11	0.24	0.16	100.00

**Table D.2.1. cont.**

Zone	mi	SiO <sub>2</sub>	TiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	*FeO	MnO	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	P <sub>2</sub> O <sub>5</sub>	SO <sub>2</sub>	F	Cl	Total
042b2:i	042b2mi-13	55.76	0.94	19.32	5.46	0.26	0.80	1.68	8.42	6.47	0.28	0.08	0.36	0.19	100.00
042b2:i	042b2mi-14	56.11	0.99	19.26	5.46	0.23	0.85	1.60	8.22	6.46	0.26	0.09	0.28	0.19	100.00
042b2:i	042b2mi-15	56.16	0.96	19.64	5.32	0.28	0.80	1.44	8.13	6.43	0.32	0.07	0.27	0.17	100.00
042b2:i	042b2mi-16	55.67	0.96	19.30	5.48	0.28	0.76	1.68	8.52	6.56	0.29	0.07	0.26	0.18	100.00
042b2:i	042b2mi-17	56.23	0.97	19.54	5.19	0.29	0.75	1.49	8.41	6.33	0.22	0.07	0.32	0.18	100.00
042b2:i	042b2mi-18	55.71	0.97	19.19	5.48	0.30	0.80	1.58	8.43	6.72	0.25	0.06	0.35	0.17	100.00
042b2:i	042b2mi-19	56.10	0.99	19.19	5.41	0.31	0.77	1.54	8.50	6.58	0.26	0.08	0.12	0.17	100.00
042b2:i	042b2mi-20	56.03	0.98	19.46	5.26	0.26	0.80	1.40	8.37	6.52	0.29	0.09	0.38	0.17	100.00
042b2:i	042b2mi-21	56.35	0.93	19.36	5.22	0.29	0.80	1.35	8.29	6.70	0.23	0.08	0.25	0.16	100.00
042b2:i	042b2mi-22	56.01	1.06	19.32	5.24	0.27	0.77	1.32	8.48	6.59	0.29	0.09	0.40	0.14	100.00
042b2:i	042b2mi-23	56.10	0.94	19.40	5.42	0.31	0.80	1.47	8.19	6.62	0.17	0.10	0.34	0.16	100.00
042b2:i	042b2mi-24	55.71	0.95	19.33	5.26	0.26	0.78	1.65	8.64	6.69	0.25	0.10	0.25	0.15	100.00
042b2:i	042b2mi-25	55.93	1.02	19.43	5.39	0.25	0.83	1.68	8.18	6.45	0.31	0.08	0.29	0.17	100.00
042b2:i	042b2mi-26	55.89	1.02	19.24	5.42	0.27	0.84	1.65	8.47	6.58	0.26	0.08	0.13	0.16	100.00
042b2:i	042b2mi-27	56.26	1.17	19.17	5.43	0.27	0.85	1.56	8.19	6.21	0.32	0.11	0.32	0.15	100.00
042b2:i	042b2mi-28	56.17	0.96	19.37	5.29	0.27	0.79	1.34	8.42	6.62	0.30	0.06	0.23	0.18	100.00
042b2:i	042b2mi-31	55.73	1.03	19.54	5.43	0.27	0.79	1.90	8.51	6.10	0.21	0.09	0.26	0.14	100.00
042b2:i	042b2mi-32	55.56	0.95	19.51	5.54	0.28	0.82	1.68	8.62	6.41	0.21	0.09	0.16	0.15	100.00
042b2:ii	042b2mi-33	55.84	0.93	19.46	5.51	0.29	0.77	1.60	8.85	5.98	0.32	0.08	0.21	0.14	100.00
042b2:ii	042b2mi-34	55.42	0.92	19.38	5.61	0.29	0.81	1.82	8.80	6.20	0.26	0.09	0.24	0.16	100.00
042b2:ii	042b2mi-35	54.82	1.15	19.08	6.16	0.32	0.86	1.87	8.84	6.01	0.33	0.07	0.28	0.16	100.00
042b2:ii	042b2mi-36	55.75	1.00	19.26	5.88	0.33	0.84	1.63	8.58	6.22	0.28	0.06	0.05	0.15	100.00
042b2:ii	042b2mi-37	55.61	1.01	19.10	5.83	0.28	0.92	1.56	8.61	6.31	0.27	0.08	0.26	0.17	100.00
042b2:ii	042b2mi-38	55.87	0.92	19.49	5.48	0.28	0.84	1.89	8.80	5.64	0.35	0.07	0.18	0.16	100.00
042b2:ii	042b2mi-39	55.26	0.92	19.66	5.56	0.31	0.86	1.80	9.00	5.91	0.30	0.07	0.19	0.14	100.00
042b2:ii	042b2mi-40	55.64	0.91	19.78	5.59	0.34	0.82	1.90	8.24	6.14	0.28	0.09	0.09	0.16	100.00
042b2:ii	042b2mi-41	55.37	0.96	19.60	5.41	0.25	0.83	1.82	8.98	6.05	0.31	0.05	0.20	0.18	100.00
042b2:ii	042b2mi-42	55.40	0.92	19.70	5.78	0.28	0.82	1.90	8.82	5.73	0.28	0.07	0.15	0.15	100.00
042b2:ii	042b2mi-43	55.41	1.04	19.42	5.69	0.32	0.83	1.82	8.96	5.62	0.28	0.08	0.34	0.15	100.00
042b2:ii	042b2mi-44	55.34	0.94	19.56	5.77	0.32	0.81	1.86	8.84	5.73	0.31	0.06	0.30	0.17	100.00
042b2:ii	042b2mi-45	55.34	0.93	19.54	5.48	0.31	0.84	1.87	8.90	6.08	0.32	0.05	0.21	0.15	100.00
042b2:ii	042b2mi-46	55.50	0.92	19.52	5.39	0.31	0.88	1.86	8.78	6.07	0.30	0.09	0.23	0.15	100.00
042b2:ii	042b2mi-47	55.48	0.86	19.37	5.55	0.30	0.80	1.77	8.83	6.34	0.25	0.08	0.20	0.18	100.00
042b2:ii	042b2mi-48	55.53	0.89	19.47	5.45	0.30	0.78	1.90	8.60	6.33	0.26	0.10	0.23	0.16	100.00
042b2:ii	042b2mi-49	55.65	0.96	19.36	5.62	0.27	0.85	1.83	8.77	5.72	0.32	0.10	0.31	0.19	100.00
042b2:ii	042b2mi-50	55.54	1.03	19.59	5.47	0.32	0.85	1.85	8.70	5.97	0.32	0.09	0.11	0.15	100.00

## **Appendix E: Anorthoclase Crystal Images**

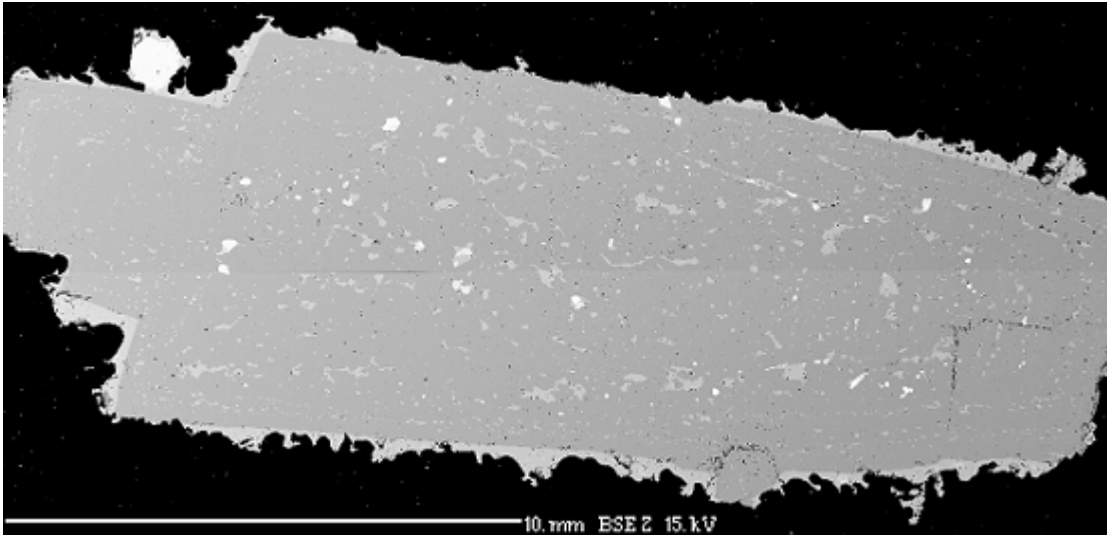
Throughout this work it was necessary to create many images of the three anorthoclase crystals being studied. Within this appendix there are Back Scattered Electron (BSE) images and X-Ray Element Distribution Maps. The Element Distribution Maps are for elements Ca and K taken at various scales. Also included in this appendix are BSE images of trenches created by laser ablation for LA-ICP-MS transects.

### **E.1 BSE Images of Anorthoclase Sections**

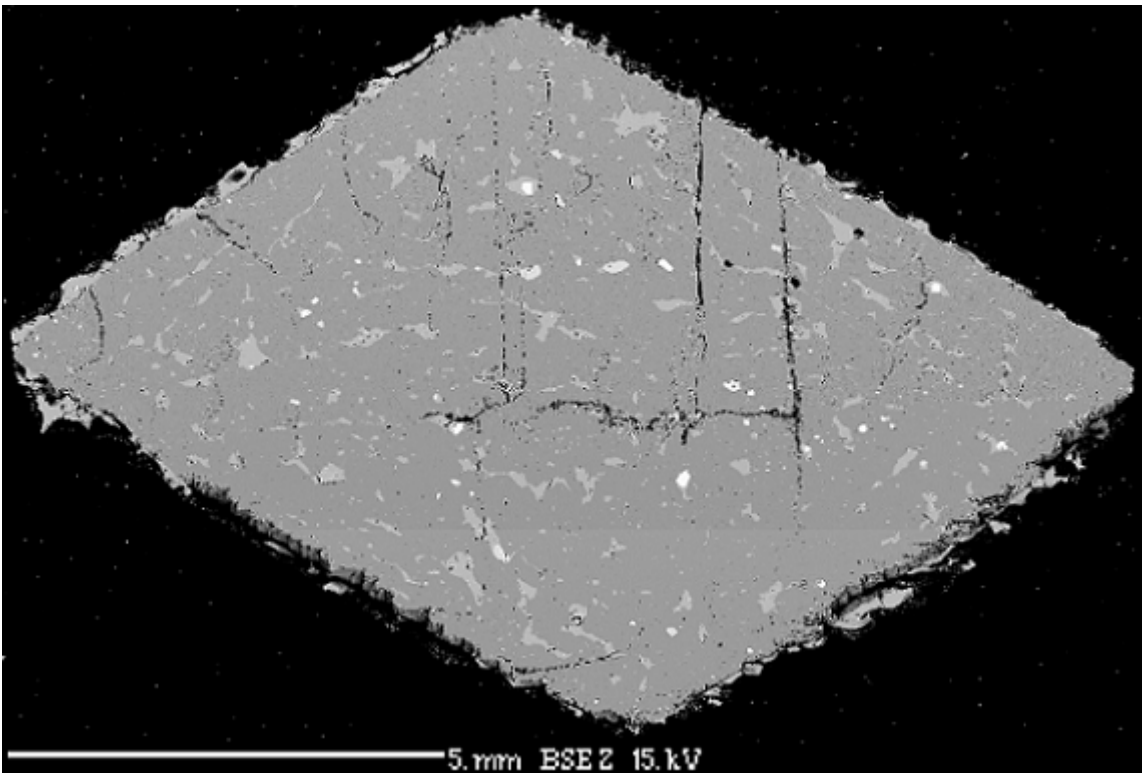
### **E.2 EMP Calcium and Potassium X-Ray Maps**

### **E.3 Laser Ablation Trenches in Anorthoclase Crystals**

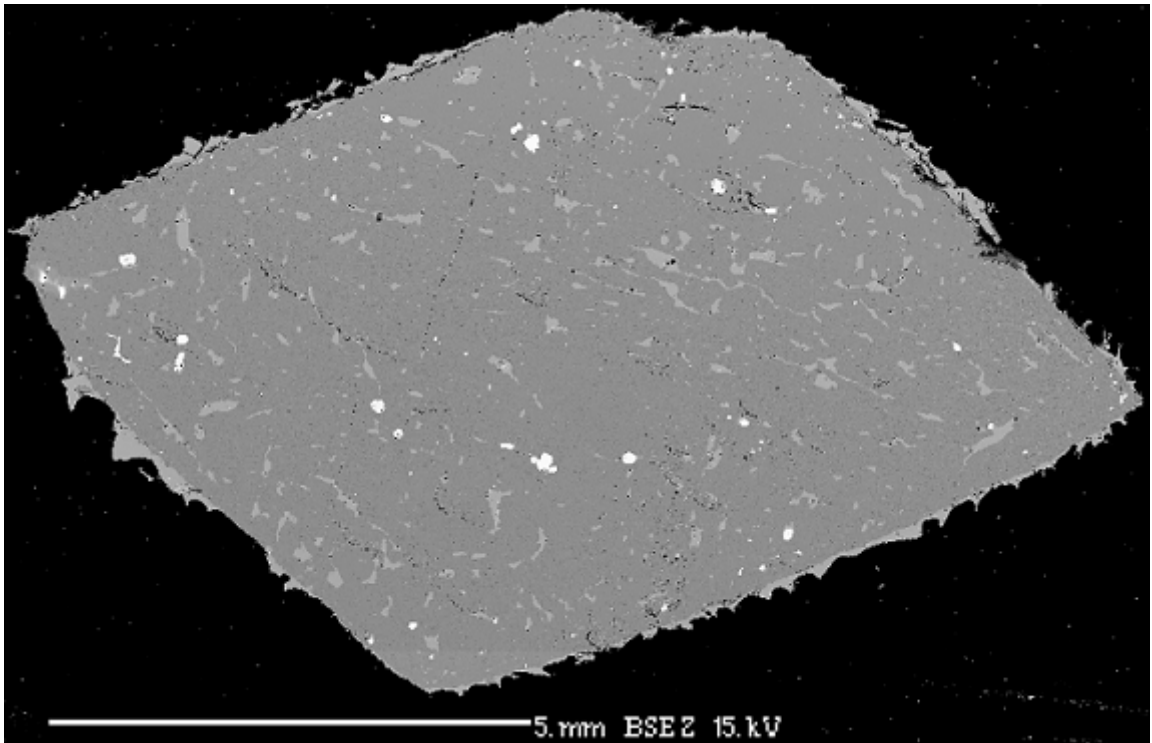
**Appendix E.1: BSE Images of Anorthoclase Sections**



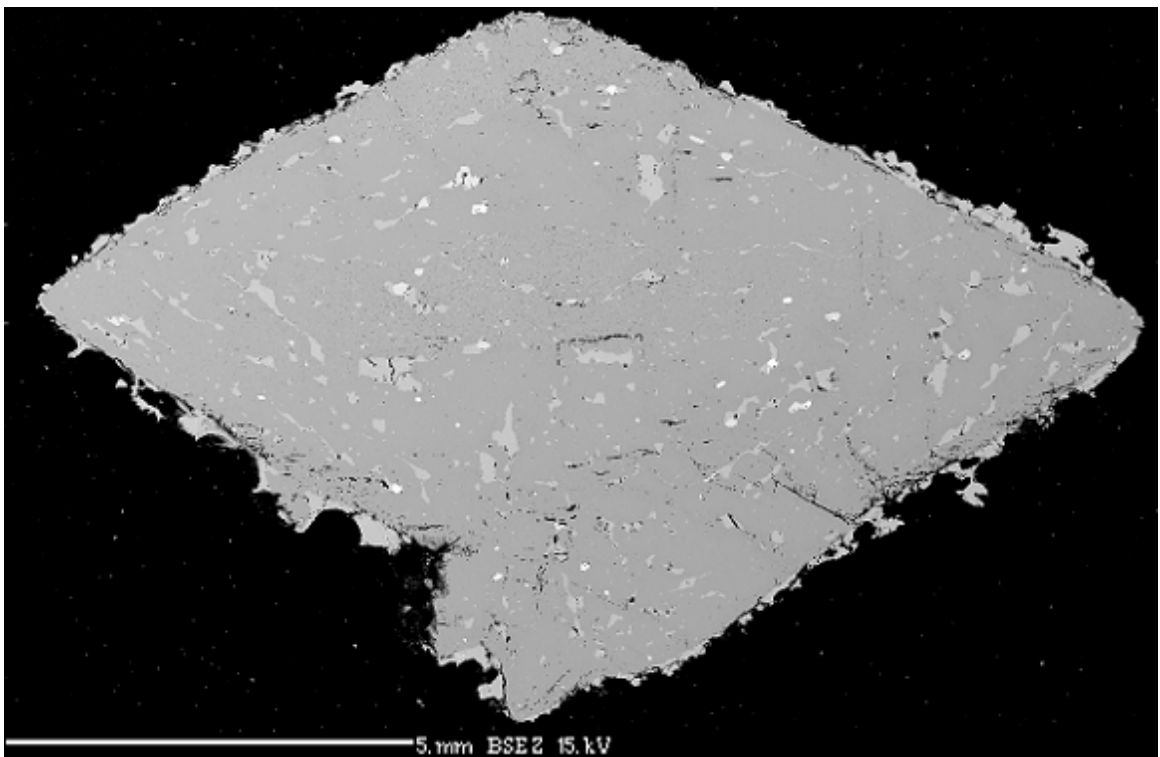
**Figure E.1. 1** BSE image of anorthoclase section eb05019b.



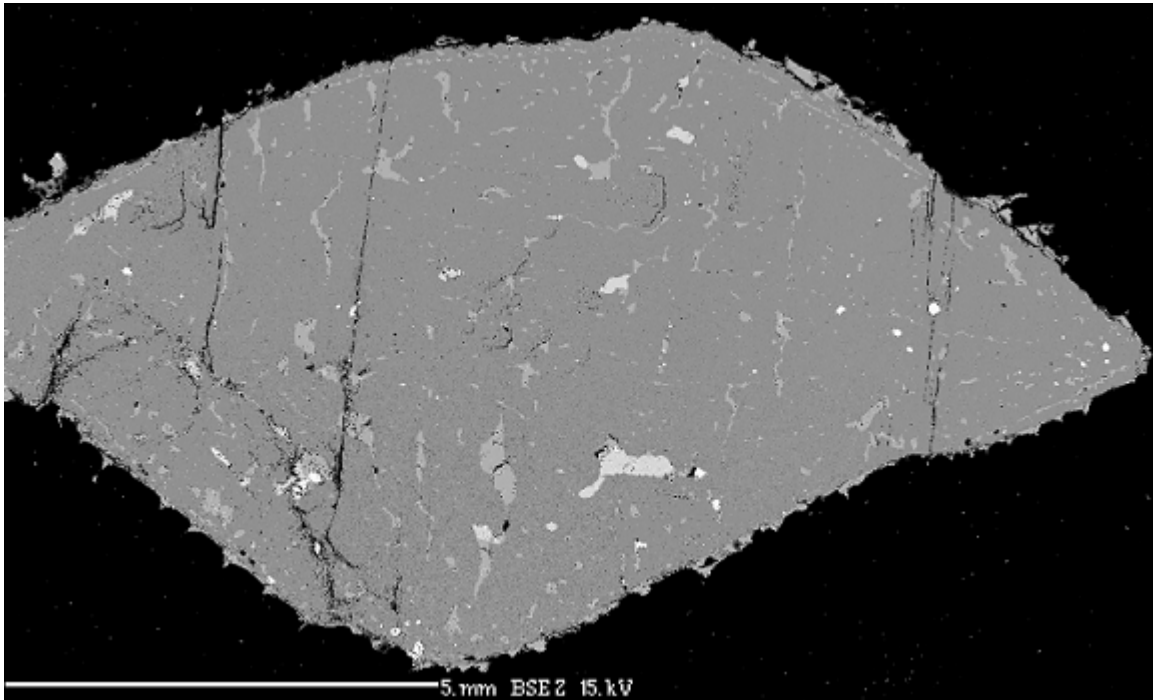
**Figure E.1. 2** BSE image of anorthoclase section eb05027a1.



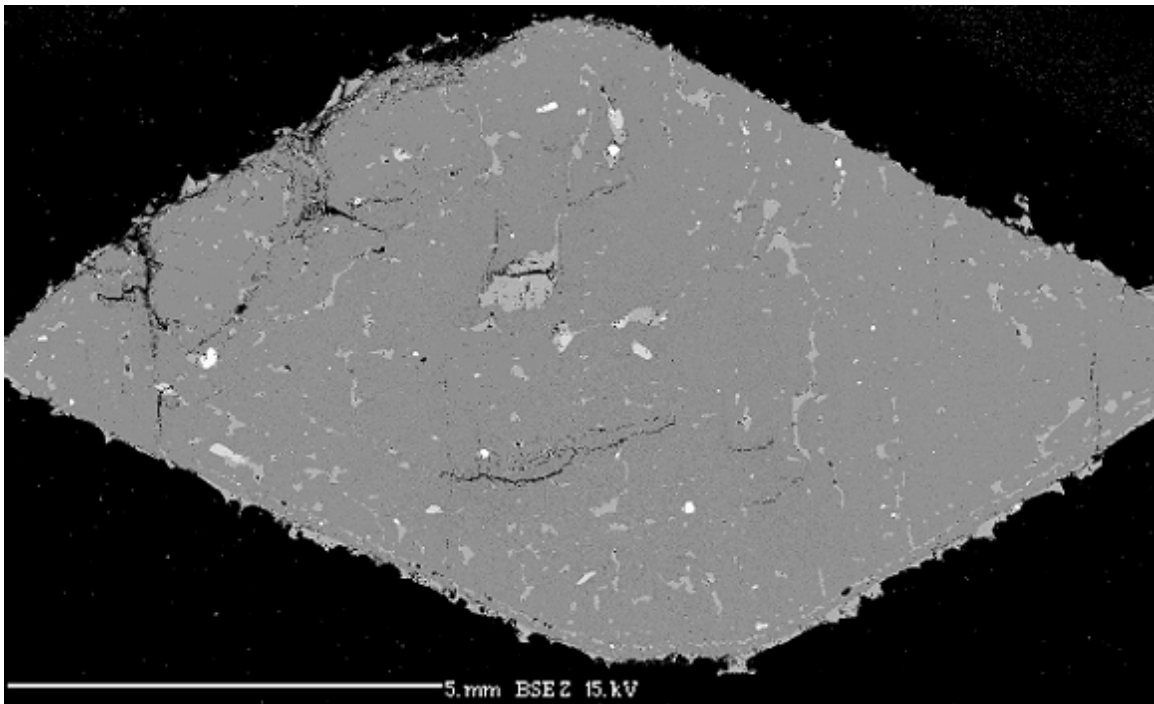
**Figure E.1. 3** BSE image of anorthoclase section eb05027a2.



**Figure E.1. 4** BSE image of anorthoclase section eb05027a3.

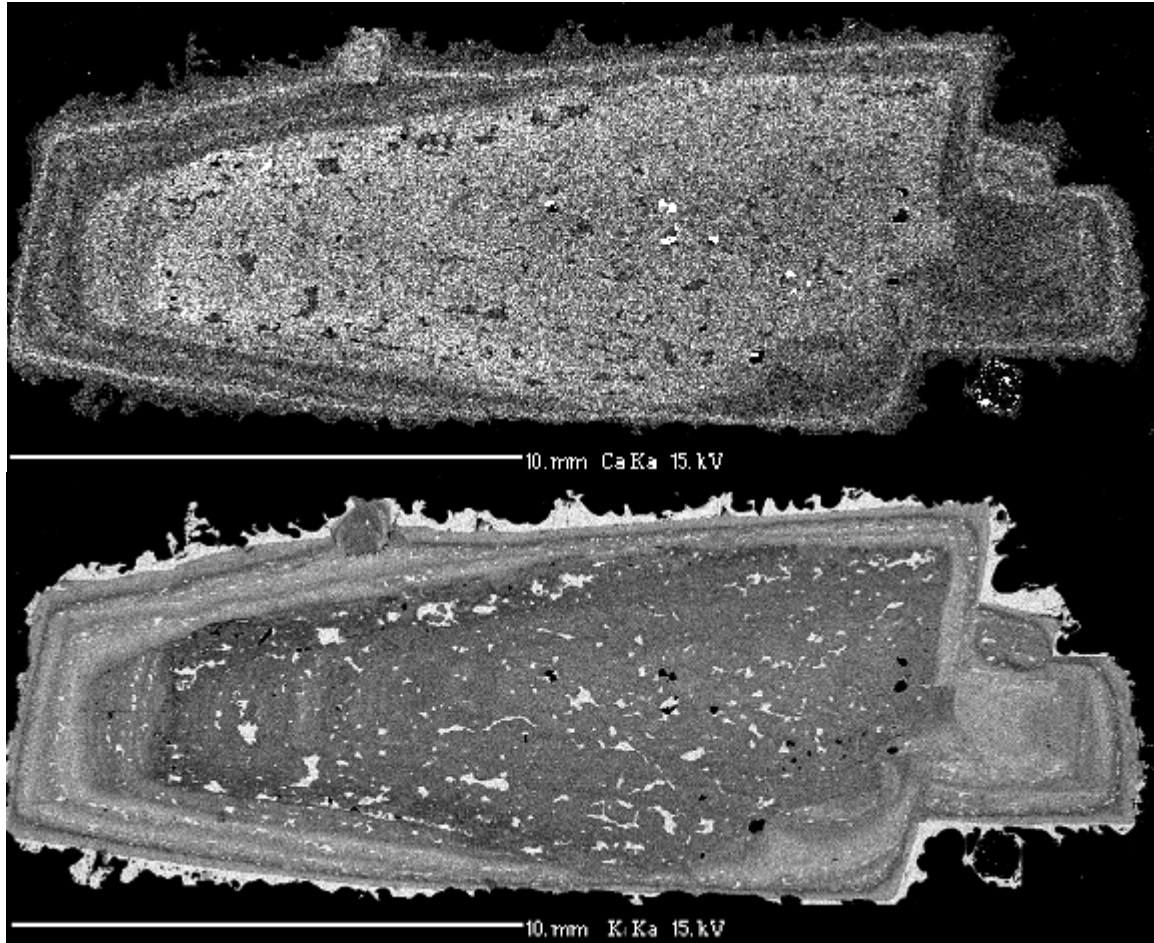


**Figure E.1. 5** BSE image of anorthoclase section eb05042b1.

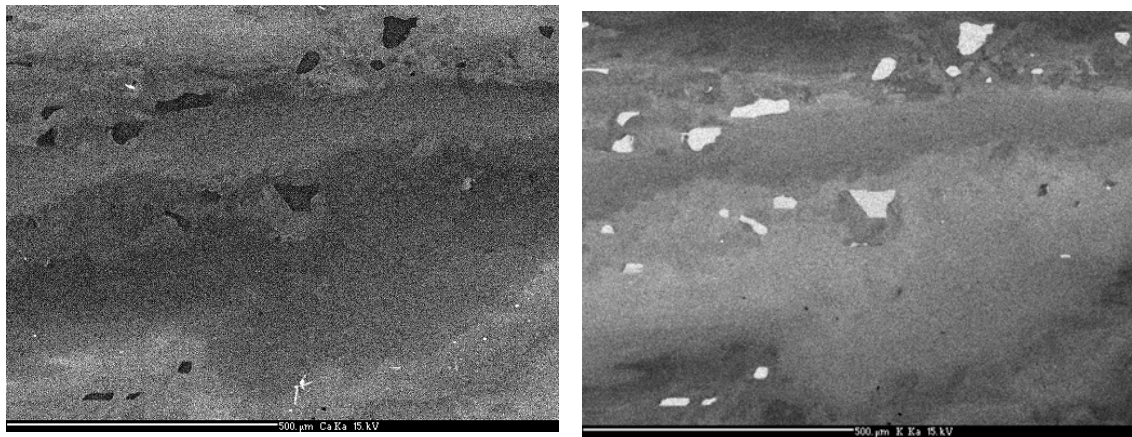


**Figure E.1. 6** BSE image of anorthoclase section eb05042b2.

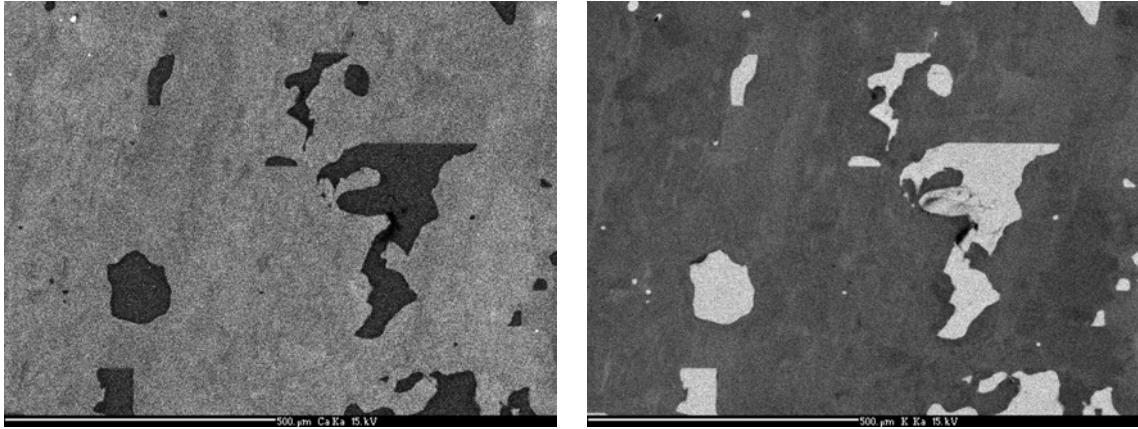
## Appendix E.2: EMP Calcium and Potassium X-Ray Maps



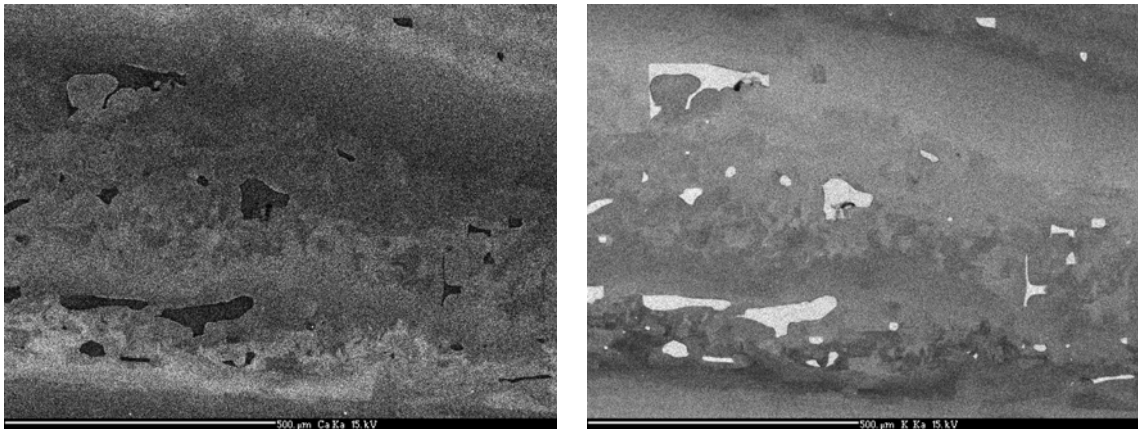
**Figure E.2. 1** Calcium (top) and potassium (bottom) X-Ray maps of anorthoclase section eb05019b.



**Figure E.2. 2** Calcium (left) and potassium (right) X-Ray maps of area 1 within anorthoclase section eb05019b (See Figure E.2.1), scale bar at the bottom of each figure is 500 μm.

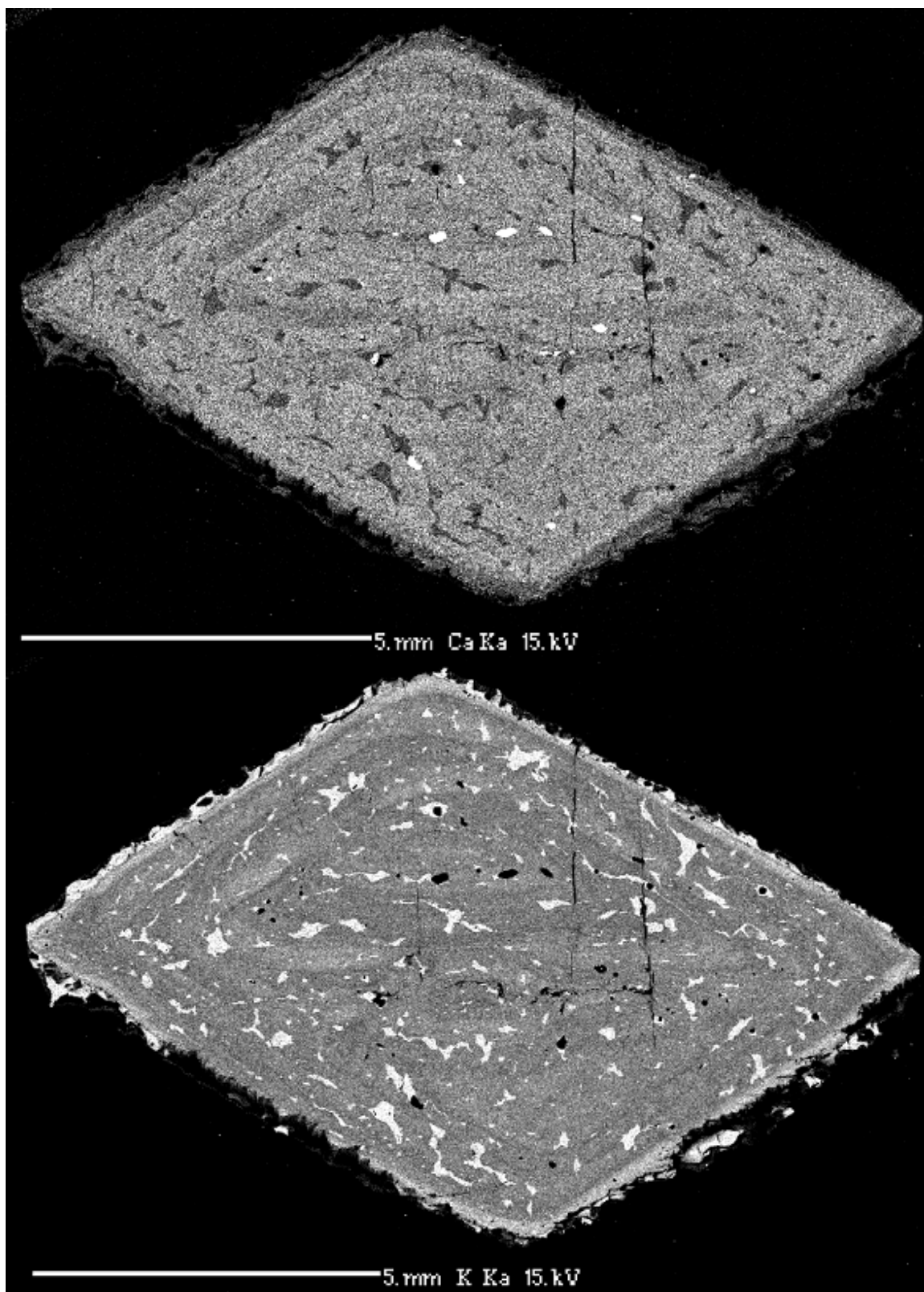


**Figure E.2. 3** Calcium (left) and potassium (right) X-Ray maps of area 2 within anorthoclase section eb05019b (See Figure E.2.1), scale bar at the bottom of each figure is 500  $\mu\text{m}$ .

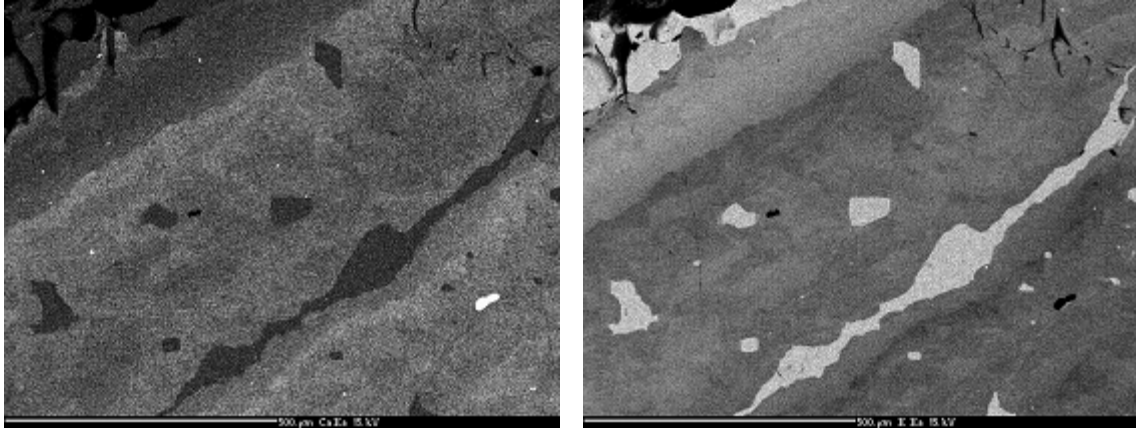


**Figure E.2. 4** Calcium (left) and potassium (right) X-Ray maps of area 3 within anorthoclase section eb05019b (See Figure E.2.1), scale bar at the bottom of each figure is 500  $\mu\text{m}$ .

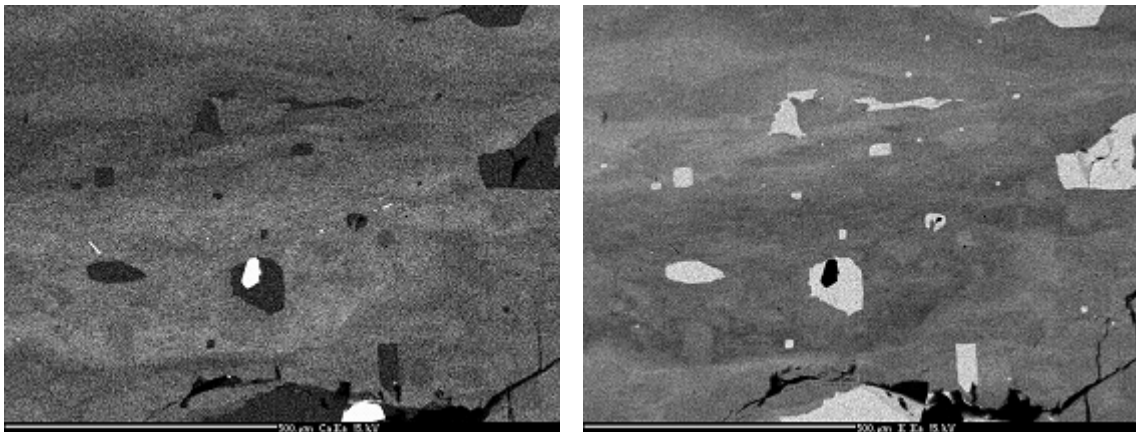




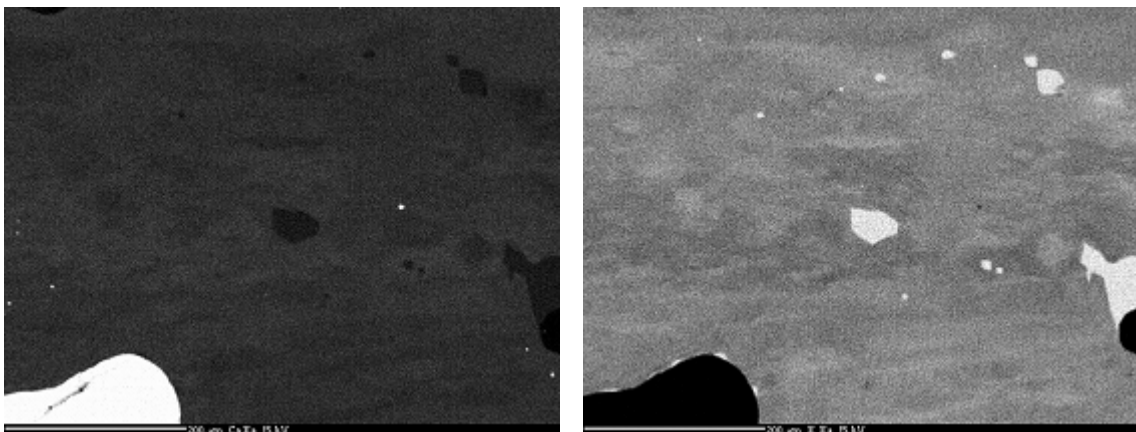
**Figure E.2. 5** Calcium (top) and potassium (bottom) X-Ray maps of anorthoclase section eb05027a1.



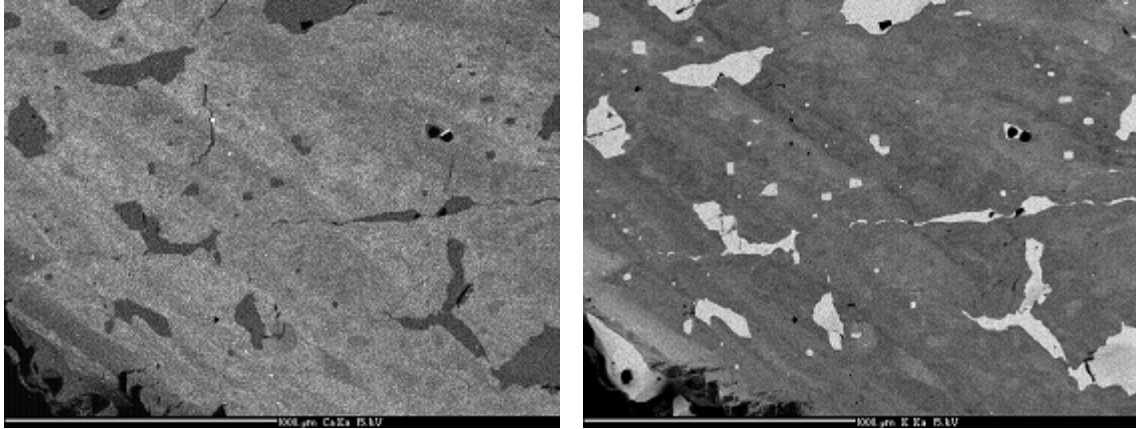
**Figure E.2. 6** Calcium (left) and potassium (right) X-Ray maps of area 1 within anorthoclase section eb05027a1 (See Figure E.2.5), scale bar at the bottom of each figure is 500  $\mu\text{m}$ .



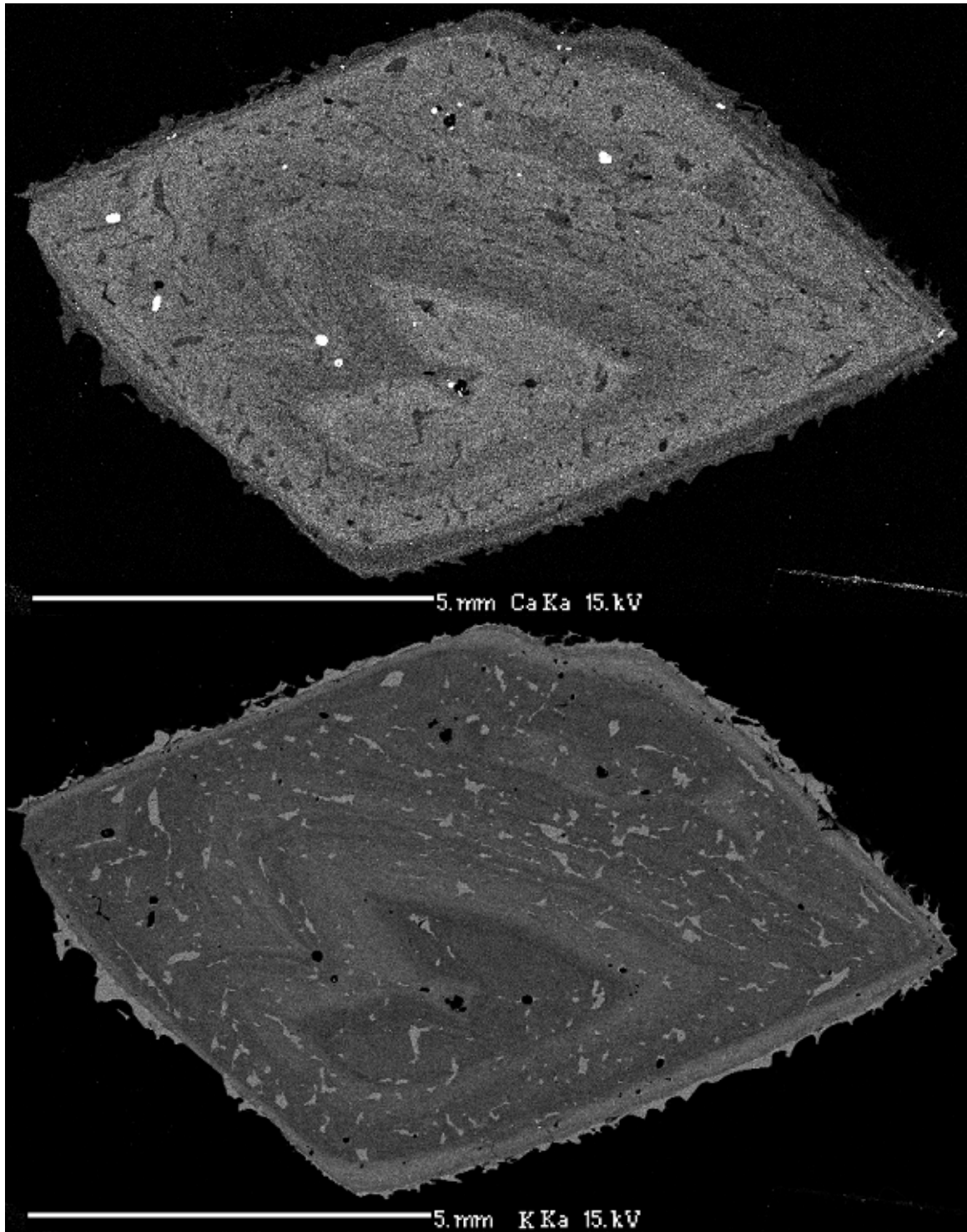
**Figure E.2. 7** Calcium (left) and potassium (right) X-Ray maps of area 2 within anorthoclase section eb05027a1 (See Figure E.2.5), scale bar at the bottom of each figure is 500  $\mu\text{m}$ .



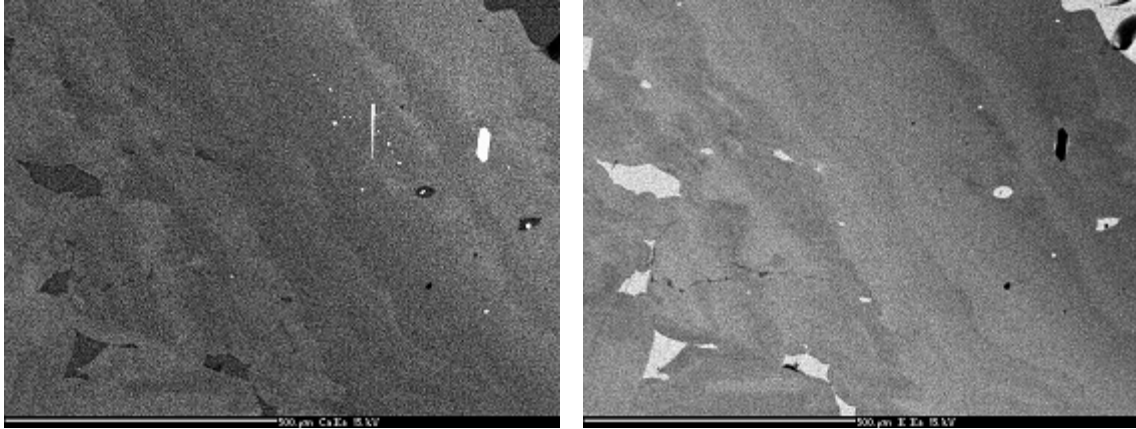
**Figure E.2. 8** Calcium (left) and potassium (right) X-Ray maps of area 3 within anorthoclase section eb05027a1 (See Figure E.2.5), scale bar at the bottom of each figure is 200  $\mu\text{m}$ .



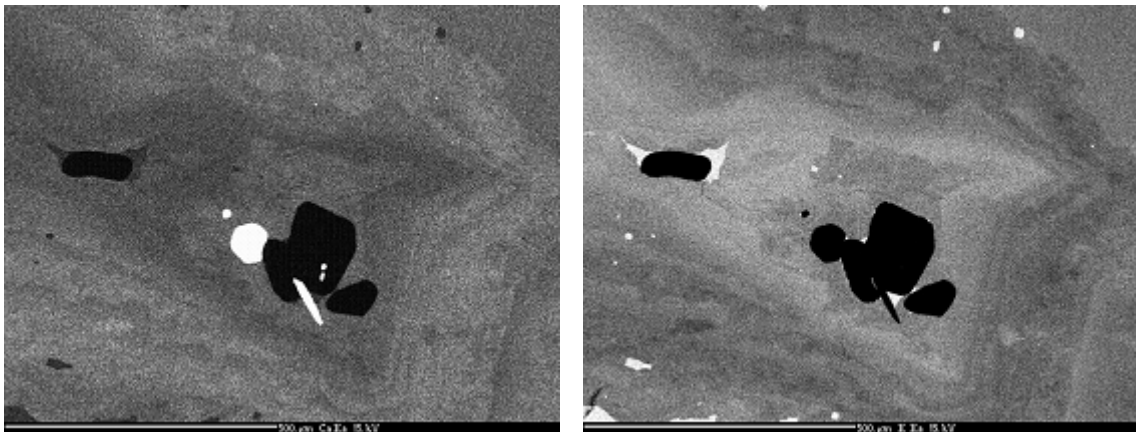
**Figure E.2. 9** Calcium (left) and potassium (right) X-Ray maps of area 4 within anorthoclase section eb05027a1 (See Figure E.2.5), scale bar at the bottom of each figure is 1000  $\mu\text{m}$ .



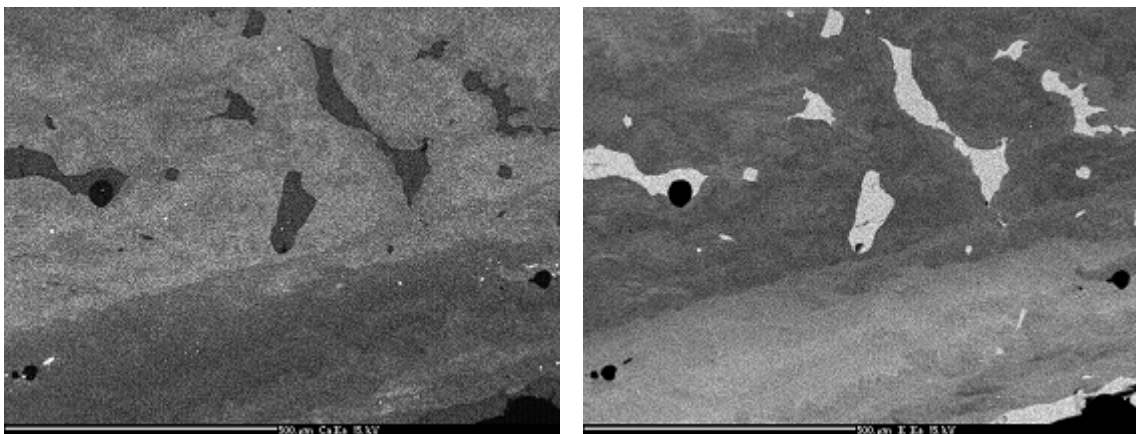
**Figure E.2. 10** Calcium (top) and potassium (bottom) X-Ray maps of anorthoclase section eb05027a2.



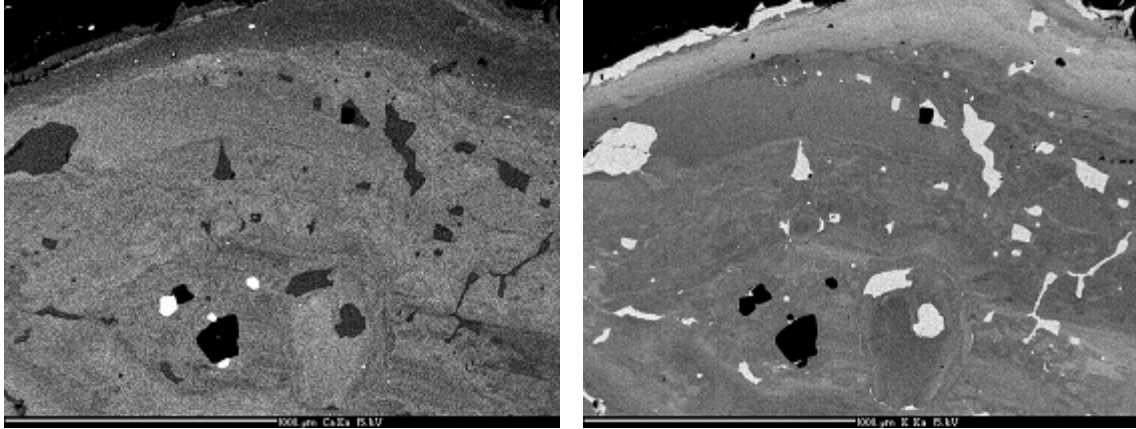
**Figure E.2. 11** Calcium (left) and potassium (right) X-Ray maps of area 1 within anorthoclase section eb05027a2 (See Figure E.2.10), scale bar at the bottom of each figure is 500  $\mu\text{m}$ .



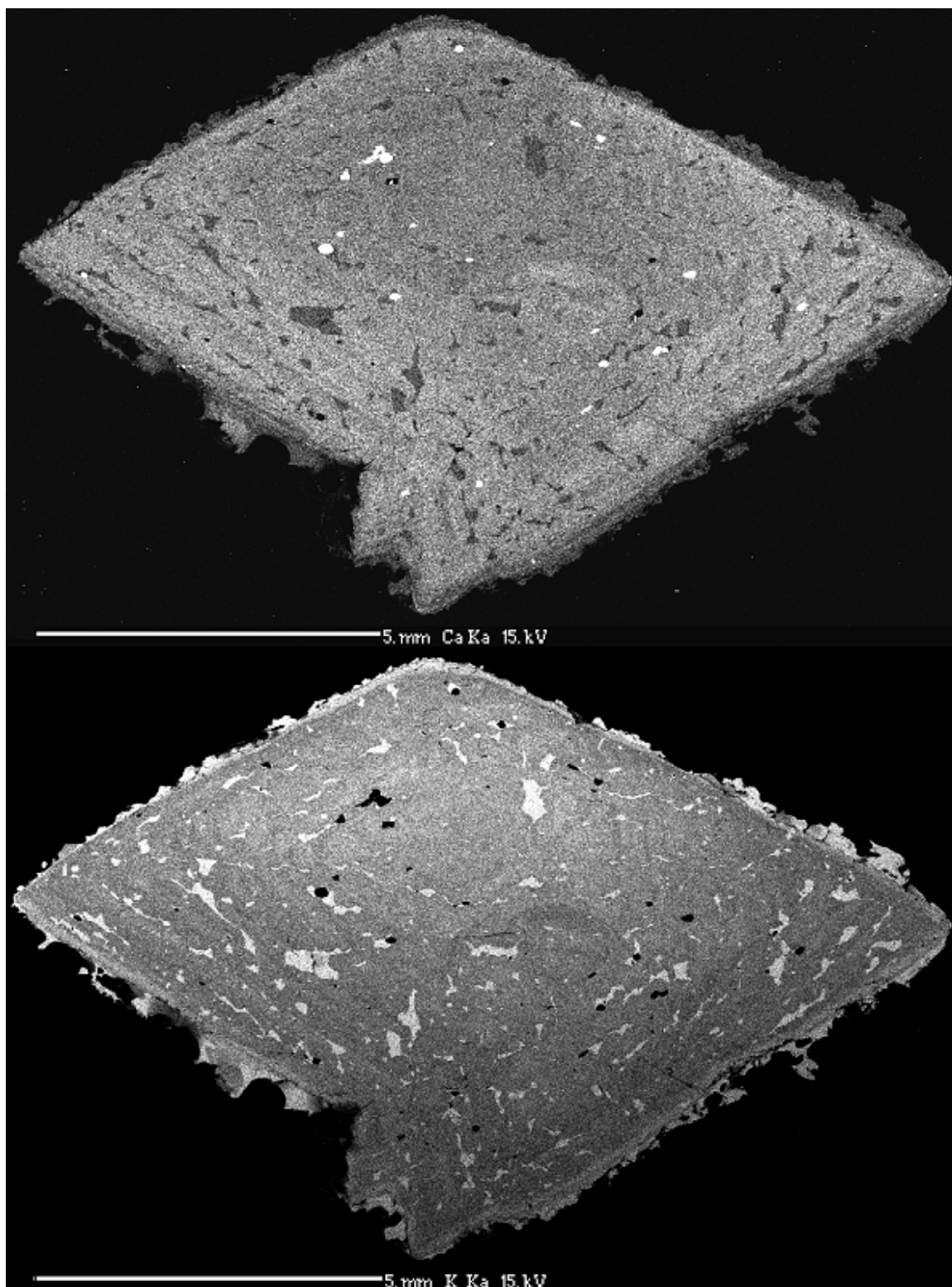
**Figure E.2. 12** Calcium (left) and potassium (right) X-Ray maps of area 2 within anorthoclase section eb05027a2 (See Figure E.2.10), scale bar at the bottom of each figure is 500  $\mu\text{m}$ .



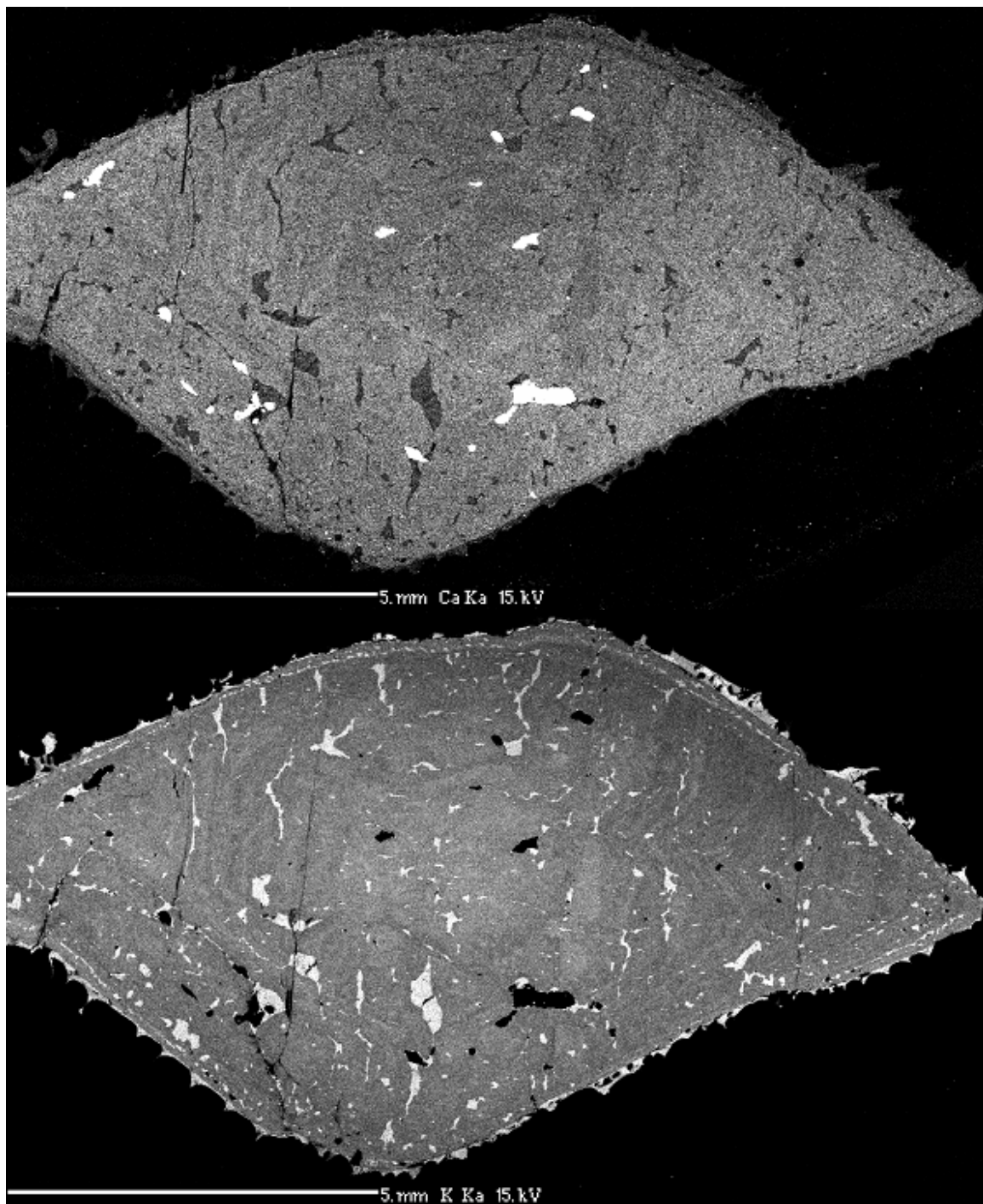
**Figure E.2. 13** Calcium (left) and potassium (right) X-Ray maps of area 3 within anorthoclase section eb05027a2 (See Figure E.2.10), scale bar at the bottom of each figure is 500  $\mu\text{m}$ .



**Figure E.2. 14** Calcium (left) and potassium (right) X-Ray maps of area 4 within anorthoclase section eb05027a2 (See Figure E.2.10), scale bar at the bottom of each figure is 1000  $\mu\text{m}$ .

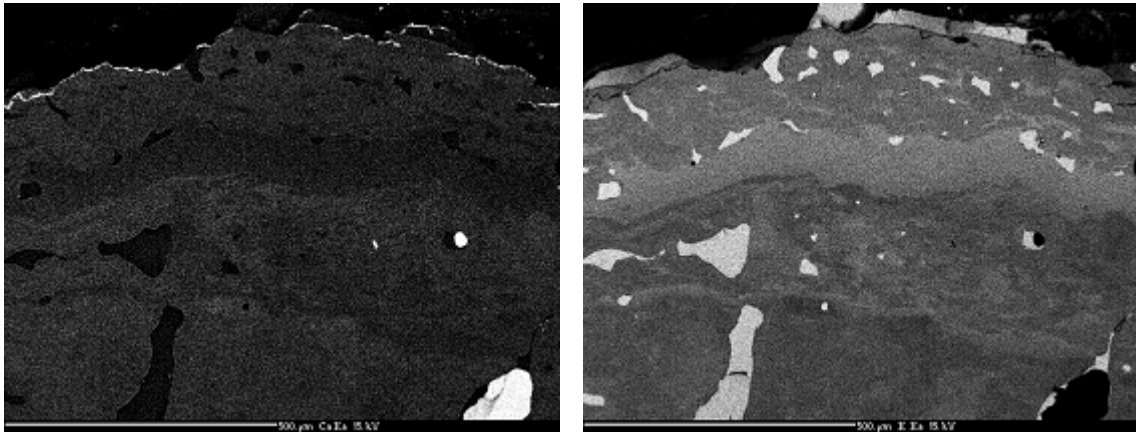


**Figure E.2. 15** Calcium (top) and potassium (bottom) X-Ray maps of anorthoclase section eb05027a3.

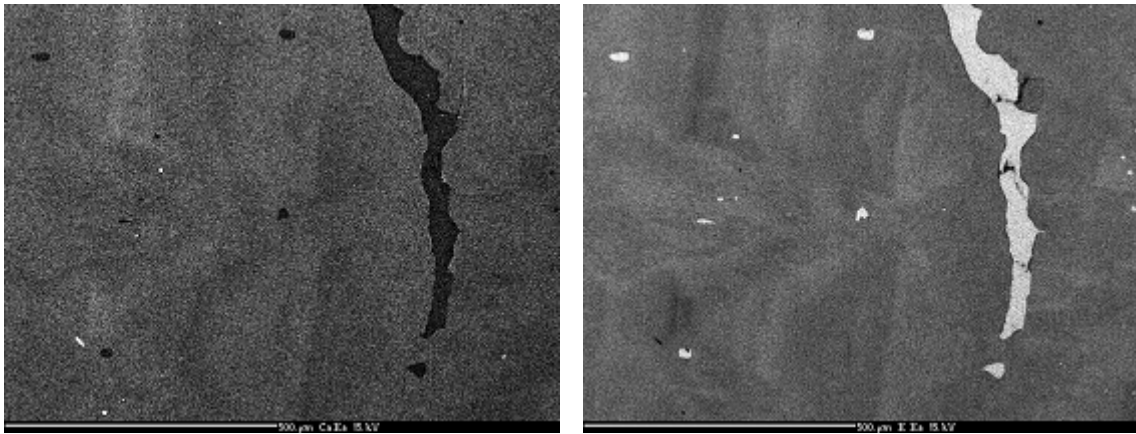


**Figure E.2. 16** Calcium (top) and potassium (bottom) X-Ray maps of anorthoclase section eb05042b1.

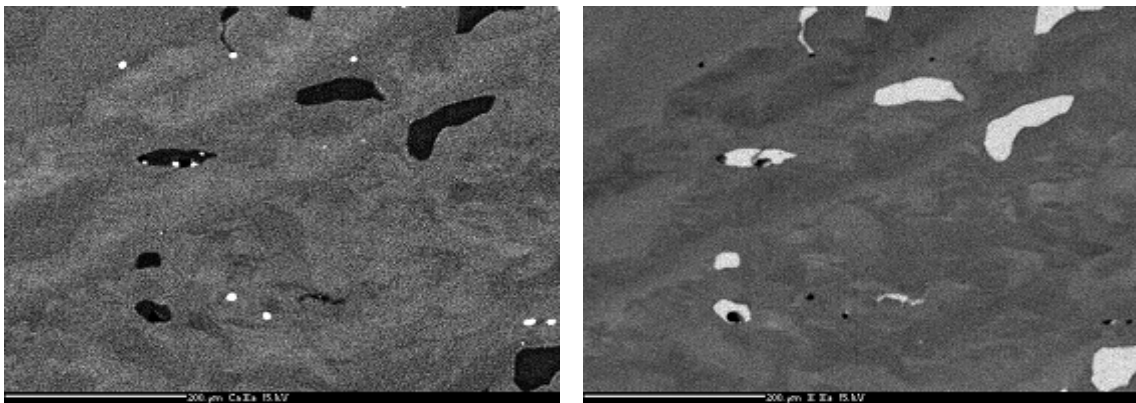




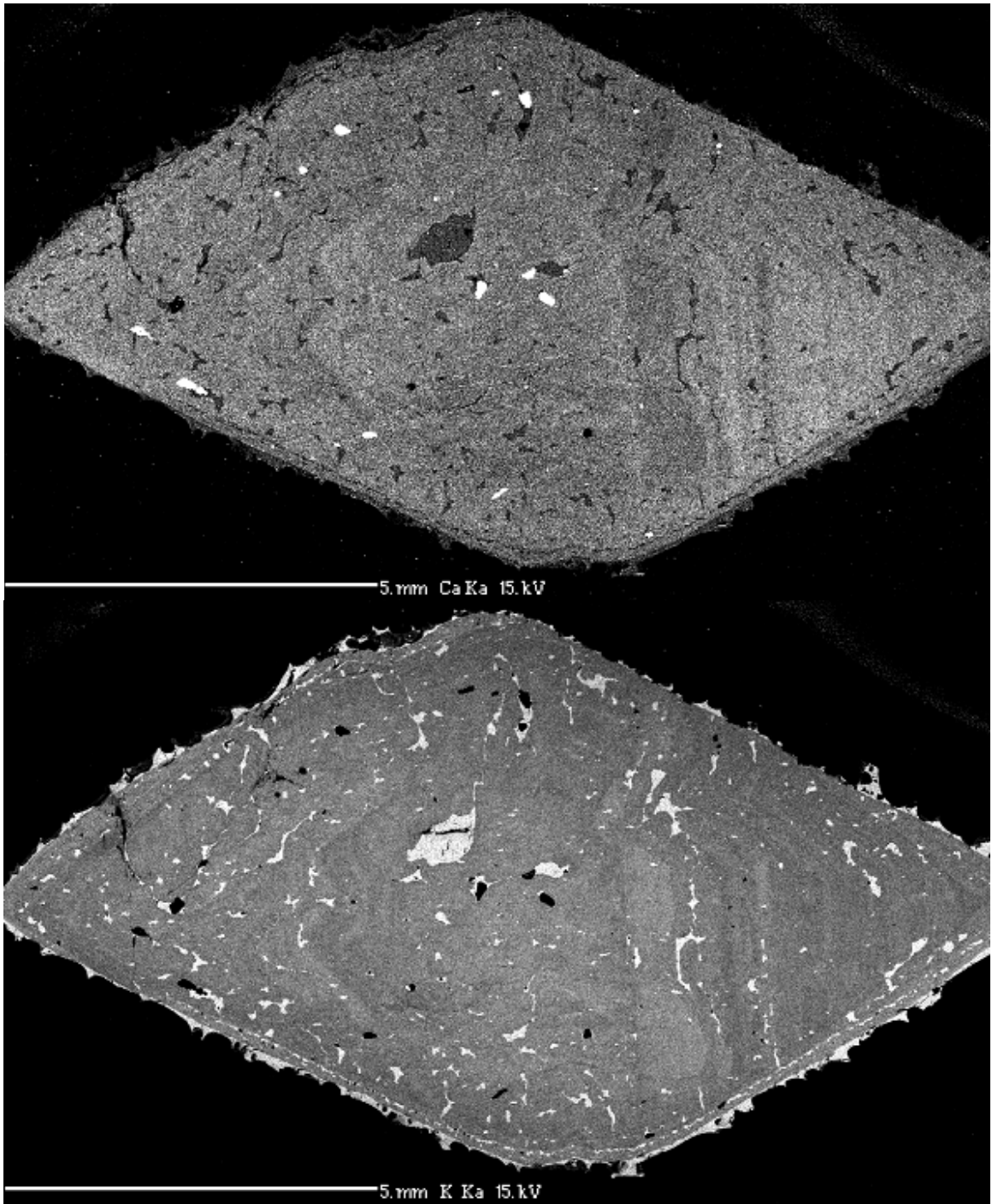
**Figure E.2. 17** Calcium (left) and potassium (right) X-Ray maps of area 1 within anorthoclase section eb05042b1 (See Figure E.2.16), scale bar at the bottom of each figure is 500 µm.



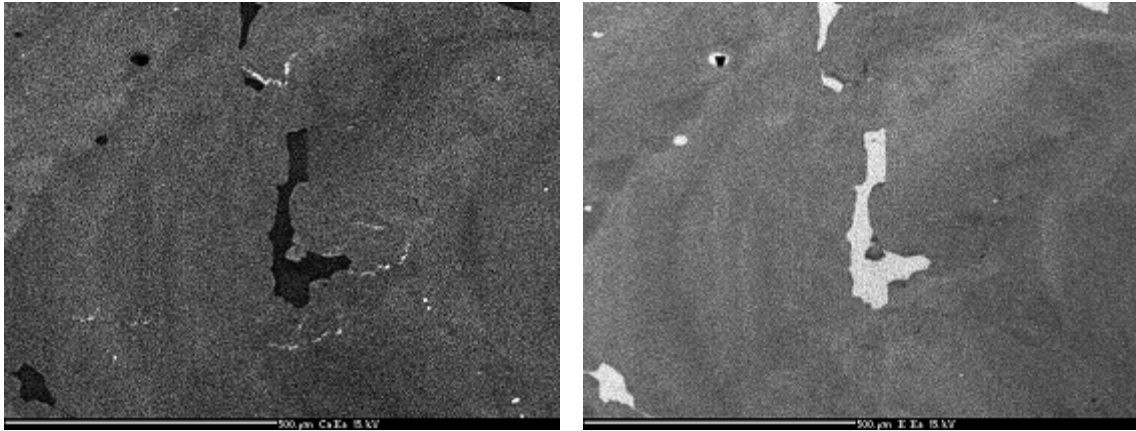
**Figure E.2. 18** Calcium (left) and potassium (right) X-Ray maps of area 2 within anorthoclase section eb05042b1 (See Figure E.2.16), scale bar at the bottom of each figure is 500 µm.



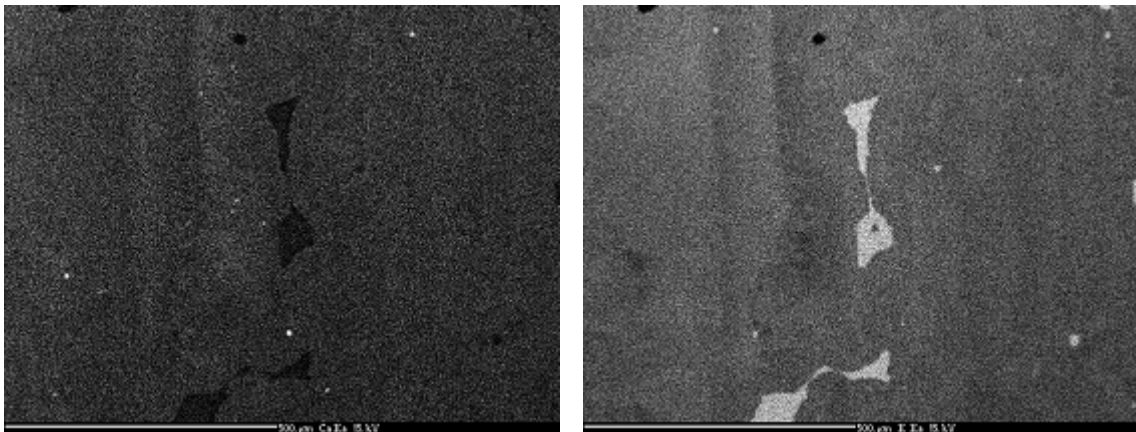
**Figure E.2. 19** Calcium (left) and potassium (right) X-Ray maps of area 3 within anorthoclase section eb05042b1 (See Figure E.2.16), scale bar at the bottom of each figure is 200 µm.



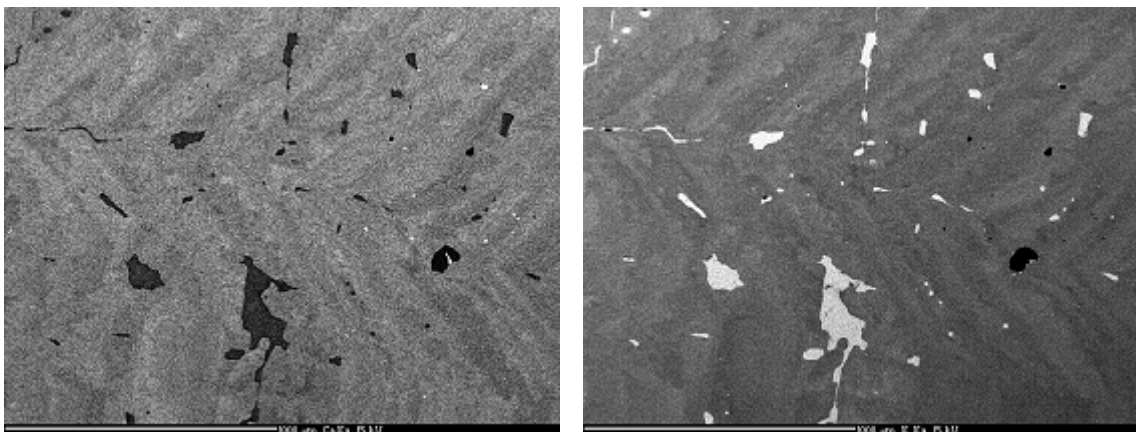
**Figure E.2. 20** Calcium (top) and potassium (bottom) X-Ray maps of anorthoclase section eb05042b2.



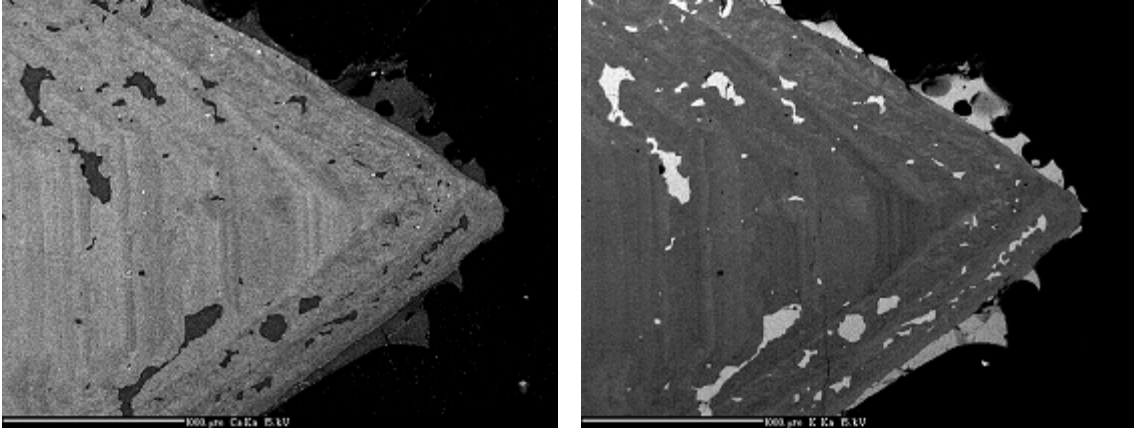
**Figure E.2. 21** Calcium (left) and potassium (right) X-Ray maps of area 1 within anorthoclase section eb05042b2 (See Figure E.2.20), scale bar at the bottom of each figure is 500  $\mu\text{m}$ .



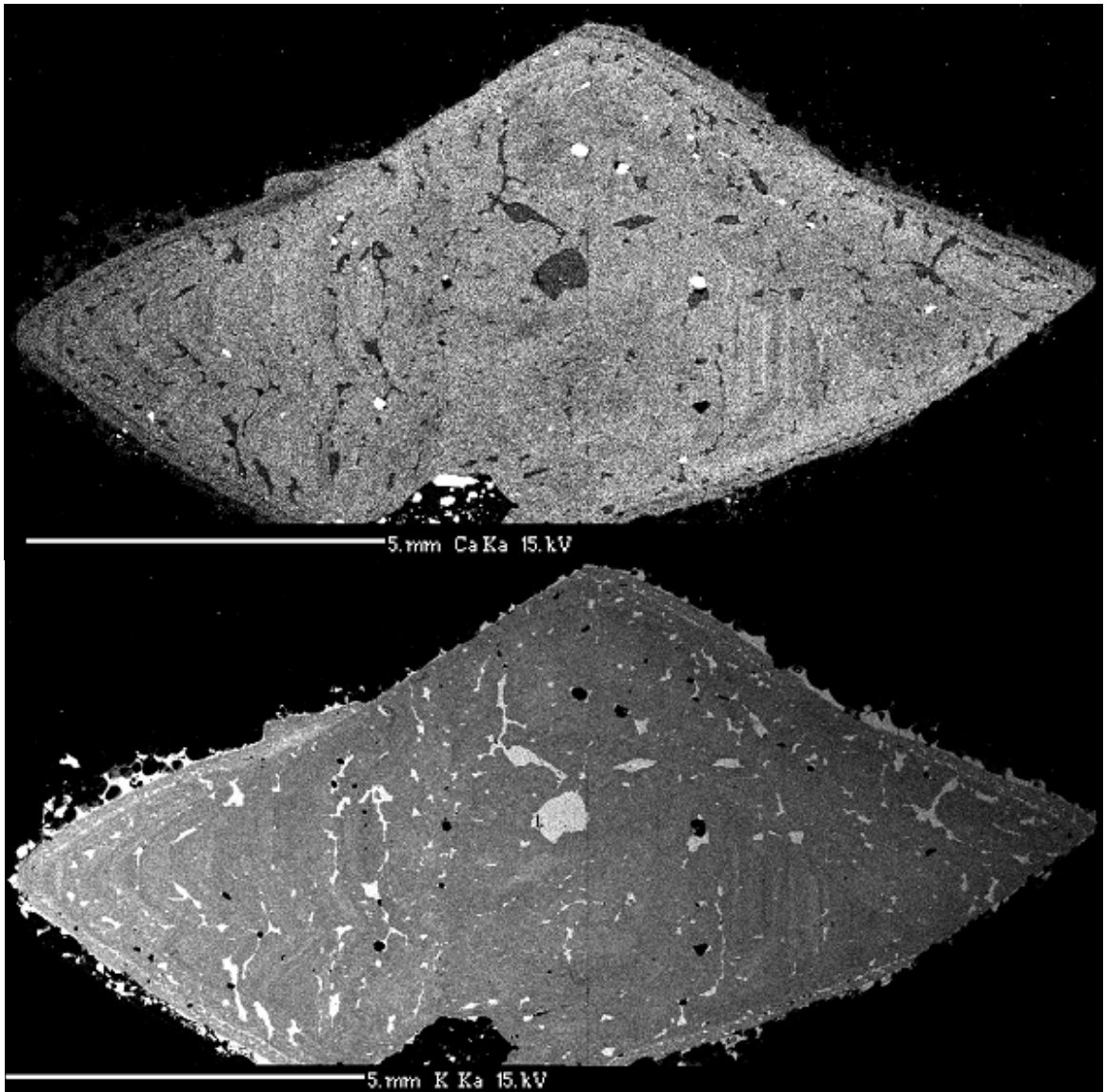
**Figure E.2. 22** Calcium (left) and potassium (right) X-Ray maps of area 2 within anorthoclase section eb05042b2 (See Figure E.2.20), scale bar at the bottom of each figure is 500  $\mu\text{m}$ .



**Figure E.2. 23** Calcium (left) and potassium (right) X-Ray maps of area 3 within anorthoclase section eb05042b2 (See Figure E.2.20), scale bar at the bottom of each figure is 1000  $\mu\text{m}$ .

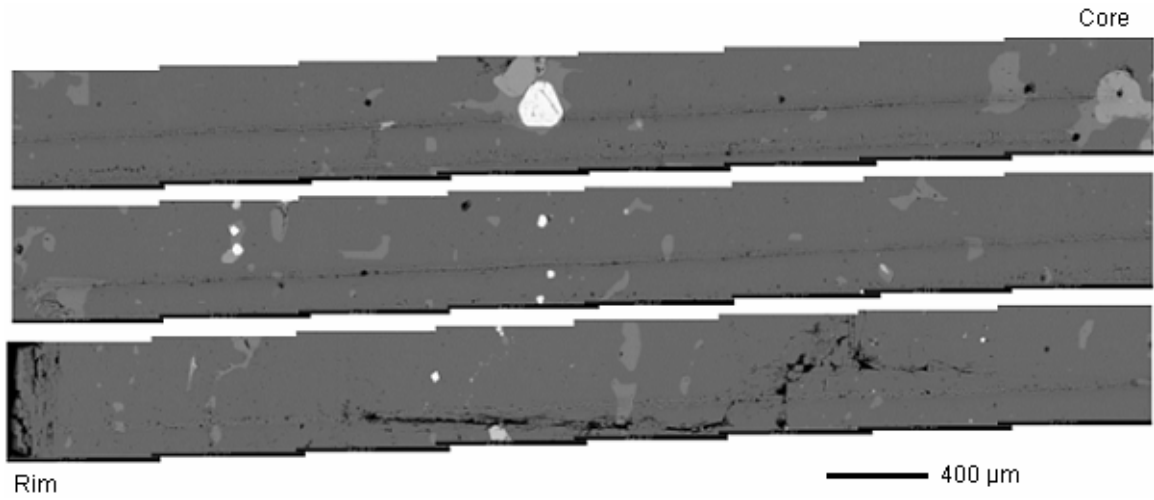


**Figure E.2. 24** Calcium (left) and potassium (right) X-Ray maps of area 4 within anorthoclase section eb05042b2 (See Figure E.2.20), scale bar at the bottom of each figure is 1000  $\mu\text{m}$ .

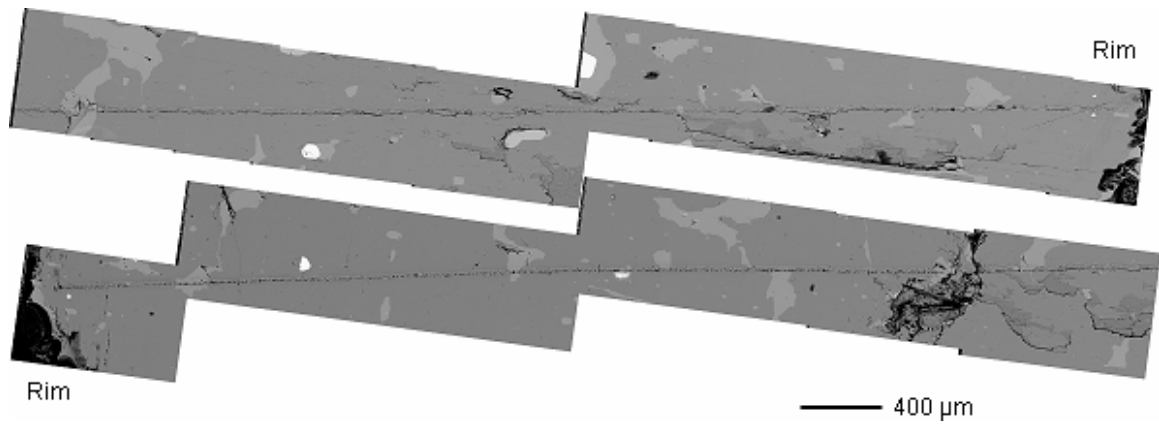


**Figure E.2. 25** Calcium (top) and potassium (bottom) X-Ray maps of anorthoclase section eb05042b3.

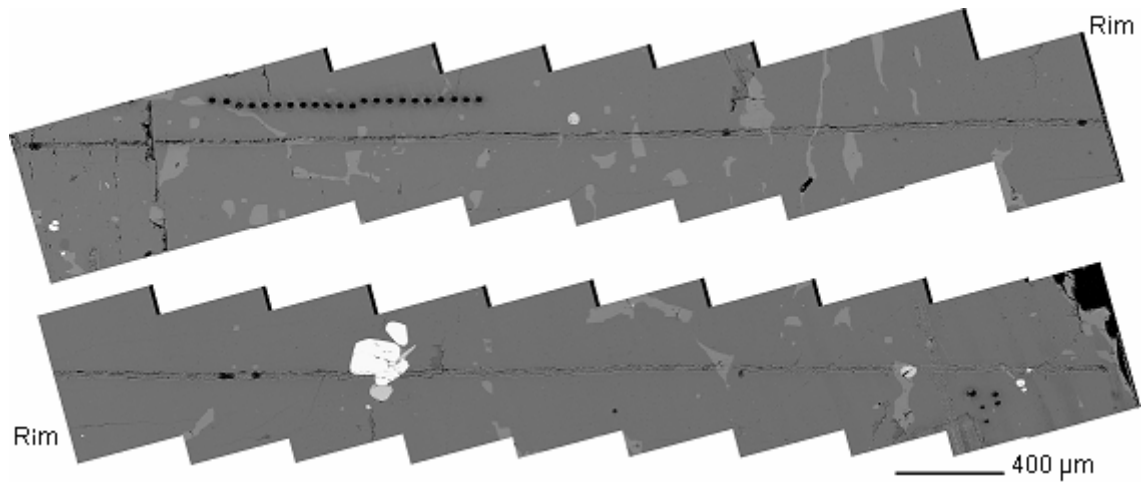
### Appendix E.3: Laser Ablation Trenches in Anorthoclase Crystals



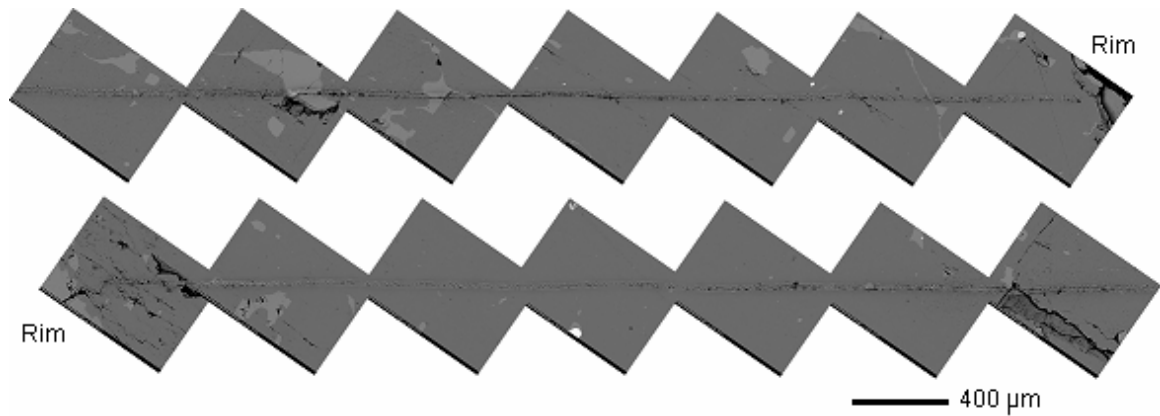
**Figure E.3. 1** Back Scattered Electron (BSE) composite image of the track by laser ablation in anorthoclase section eb05019b.



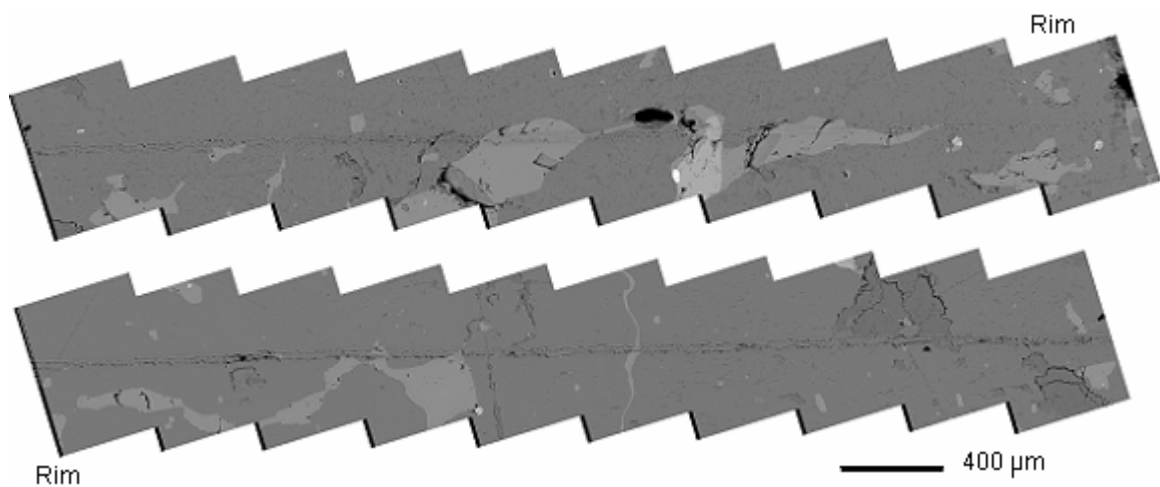
**Figure E.3. 2** Back Scattered Electron (BSE) composite image of the track by laser ablation in anorthoclase section eb05027a1.



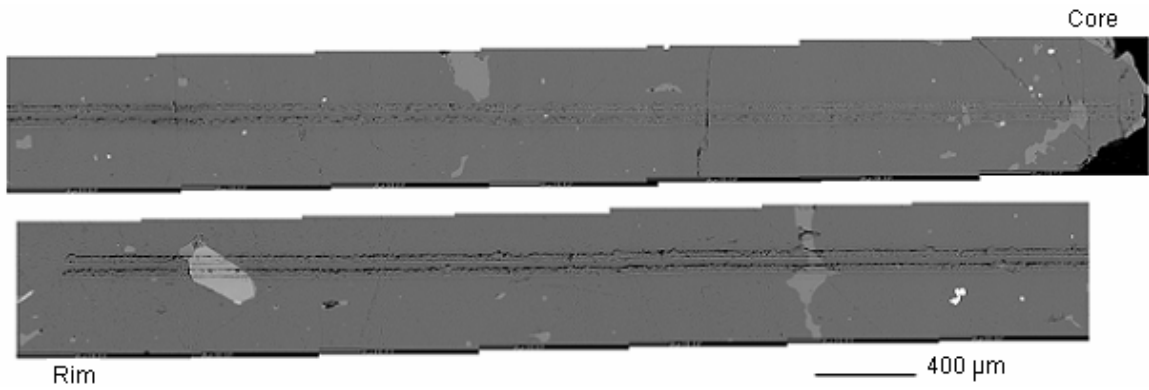
**Figure E.3. 3** Back Scattered Electron (BSE) composite image of the track by laser ablation in anorthoclase section eb05027a2. Circular pits in were made by point drilling with the laser.



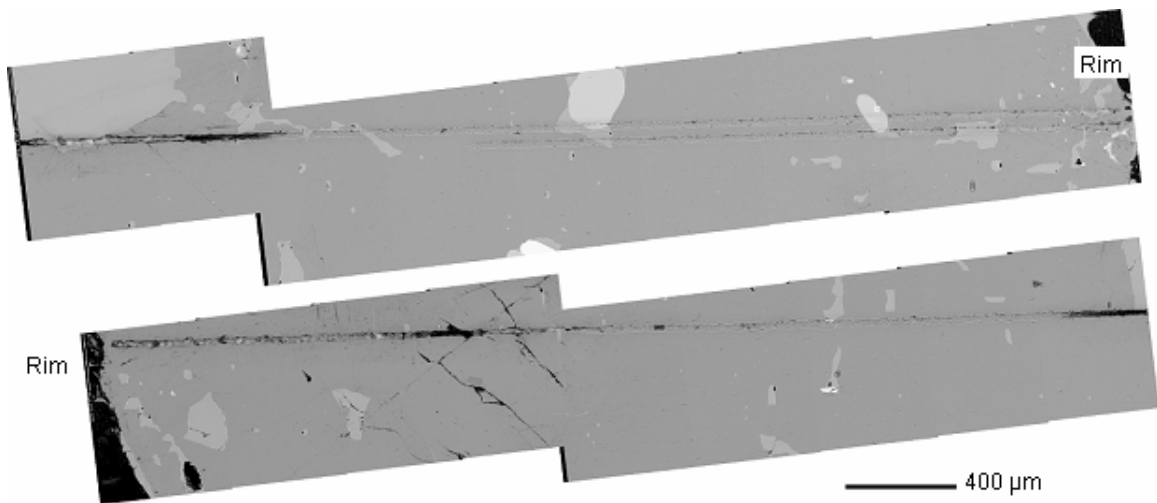
**Figure E.3. 4** Back Scattered Electron (BSE) composite image of the track by laser ablation in anorthoclase section eb05027a3.



**Figure E.3. 5** Back Scattered Electron (BSE) composite image of the track by laser ablation in anorthoclase section eb05042b1.



**Figure E.3. 6** Back Scattered Electron (BSE) composite image of tracks by laser ablation in anorthoclase section eb05042b2.



**Figure E.3. 7** Back Scattered Electron (BSE) composite image of tracks by laser ablation in anorthoclase section eb05042b3.



## Appendix F: Anorthoclase Analyses

### Appendix F.1: EMP Transects of Anorthoclase

**Table F.1.1: Section eb05027a1 Rim to Rim Transect by EMP**

Step size: 9.94  $\mu\text{m}$

$n$  = EMP analysis number

$n$	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
1	0.00	63.62	21.53	2.07	7.34	4.62	2455	3646	1777	99.97	10.29	62.30	27.41
2	9.94	63.37	21.34	1.92	7.49	4.50	2720	2750	2175	99.39	9.58	63.68	26.75
3	19.88	63.40	21.81	2.16	7.35	4.38	2917	3646	1949	99.95	10.85	62.94	26.21
4	29.82	63.48	21.64	2.15	7.42	4.40	3259	3198	2659	100.00	10.74	63.15	26.11
5	39.76	63.65	21.75	2.05	7.35	4.51	2696	3463	1812	100.11	10.28	62.81	26.92
6	49.70	63.84	21.81	2.12	7.54	4.42	2557	3849	1914	100.56	10.46	63.56	25.98
7	59.64	63.61	21.67	2.17	7.34	4.40	2674	3463	2549	100.06	10.87	62.80	26.33
8	69.58	63.23	21.78	2.37	7.40	4.17	2225	3809	2500	99.80	11.88	63.22	24.90
9	79.52	63.43	21.97	2.32	7.37	4.10	2329	3341	2747	100.04	11.74	63.56	24.71
12	109.34	63.46	21.97	2.45	7.43	4.11	1733	3791	2222	100.19	12.22	63.34	24.43
13	119.28	63.14	22.12	2.62	7.51	3.99	1527	4442	2852	100.26	12.96	63.48	23.56
14	129.22	63.13	22.23	2.71	7.46	3.81	1630	3402	2571	100.10	13.56	63.73	22.72
15	139.16	63.23	22.37	2.69	7.68	3.78	1677	3850	2260	100.53	13.28	64.54	22.18
16	149.10	63.17	22.39	2.69	7.49	3.68	1959	3748	2573	100.25	13.57	64.35	22.09
17	159.04	62.78	22.68	2.99	7.47	3.40	1516	3016	2322	100.01	15.12	64.39	20.48
18	168.98	60.87	23.13	3.87	7.23	2.72	2047	3056	2779	98.61	19.91	63.42	16.67
20	188.86	59.89	22.04	3.64	7.27	2.86	1776	3261	2887	96.50	18.72	63.74	17.54
21	198.80	62.48	23.48	3.46	7.59	2.88	2002	3566	2807	100.73	17.44	65.24	17.32
22	208.74	62.36	23.16	3.50	7.53	2.98	1669	2689	2581	100.22	17.61	64.55	17.84
23	218.68	61.85	23.11	3.62	7.46	2.90	1529	3382	2880	99.72	18.27	64.27	17.46
24	228.62	62.23	23.03	3.47	7.50	3.02	1806	3158	3321	100.07	17.47	64.41	18.12
25	238.56	62.30	22.81	3.28	7.51	3.16	1651	4238	3626	100.02	16.53	64.50	18.97
26	248.50	62.44	22.76	3.29	7.55	3.18	1560	2750	2867	99.93	16.50	64.54	18.96
27	258.44	62.31	23.34	3.10	7.56	3.37	1775	2750	3382	100.47	15.49	64.43	20.08
28	268.38	62.80	22.67	3.00	7.58	3.46	1887	3504	3359	100.40	14.98	64.49	20.53
29	278.32	62.38	22.82	3.12	7.43	3.24	1730	3321	2902	99.80	15.88	64.48	19.64
30	288.26	62.31	22.82	3.14	7.54	3.29	1499	3381	3370	99.93	15.77	64.55	19.68
31	298.20	61.75	22.91	3.43	7.47	3.10	1718	2934	3117	99.43	17.27	64.16	18.57
32	308.14	62.10	22.64	3.09	7.52	3.34	1652	2792	3191	99.45	15.54	64.45	20.01
33	318.08	62.21	22.59	2.99	7.55	3.44	1994	3729	2578	99.62	14.99	64.47	20.53
34	328.02	62.67	22.68	3.05	7.62	3.39	1612	3015	2518	100.11	15.19	64.69	20.12
35	337.96	62.43	22.79	3.18	7.50	3.28	1763	3423	2561	99.95	16.00	64.33	19.67
36	347.90	62.49	22.74	3.12	7.52	3.29	1808	3139	2928	99.94	15.69	64.55	19.76
37	357.84	62.57	22.43	2.83	7.55	3.53	1482	3647	3213	99.74	14.23	64.67	21.10
38	367.78	62.63	22.38	2.92	7.44	3.47	1881	3280	2957	99.66	14.80	64.27	20.92
39	377.72	62.32	22.56	3.12	7.46	3.23	1650	3444	2952	99.49	15.84	64.59	19.57
40	387.66	62.44	22.49	2.96	7.44	3.52	1680	2771	2728	99.56	14.91	63.96	21.13
41	397.60	62.84	22.66	2.92	7.64	3.39	2026	2914	3683	100.31	14.62	65.18	20.20
42	407.54	62.65	22.68	3.00	7.54	3.45	1633	3464	2594	100.09	15.01	64.41	20.58
43	417.48	62.63	22.49	2.97	7.44	3.43	1853	2670	2397	99.65	15.01	64.28	20.70
44	427.42	62.20	22.53	3.08	7.55	3.32	2054	3484	3208	99.56	15.49	64.67	19.84
45	437.36	62.54	22.67	3.13	7.53	3.38	1643	3220	2688	100.00	15.67	64.22	20.11
46	447.30	62.38	22.81	3.02	7.56	3.28	1789	2628	3174	99.81	15.23	65.07	19.70
47	457.24	62.30	22.92	3.22	7.48	3.17	2056	2181	2733	99.78	16.29	64.62	19.10
48	467.18	62.31	22.86	3.22	7.52	3.14	2095	2893	3141	99.87	16.29	64.83	18.88
49	477.12	62.33	22.64	3.08	7.47	3.28	1336	2711	2901	99.49	15.61	64.58	19.81

**Table F.1.1 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
50	487.06	62.40	22.83	3.36	7.48	3.13	1769	3159	2919	99.98	16.93	64.30	18.77
51	497.00	62.50	22.48	3.27	7.56	3.05	1884	3117	3285	100.04	16.52	65.13	18.35
52	506.94	62.03	22.95	3.40	7.46	3.03	2229	2425	2811	99.62	17.24	64.49	18.27
53	516.88	62.12	23.01	3.58	7.50	2.91	1968	3405	2907	99.94	18.03	64.48	17.50
54	526.82	62.42	22.96	3.31	7.48	3.00	1903	3199	3176	100.00	16.86	64.95	18.19
55	536.76	62.23	23.12	3.43	7.51	2.94	1715	2608	3492	100.01	17.36	64.92	17.72
56	546.70	62.84	22.60	2.94	7.49	3.42	1760	3078	2381	100.01	14.85	64.54	20.61
57	556.64	63.06	22.50	2.93	7.47	3.53	1589	3383	2694	100.25	14.72	64.12	21.15
58	566.58	62.90	22.55	2.81	7.52	3.53	1644	2812	2941	100.05	14.16	64.66	21.19
59	576.52	62.54	22.76	3.18	7.40	3.26	1504	3403	2459	99.88	16.15	64.12	19.73
60	586.46	62.56	22.76	3.22	7.40	3.26	1518	3261	3122	99.99	16.34	63.96	19.69
61	596.40	62.79	22.71	3.10	7.53	3.36	2039	3730	3174	100.39	15.55	64.39	20.07
62	606.34	62.84	22.54	3.04	7.51	3.52	1796	3240	2456	100.20	15.18	63.92	20.89
63	616.28	62.88	22.51	2.95	7.46	3.49	2128	3423	2932	100.13	14.87	64.18	20.95
64	626.22	62.65	22.40	2.84	7.43	3.55	2083	3423	2567	99.67	14.41	64.16	21.43
65	636.16	62.82	22.85	3.06	7.61	3.30	2001	2894	3345	100.47	15.34	64.95	19.70
66	646.10	62.79	22.75	3.07	7.60	3.34	2118	3748	3012	100.43	15.32	64.77	19.91
67	656.04	62.68	22.55	3.08	7.47	3.31	1621	3260	3129	99.88	15.57	64.49	19.95
68	665.98	60.73	21.97	3.49	7.18	3.06	1983	2792	2840	97.19	18.01	63.15	18.84
69	675.92	62.53	23.04	3.54	7.50	3.03	2476	2649	3091	100.47	17.77	64.13	18.10
70	685.86	62.48	23.07	3.45	7.57	2.89	2403	2608	3509	100.30	17.42	65.20	17.37
71	695.80	62.85	22.79	3.20	7.66	3.17	3338	2750	2927	100.58	15.98	65.17	18.85
76	745.50	62.64	22.99	3.30	7.57	3.14	3913	2608	2675	100.57	16.51	64.72	18.76
77	755.44	62.95	23.09	3.29	7.66	3.10	2232	2914	3058	100.91	16.41	65.15	18.44
78	765.38	62.72	22.98	3.30	7.55	3.08	1927	2975	3209	100.45	16.63	64.87	18.49
79	775.32	62.66	23.21	3.50	7.56	2.97	1960	3118	2991	100.70	17.56	64.72	17.73
80	785.26	62.52	23.20	3.52	7.49	2.91	2038	3057	2931	100.45	17.79	64.65	17.56
81	795.20	62.41	23.29	3.60	7.57	2.83	1829	3179	3188	100.51	18.11	64.92	16.97
82	805.14	62.39	23.20	3.62	7.52	2.89	1969	2486	3467	100.41	18.22	64.49	17.29
83	815.08	62.27	23.28	3.75	7.46	2.82	1626	2528	3332	100.33	18.88	64.18	16.93
84	825.02	61.77	23.61	3.66	7.41	2.80	1891	2894	3320	100.08	18.65	64.36	16.99
85	834.96	62.22	23.56	3.90	7.54	2.81	1680	3302	2969	100.82	19.39	63.97	16.64
86	844.90	62.31	23.50	3.65	7.56	2.91	1917	3383	3002	100.77	18.25	64.43	17.32
87	854.84	62.62	23.24	3.49	7.59	3.07	1919	3220	3161	100.84	17.39	64.44	18.17
88	864.78	62.76	23.25	3.33	7.57	3.15	1723	3261	2854	100.84	16.64	64.61	18.75
89	874.72	62.52	23.18	3.64	7.55	2.89	1869	3607	2966	100.63	18.24	64.52	17.24
90	884.66	62.55	23.25	3.54	7.48	2.93	1263	2711	2956	100.43	17.88	64.48	17.64
91	894.60	62.23	23.09	3.56	7.51	2.94	1497	3219	3313	100.13	17.90	64.49	17.61
92	904.54	62.71	22.88	3.20	7.60	3.31	1506	3791	3023	100.53	15.90	64.48	19.61
93	914.48	63.45	22.70	2.87	7.64	3.52	1612	3058	2874	100.93	14.31	64.84	20.85
94	924.42	62.66	22.90	3.27	7.51	3.29	1698	3648	2826	100.44	16.33	64.05	19.61
95	934.36	62.49	23.06	3.30	7.61	3.12	1954	2649	2998	100.34	16.50	64.89	18.60
96	944.30	62.18	23.11	3.72	7.68	2.94	1907	3527	2916	100.47	18.32	64.47	17.21
97	954.24	62.29	22.89	3.35	6.77	3.04	1934	2935	3155	99.16	18.10	62.34	19.57
98	964.18	62.56	22.86	3.22	7.58	3.17	1730	3342	2945	100.19	16.18	64.88	18.94
99	974.12	62.21	23.01	3.51	7.41	3.01	1829	3160	3297	99.98	17.77	64.06	18.17
109	1073.52	62.10	22.95	3.49	7.51	2.88	1472	3098	3135	99.72	17.69	64.91	17.41
110	1083.46	62.34	22.60	3.09	7.52	3.09	1725	2486	2859	99.35	15.77	65.43	18.80
111	1093.40	61.19	22.40	3.31	7.34	2.96	1724	3709	3082	98.06	17.10	64.66	18.24
112	1103.34	61.21	22.71	3.65	6.91	2.79	1709	3099	3329	98.09	19.47	62.80	17.73
115	1133.16	62.42	23.43	3.69	7.50	2.84	1804	2548	3010	100.61	18.60	64.38	17.02
116	1143.10	63.78	23.32	3.23	7.82	3.14	1663	3343	3152	102.12	15.90	65.68	18.42

**Table F.1.1 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
117	1153.04	62.94	23.26	3.53	7.49	3.05	1888	3730	3041	101.14	17.69	64.10	18.21
118	1162.98	62.85	22.91	3.34	7.52	3.13	1848	2650	2698	100.46	16.77	64.49	18.74
119	1172.92	63.03	23.18	3.39	7.74	3.12	1835	2507	3474	101.23	16.67	65.04	18.29
120	1182.86	63.58	23.22	3.24	7.80	3.12	1959	2589	2896	101.70	16.02	65.65	18.33
121	1192.80	63.39	23.52	3.52	7.69	3.01	1902	2731	2854	101.87	17.41	64.85	17.74
122	1202.74	62.69	23.08	3.49	7.62	3.11	1880	2507	3014	100.74	17.28	64.40	18.32
123	1212.68	62.36	23.12	3.57	7.38	2.96	1578	3139	2479	100.10	18.13	63.98	17.89
124	1222.62	62.18	22.83	3.38	7.37	2.97	1775	3242	3135	99.55	17.37	64.47	18.16
125	1232.56	61.89	22.24	3.03	7.46	3.26	1659	2751	2398	98.56	15.40	64.80	19.80
126	1242.50	63.50	23.10	3.14	7.83	3.24	1719	2954	3251	101.61	15.42	65.60	18.98
127	1252.44	63.84	23.65	3.37	7.75	3.04	1749	2731	2906	102.38	16.67	65.40	17.93
128	1262.38	64.00	23.38	3.13	7.82	3.29	1760	3323	2820	102.41	15.38	65.41	19.21
129	1272.32	64.00	23.18	3.08	7.71	3.40	1520	3241	2859	102.12	15.18	64.83	19.99
130	1282.26	63.90	23.40	3.12	7.80	3.28	1540	3158	3201	102.29	15.33	65.44	19.23
131	1292.20	63.96	23.29	3.05	7.80	3.45	1804	3119	3074	102.35	14.89	65.01	20.10
132	1302.14	63.81	23.11	3.05	7.76	3.34	1985	3608	3286	101.96	15.04	65.33	19.63
133	1312.08	62.19	22.46	3.03	7.37	3.27	2039	3118	2696	99.10	15.55	64.49	19.96
134	1322.02	62.29	22.12	2.82	7.46	3.36	2156	2975	2864	98.84	14.44	65.09	20.47
135	1331.96	61.71	22.24	3.01	7.21	3.28	1502	3975	2798	98.28	15.67	63.98	20.35
136	1341.90	61.90	22.40	3.16	7.29	3.20	1555	3568	2493	98.71	16.27	64.07	19.66
137	1351.84	61.31	22.39	3.12	7.28	3.14	1881	3403	2903	98.06	16.19	64.43	19.38
138	1361.78	61.56	22.15	2.88	7.38	3.32	2132	2955	3138	98.12	14.84	64.81	20.35
139	1371.72	61.62	22.27	3.16	7.44	3.28	1787	2324	2561	98.43	15.98	64.23	19.80
140	1381.66	61.16	21.95	3.03	7.27	3.26	1944	3078	2925	97.47	15.71	64.19	20.11
141	1391.60	61.47	22.03	2.98	7.31	3.28	1957	3139	2857	97.87	15.41	64.40	20.19
142	1401.54	62.23	22.16	2.93	7.28	3.42	2608	3465	2635	98.90	15.07	63.94	20.98
143	1411.48	62.79	22.63	3.06	7.63	3.22	1788	3036	3037	100.12	15.36	65.37	19.26
144	1421.42	62.47	22.25	2.74	7.42	3.48	1642	2732	2474	99.05	14.04	64.75	21.21
145	1431.36	62.56	22.47	2.99	7.64	3.20	1584	2567	2968	99.58	15.10	65.67	19.23
146	1441.30	63.08	22.67	2.95	7.81	3.30	1706	2853	2842	100.54	14.61	65.95	19.44
147	1451.24	62.61	22.25	2.98	7.50	3.40	2063	3302	2822	99.56	15.05	64.54	20.41
148	1461.18	63.53	23.05	3.14	7.70	3.39	1625	3486	2716	101.60	15.47	64.65	19.87
149	1471.12	63.19	22.92	3.11	7.84	3.31	1510	2629	2732	101.07	15.24	65.47	19.28
150	1481.06	64.11	23.03	2.87	7.79	3.36	1694	3118	2425	101.88	14.24	65.89	19.87
151	1491.00	62.53	22.57	2.99	7.40	3.43	1861	2345	2602	99.60	15.17	64.07	20.76
152	1500.94	62.36	22.55	3.05	7.47	3.53	1753	4139	2936	99.83	15.23	63.72	21.05
154	1520.82	61.87	22.20	2.99	7.44	3.52	1778	3200	2653	98.78	15.07	63.84	21.09
155	1530.76	62.79	22.36	2.84	7.50	3.65	2004	2955	2838	99.92	14.24	64.02	21.74
156	1540.70	62.82	22.59	2.83	7.52	3.61	1636	3587	3079	100.20	14.18	64.30	21.52
157	1550.64	63.03	22.56	2.85	7.42	3.70	1801	3893	2745	100.40	14.33	63.56	22.11
158	1560.58	62.90	22.37	2.85	7.57	3.74	1885	4036	3246	100.35	14.12	63.86	22.02
159	1570.52	62.56	22.74	3.12	7.50	3.39	1927	3140	3064	100.12	15.62	64.14	20.25
160	1580.46	62.12	22.44	2.87	7.38	3.48	1969	3465	2969	99.13	14.63	64.23	21.14
161	1590.40	61.54	22.32	3.23	7.23	3.26	1463	2875	3037	98.32	16.59	63.43	19.98
162	1600.34	61.44	22.05	3.14	7.25	3.27	1622	2977	2968	97.90	16.21	63.72	20.07
163	1610.28	59.97	21.58	3.49	6.99	3.23	1957	2447	3127	96.01	18.10	61.91	19.99
164	1620.22	60.04	22.15	3.33	7.02	3.01	1754	2304	3082	96.26	17.65	63.39	18.96
165	1630.16	58.86	22.01	3.86	6.89	2.75	2183	3181	2676	95.17	20.42	62.21	17.37
166	1640.10	61.76	23.16	3.86	7.34	2.74	1616	2386	3137	99.57	19.63	63.78	16.59
167	1650.04	61.54	23.36	3.76	7.33	2.75	1229	2712	2875	99.41	19.22	63.99	16.79
168	1659.98	61.95	23.21	3.59	7.56	2.76	1547	2793	2960	99.79	18.16	65.21	16.63
169	1669.92	61.67	23.29	3.75	7.47	2.69	1531	2956	3387	99.66	19.05	64.66	16.29

**Table F.1.1 cont**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub> (wt%)	Al <sub>2</sub> O <sub>3</sub> (wt%)	CaO (wt%)	Na <sub>2</sub> O (wt%)	K <sub>2</sub> O (wt%)	FeO (ppm)	BaO (ppm)	SrO (ppm)	Total	Endmembers		
											An	Ab	Or
170	1679.86	61.40	23.35	3.77	7.45	2.74	1605	2956	3150	99.48	19.08	64.37	16.55
171	1689.80	61.75	23.29	3.68	7.49	2.81	1884	3445	3089	99.87	18.59	64.49	16.92
172	1699.74	62.52	23.00	3.30	7.41	3.07	1592	3324	2897	100.08	16.85	64.48	18.67
173	1709.68	61.88	22.91	3.39	7.53	3.07	1909	3057	2804	99.55	17.04	64.58	18.38
174	1719.62	61.99	23.12	3.44	7.43	3.08	2317	2793	2855	99.86	17.41	64.04	18.55
175	1729.56	61.91	23.09	3.60	7.45	2.91	2295	3221	2831	99.80	18.21	64.26	17.54
176	1739.50	61.79	23.08	3.47	7.45	2.99	1922	2935	2966	99.57	17.56	64.37	18.06
177	1749.44	62.03	22.93	3.53	7.68	3.03	1635	3444	2838	99.99	17.43	64.73	17.84
178	1759.38	62.12	22.91	3.36	7.45	3.16	1671	2773	2913	99.74	16.93	64.07	19.00
179	1769.32	62.15	23.03	3.39	7.55	3.04	1831	2529	3256	99.92	17.07	64.74	18.19
180	1779.26	62.12	23.32	3.69	7.52	2.82	2457	2854	2832	100.28	18.55	64.57	16.88
181	1789.20	61.49	22.95	3.51	7.45	2.90	1804	2548	2881	99.03	17.85	64.57	17.59
182	1799.14	60.76	22.87	3.68	7.27	2.86	2093	3588	3190	98.31	18.89	63.64	17.47
183	1809.08	60.74	22.41	3.59	7.35	2.94	1812	2631	2991	97.77	18.30	63.85	17.85
184	1819.02	61.76	22.23	3.02	7.45	3.31	1761	2793	2858	98.52	15.37	64.58	20.05
185	1828.96	62.36	22.71	3.44	7.64	3.12	2057	2630	2691	100.01	17.03	64.55	18.41
186	1838.90	62.33	22.78	3.20	7.48	3.16	1719	2630	3091	99.69	16.24	64.70	19.07
187	1848.84	62.37	22.85	3.31	7.49	3.09	1694	2141	2801	99.77	16.76	64.64	18.60
188	1858.78	62.00	23.15	3.56	7.45	2.88	1805	3038	2984	99.83	18.09	64.48	17.43
189	1868.72	62.31	22.80	3.38	7.46	3.12	2075	2527	3387	99.87	17.03	64.24	18.72
190	1878.66	62.25	22.72	3.28	7.42	3.19	2193	3059	2938	99.68	16.63	64.14	19.24
191	1888.60	62.47	22.60	3.10	7.39	3.28	2145	3222	3166	99.69	15.79	64.31	19.90
192	1898.54	62.32	22.56	3.13	7.42	3.49	1922	2283	2670	99.61	15.69	63.48	20.83
193	1908.48	61.85	22.89	3.52	7.42	3.10	2739	2446	3109	99.61	17.71	63.69	18.60
194	1918.42	62.43	22.59	3.10	7.61	3.14	2980	2853	2971	99.76	15.63	65.49	18.88
195	1928.36	62.45	22.75	3.23	7.55	3.13	2212	2569	2657	99.84	16.27	64.95	18.79
196	1938.30	62.18	22.84	3.43	7.50	2.99	2040	2610	2394	99.64	17.32	64.66	18.02
197	1948.24	62.25	23.12	3.57	7.09	3.09	2130	3017	2819	99.92	18.47	62.52	19.01
198	1958.18	61.92	22.96	3.45	7.42	3.11	2114	2895	3067	99.66	17.40	63.92	18.68
199	1968.12	62.40	23.04	3.48	7.47	3.06	2070	2732	2658	100.21	17.53	64.14	18.33
200	1978.06	57.95	21.25	3.28	6.56	2.86	2416	3099	3302	92.77	18.34	62.60	19.06
201	1988.00	61.89	23.05	3.48	7.34	2.97	2273	3486	2668	99.57	17.81	64.07	18.12
202	1997.94	61.92	22.98	3.38	7.35	3.09	2226	2834	3442	99.56	17.25	63.97	18.78
203	2007.88	62.30	22.86	3.32	7.38	3.17	2224	2610	2870	99.81	16.85	63.98	19.17
204	2017.82	62.41	22.84	3.32	7.52	3.10	2114	3405	2854	100.02	16.71	64.69	18.60
205	2027.76	62.22	22.98	3.35	7.56	3.09	2435	3139	3153	100.07	16.82	64.69	18.49
206	2037.70	62.20	22.99	3.37	7.51	3.05	2429	3405	2992	99.99	16.98	64.67	18.34
207	2047.64	61.97	23.05	3.53	7.57	3.00	1881	2386	2882	99.84	17.63	64.50	17.86
208	2057.58	62.07	23.22	3.62	7.43	2.90	2083	3099	3112	100.07	18.36	64.16	17.48
209	2067.52	61.69	23.30	3.57	7.48	2.87	1933	2385	3216	99.66	18.06	64.63	17.31
210	2077.46	62.02	23.17	3.66	7.55	2.98	2145	2366	2908	100.13	18.23	64.11	17.66
211	2087.40	62.08	23.20	3.61	7.53	2.99	2175	2550	3224	100.21	18.03	64.18	17.79
212	2097.34	62.03	23.10	3.58	7.51	3.00	1868	2222	3196	99.95	17.95	64.16	17.89
213	2107.28	62.03	23.18	3.64	7.34	2.87	2299	2875	3095	99.88	18.60	63.94	17.46
214	2117.22	61.90	22.50	3.31	7.43	3.15	2516	3018	2827	99.13	16.76	64.22	19.02
215	2127.16	62.26	22.75	3.32	7.44	3.10	1806	3018	2589	99.62	16.86	64.39	18.75
216	2137.10	62.47	22.90	3.28	7.51	3.17	1972	2569	2538	100.03	16.50	64.50	19.00
217	2147.04	62.97	22.90	3.27	7.54	3.24	1882	2977	2835	100.69	16.37	64.32	19.30
218	2156.98	63.02	22.99	3.17	7.64	3.20	1900	3283	2922	100.83	15.84	65.11	19.06
219	2166.92	63.37	23.22	3.15	7.64	3.23	2106	2569	2709	101.35	15.72	65.06	19.22
220	2176.86	62.94	22.70	3.07	7.50	3.37	2058	3140	2919	100.40	15.46	64.34	20.20
221	2186.80	62.13	23.13	3.52	7.52	3.05	1864	3710	2873	100.20	17.64	64.18	18.17

**Table F.1.1 cont**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
222	2196.74	62.45	22.88	3.35	7.42	3.21	2002	2529	3287	100.10	16.91	63.82	19.27
223	2206.68	62.26	22.68	3.36	7.46	3.16	1432	2957	28.01	99.65	16.93	64.10	18.97
224	2216.62	62.33	22.97	3.33	7.45	3.20	1691	3201	2743	100.04	16.77	64.02	19.21
225	2226.56	61.77	23.36	3.72	7.40	2.73	1850	2325	2842	99.69	19.01	64.39	16.60
226	2236.50	61.94	23.15	3.77	7.46	2.80	1928	3508	3284	99.98	19.02	64.17	16.81
227	2246.44	61.14	22.87	3.55	7.50	2.93	1856	2447	2916	98.71	17.90	64.53	17.58
228	2256.38	61.89	22.99	3.59	7.54	2.90	1998	2243	2796	99.61	18.05	64.61	17.34
229	2266.32	62.51	22.63	3.07	7.60	3.33	1662	2997	2639	99.87	15.35	64.81	19.84
230	2276.26	62.25	22.92	3.36	7.61	3.05	1517	2550	3060	99.90	16.82	65.01	18.17
231	2286.20	62.56	22.99	3.41	7.54	3.02	2166	3181	3008	100.35	17.15	64.73	18.12
232	2296.14	62.49	22.68	3.34	7.47	3.13	1660	2774	2579	99.81	16.87	64.32	18.81
233	2306.08	62.02	22.63	3.50	7.42	3.07	2168	3018	2853	99.43	17.66	63.88	18.46
234	2316.02	62.41	22.90	3.37	7.49	3.10	1874	3304	2667	100.05	16.99	64.37	18.64
235	2325.96	62.24	22.91	3.41	7.51	3.17	2117	3079	2650	100.02	17.04	64.08	18.88
236	2335.90	62.31	22.83	3.40	7.49	3.16	2155	3120	2471	99.95	17.07	64.07	18.86
237	2345.84	62.23	22.94	3.41	7.48	3.12	2070	3690	2659	100.03	17.15	64.14	18.70
238	2355.78	62.23	22.89	3.43	7.40	3.16	1965	3182	2991	99.91	17.31	63.70	18.99
239	2365.72	62.04	22.80	3.51	7.45	3.07	1968	2998	2820	99.66	17.67	63.91	18.41
240	2375.66	62.23	22.94	3.27	7.38	3.12	1781	2589	3228	99.70	16.69	64.32	18.99
241	2385.60	62.74	22.45	3.12	7.53	3.35	1978	2509	2756	99.92	15.64	64.35	20.01
242	2395.54	62.31	22.69	3.23	7.53	3.27	2460	2916	2930	99.86	16.20	64.31	19.49
243	2405.48	62.47	22.67	3.14	7.46	3.26	2092	2733	2665	99.75	15.91	64.43	19.66
244	2415.42	62.98	22.48	2.93	7.60	3.49	1709	3487	2909	100.30	14.63	64.65	20.73
245	2425.36	63.12	22.42	2.78	7.46	3.65	1549	3468	2763	100.20	14.00	64.10	21.90
246	2435.30	62.65	22.54	2.96	7.52	3.41	1556	3305	2784	99.85	14.94	64.60	20.46
247	2445.24	62.48	22.54	3.00	7.47	3.41	1694	2998	2996	99.66	15.15	64.35	20.50
248	2455.18	62.49	22.62	3.02	7.51	3.30	1688	2957	3217	99.72	15.26	64.86	19.88
249	2465.12	62.62	22.54	3.02	7.53	3.44	1660	2937	2545	99.86	15.13	64.35	20.51
251	2485.00	62.82	22.44	2.72	7.51	3.56	1736	2406	2441	99.71	13.77	64.80	21.43
252	2494.94	62.37	22.61	3.14	7.46	3.20	1427	3182	3193	99.56	15.94	64.70	19.36
253	2504.88	62.23	22.69	3.05	7.54	3.30	1994	2977	2862	99.59	15.39	64.82	19.79
254	2514.82	62.89	22.51	2.91	7.48	3.44	1728	2265	2705	99.90	14.72	64.54	20.74
255	2524.76	62.95	22.45	2.95	7.45	3.43	1803	3202	2772	100.00	14.94	64.37	20.69
256	2534.70	62.77	22.49	2.91	7.52	3.35	1867	2815	2927	99.80	14.72	65.04	20.24
257	2544.64	62.64	22.62	2.98	7.42	3.40	1910	3019	2179	99.78	15.11	64.30	20.59
258	2554.58	62.50	23.01	3.04	7.48	3.35	1715	2754	3195	100.14	15.37	64.44	20.19
259	2564.52	62.87	22.68	3.00	7.53	3.34	1585	3447	2758	100.20	15.15	64.76	20.09
260	2574.46	62.43	22.78	3.05	7.55	3.31	1622	3222	2505	99.85	15.35	64.82	19.83
261	2584.40	62.19	22.66	3.09	7.46	3.31	1604	3222	3125	99.50	15.62	64.43	19.95
262	2594.34	62.63	22.48	3.07	7.52	3.54	1916	2509	2679	99.96	15.28	63.74	20.97
263	2604.28	62.47	22.68	3.20	7.35	3.23	1882	3039	2895	99.71	16.33	64.03	19.64
264	2614.22	62.32	22.80	3.24	7.32	3.21	1979	2896	3286	99.71	16.55	63.90	19.55
265	2624.16	61.98	22.57	3.09	7.31	3.26	1839	3019	2776	98.97	15.90	64.12	19.99
266	2634.10	62.00	22.71	3.25	7.47	3.25	1693	2794	3075	99.43	16.35	64.14	19.52
267	2644.04	62.70	22.18	2.86	7.45	3.57	2193	4160	2636	99.66	14.43	64.11	21.46
268	2653.98	61.91	23.09	3.53	7.54	3.03	1755	3181	2712	99.86	17.64	64.32	18.04
269	2663.92	61.60	23.04	3.67	7.43	2.88	1874	2836	3140	99.41	18.58	64.09	17.33
270	2673.86	61.74	23.20	3.71	7.34	2.79	1695	3631	2689	99.58	18.97	64.03	17.00
271	2683.80	62.24	22.96	3.30	7.47	3.09	2131	3222	2864	99.89	16.74	64.58	18.69
272	2693.74	62.25	22.69	3.20	7.45	3.20	1303	3466	3057	99.57	16.23	64.45	19.32
273	2703.68	61.96	22.90	3.39	7.29	3.11	1736	3080	2940	99.43	17.38	63.67	18.95
274	2713.62	61.70	23.03	3.53	7.35	2.99	1975	3121	2976	99.40	17.97	63.87	18.16

**Table F.1.1 cont**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
275	2723.56	61.86	22.98	3.35	7.29	3.12	1904	4140	3053	99.51	17.16	63.78	19.06
276	2733.50	62.42	22.59	3.04	7.43	3.39	1918	2529	2884	99.51	15.38	64.17	20.45
277	2743.44	62.26	22.75	3.24	7.46	3.26	1675	2714	2633	99.67	16.31	64.14	19.55
278	2753.38	62.35	22.64	3.05	7.44	3.32	1646	3387	2530	99.55	15.48	64.43	20.09
279	2763.32	62.55	22.36	2.93	7.40	3.45	1917	3630	3351	99.59	14.90	64.18	20.91
280	2773.26	62.61	22.39	2.92	7.37	3.53	1916	3080	2722	99.60	14.82	63.85	21.33
281	2783.20	62.32	22.59	3.09	7.43	3.33	1963	3203	3244	99.61	15.68	64.19	20.13
282	2793.14	62.59	22.52	2.92	7.41	3.45	1906	3264	2664	99.67	14.85	64.24	20.91
283	2803.08	62.34	22.78	3.35	7.49	3.24	1940	2835	2776	99.96	16.74	63.92	19.34
284	2813.02	62.23	22.48	2.96	7.54	3.49	2134	3201	2860	99.52	14.83	64.37	20.80
285	2822.96	62.66	22.53	2.89	7.59	3.52	1613	3753	2793	100.01	14.40	64.64	20.96
286	2832.90	62.23	22.63	3.19	7.41	3.27	1830	2978	2606	99.46	16.18	64.07	19.74
287	2842.84	62.05	22.76	3.14	7.46	3.28	1892	2958	3110	99.48	15.86	64.38	19.75
288	2852.78	62.40	22.79	3.20	7.59	3.15	2055	3325	2694	99.94	16.06	65.06	18.88
289	2862.72	62.19	22.73	3.08	7.43	3.29	2114	3856	2983	99.61	15.64	64.45	19.91
290	2872.66	62.01	22.79	3.27	7.46	3.19	1662	3386	2770	99.51	16.53	64.29	19.18
291	2882.60	61.90	23.05	3.56	7.45	3.03	1793	2673	3010	99.73	17.92	63.92	18.16
292	2892.54	62.03	22.74	3.41	7.43	3.09	1897	2836	2744	99.45	17.25	64.12	18.63
293	2902.48	62.19	22.77	3.26	7.44	3.10	1961	2897	3238	99.56	16.61	64.59	18.80
294	2912.42	61.89	23.04	3.39	7.37	3.14	1863	2754	3223	99.60	17.20	63.82	18.98
295	2922.36	61.98	22.82	3.28	7.41	3.14	1333	3611	3205	99.44	16.66	64.28	19.05
296	2932.30	62.08	22.75	3.31	7.42	3.16	1839	3061	3136	99.53	16.77	64.17	19.05
297	2942.24	62.13	22.83	3.06	7.53	3.41	2295	2978	2583	99.75	15.32	64.35	20.33
298	2952.18	61.75	23.01	3.43	7.38	3.08	1803	3182	2814	99.43	17.43	63.95	18.62
299	2962.12	62.20	22.63	3.11	7.34	3.15	1644	3692	3041	99.26	16.04	64.61	19.35
300	2972.06	62.17	22.84	3.20	7.41	3.25	1859	3081	3128	99.67	16.23	64.15	19.62
301	2982.00	62.12	22.74	3.24	7.45	3.28	1889	2856	2735	99.57	16.31	64.02	19.67
302	2991.94	62.01	22.77	3.15	7.43	3.34	2152	2244	3228	99.46	15.89	63.98	20.12
303	3001.88	62.33	22.46	3.02	7.36	3.42	1871	2938	2128	99.27	15.37	63.91	20.73
304	3011.82	62.03	22.50	3.06	7.33	3.45	1666	3530	2589	99.15	15.54	63.57	20.89
305	3021.76	62.02	22.67	3.13	7.35	3.24	1954	3530	2617	99.23	16.05	64.17	19.79
306	3031.70	61.65	22.81	3.45	7.40	3.19	1980	2857	2660	99.26	17.37	63.50	19.13
307	3041.64	62.35	22.79	3.07	7.39	3.42	1971	3691	2768	99.87	15.53	63.83	20.63
308	3051.58	62.00	22.80	3.38	7.38	3.11	1652	3653	3248	99.52	17.16	64.01	18.83
309	3061.52	61.58	22.90	3.67	7.33	2.95	1818	2959	2687	99.18	18.62	63.52	17.86
310	3071.46	61.34	23.18	3.73	7.29	2.88	1803	3019	3064	99.21	19.03	63.49	17.48
311	3081.40	61.54	23.51	3.81	7.32	2.75	1964	3591	3281	99.81	19.45	63.79	16.76
312	3091.34	61.42	23.13	3.68	7.19	2.94	1919	3265	3004	99.18	18.93	63.07	18.00
313	3101.28	61.70	23.09	3.45	7.43	2.86	1627	3224	3406	99.36	17.68	64.89	17.43
314	3111.22	61.75	22.99	3.48	7.53	2.95	1395	3366	2944	99.48	17.54	64.73	17.73
315	3121.16	59.55	21.86	3.61	7.06	2.89	1889	2653	2633	95.67	18.90	63.09	18.01
316	3131.10	61.74	22.38	3.20	7.32	3.17	1999	3754	2862	98.68	16.45	64.15	19.40
317	3141.04	62.27	22.91	3.28	7.53	3.12	1641	2959	2687	99.84	16.55	64.72	18.72
318	3150.98	62.06	23.07	3.48	7.54	2.93	1683	3529	2782	99.87	17.54	64.84	17.62
319	3160.92	62.04	23.01	3.46	7.43	3.02	2012	3571	2687	99.79	17.55	64.20	18.25
320	3170.86	61.96	22.99	3.55	7.45	3.00	1487	3469	3002	99.76	17.91	64.06	18.03
321	3180.80	61.81	23.17	3.56	7.44	2.87	1683	3367	2928	99.65	18.10	64.51	17.39
322	3190.74	61.58	23.16	3.53	7.48	2.86	1688	3366	3065	99.42	17.92	64.79	17.28
323	3200.68	61.96	22.89	3.31	7.41	3.12	2129	3122	2635	99.48	16.84	64.29	18.87
324	3210.62	61.99	22.75	3.37	7.38	3.16	1727	3061	2982	99.44	17.10	63.79	19.10
325	3220.56	61.65	23.14	3.71	7.46	2.83	1860	2918	3235	99.60	18.74	64.23	17.03
326	3230.50	61.48	23.19	3.58	7.43	2.93	2072	2918	2766	99.40	18.13	64.20	17.68

**Table F.1.1 cont**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub> (wt%)	Al <sub>2</sub> O <sub>3</sub> (wt%)	CaO (wt%)	Na <sub>2</sub> O (wt%)	K <sub>2</sub> O (wt%)	FeO (ppm)	BaO (ppm)	SrO (ppm)	Total	Endmembers		
											An	Ab	Or
327	3240.44	62.21	22.95	3.46	7.42	3.02	2068	2672	2676	99.80	17.56	64.21	18.23
328	3250.38	61.94	22.91	3.46	7.47	3.01	1524	2368	2976	99.47	17.48	64.38	18.14
329	3260.32	61.66	23.02	3.42	7.33	3.12	1490	2653	3036	99.27	17.42	63.67	18.91
330	3270.26	62.19	22.80	3.31	7.34	3.28	1799	2632	2973	99.67	16.79	63.43	19.78
331	3280.20	62.10	22.61	3.14	7.32	3.36	1811	2326	2827	99.22	15.99	63.61	20.41
332	3290.14	61.88	22.85	3.30	7.40	3.11	2019	2878	2704	99.30	16.82	64.28	18.90
333	3300.08	61.80	22.70	3.24	7.40	3.13	1943	2468	3085	99.02	16.55	64.42	19.03
334	3310.02	61.99	22.63	3.16	7.48	3.17	1841	3019	2471	99.17	16.06	64.76	19.18
335	3319.96	61.83	22.99	3.22	7.38	3.06	1748	2652	2704	99.19	16.55	64.70	18.74
336	3329.90	61.82	22.94	3.48	7.37	3.01	1916	2429	2883	99.36	17.70	64.02	18.28
337	3339.84	61.89	22.72	3.30	7.46	3.17	1974	2693	2804	99.28	16.68	64.26	19.06
338	3349.78	62.35	22.53	3.17	7.41	3.23	1831	2427	2885	99.42	16.14	64.28	19.58
339	3359.72	62.88	22.67	3.15	7.30	3.30	1433	2714	2595	99.98	16.13	63.72	20.14
340	3369.66	62.27	22.79	3.15	7.43	3.26	1868	2816	2880	99.65	15.98	64.30	19.72
341	3379.60	62.01	22.83	3.43	7.42	2.98	1743	2836	3069	99.43	17.47	64.45	18.08
342	3389.54	61.90	23.12	3.57	7.45	2.98	1672	2713	3164	99.77	18.01	64.10	17.89
343	3399.48	61.61	23.07	3.60	7.46	2.92	2217	2449	2834	99.41	18.18	64.24	17.58
344	3409.42	62.26	22.78	3.26	7.57	3.19	2001	2203	2752	99.75	16.34	64.65	19.02
345	3419.36	62.38	22.57	3.04	7.45	3.30	1642	2938	2495	99.44	15.43	64.58	19.98
346	3429.30	62.64	22.37	3.03	7.46	3.40	1843	2591	2773	99.61	15.30	64.26	20.44
347	3439.24	62.40	22.57	3.15	7.42	3.28	1724	2693	2562	99.53	15.97	64.19	19.83
348	3449.18	62.16	22.81	3.30	7.34	3.08	1429	2796	3051	99.41	16.91	64.26	18.83
349	3459.12	61.88	23.07	3.62	7.48	2.94	2037	2449	2960	99.73	18.20	64.20	17.60
350	3469.06	61.82	23.21	3.65	7.55	2.86	1968	2081	3054	99.80	18.29	64.62	17.10
351	3479.00	61.72	23.20	3.64	7.58	2.84	1828	2897	2963	99.75	18.25	64.79	16.96
352	3488.94	62.03	22.93	3.45	7.52	3.00	2331	2305	2669	99.65	17.36	64.63	18.00
353	3498.88	61.87	22.97	3.48	7.40	2.84	2625	2754	3173	99.41	17.86	64.76	17.38
354	3508.82	61.78	23.09	3.56	7.62	2.81	2636	2243	3498	99.70	17.87	65.29	16.85
365	3618.16	62.28	23.06	3.56	7.54	2.89	2417	2814	3155	100.16	17.91	64.76	17.33
366	3628.10	62.02	23.02	3.62	7.47	2.82	2082	2653	3532	99.78	18.37	64.59	17.04
367	3638.04	62.04	23.19	3.46	7.61	2.93	2348	3264	2783	100.06	17.37	65.12	17.50
368	3647.98	62.43	22.89	3.29	7.60	3.03	2403	3039	3009	100.09	16.57	65.25	18.18
369	3657.92	62.23	22.80	3.26	7.46	3.04	2345	2468	2489	99.52	16.66	64.89	18.45
370	3667.86	62.19	23.08	3.44	7.51	2.98	1938	3141	2772	99.99	17.37	64.69	17.95
371	3677.80	62.12	22.97	3.58	7.38	2.88	1920	3265	2840	99.73	18.26	64.23	17.51
372	3687.74	62.05	23.25	3.76	7.53	2.78	2011	2774	2774	100.12	18.87	64.49	16.63
373	3697.68	62.06	23.18	3.64	7.42	2.90	1949	3101	2935	100.00	18.43	64.08	17.48
374	3707.62	61.12	23.39	4.20	7.40	2.48	2005	2938	3238	99.42	21.25	63.84	14.91
375	3717.56	61.28	23.10	3.80	7.39	2.89	1918	3265	3167	99.30	19.13	63.50	17.37
376	3727.50	61.70	23.62	3.88	7.37	2.69	1950	3162	2691	100.04	19.73	63.97	16.30
377	3737.44	61.51	23.48	3.99	7.29	2.64	2190	3284	3194	99.78	20.40	63.52	16.08
378	3747.38	61.44	23.49	4.05	7.43	2.51	2004	2061	2948	99.62	20.55	64.26	15.19
379	3757.32	61.33	23.70	4.19	7.45	2.51	1753	2633	2968	99.92	21.07	63.89	15.05
380	3767.26	61.44	23.65	4.27	7.36	2.46	2034	2652	3042	99.95	21.61	63.53	14.86
381	3777.20	61.85	23.41	3.97	7.38	2.65	1681	3305	3134	100.08	20.15	63.84	16.01
382	3787.14	62.42	22.91	3.26	7.52	3.22	1717	2653	2702	100.03	16.37	64.39	19.25
383	3797.08	62.20	23.24	3.64	7.49	3.02	2162	2307	3012	100.33	18.21	63.79	18.00
384	3807.02	62.41	22.95	3.28	7.39	3.22	2135	2714	2668	100.00	16.63	63.94	19.43
385	3816.96	62.25	23.26	3.61	7.48	2.95	2232	3224	2791	100.38	18.15	64.20	17.65
386	3826.90	62.22	23.16	3.58	7.53	2.93	2015	3040	2816	100.20	17.97	64.47	17.56
387	3836.84	62.26	23.26	3.61	7.44	2.99	1823	2776	3157	100.33	18.20	63.88	17.92
388	3846.78	63.29	23.07	3.21	7.70	3.28	2040	3019	2675	101.32	15.85	64.84	19.31

**Table F.1.1 cont**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub> (wt%)	Al <sub>2</sub> O <sub>3</sub> (wt%)	CaO (wt%)	Na <sub>2</sub> O (wt%)	K <sub>2</sub> O (wt%)	FeO (ppm)	BaO (ppm)	SrO (ppm)	Total	Endmembers		
											An	Ab	Or
389	3856.72	62.47	22.87	3.26	7.56	3.10	1845	3530	2959	100.09	16.44	64.98	18.59
390	3866.66	62.03	23.60	3.88	7.63	2.75	1976	3162	2879	100.69	19.25	64.49	16.26
391	3876.60	62.13	23.41	3.66	7.49	2.94	1836	2776	2554	100.35	18.39	64.06	17.56
392	3886.54	61.71	23.56	3.86	7.50	2.68	1658	3388	2958	100.11	19.44	64.46	16.10
393	3896.48	61.39	23.65	3.98	7.38	2.65	1918	2490	3052	99.80	20.16	63.85	15.99
394	3906.42	61.81	23.13	3.60	7.47	2.92	1931	3083	3151	99.75	18.15	64.31	17.54
395	3916.36	62.58	22.68	3.21	7.60	3.33	2152	3144	2523	100.18	15.93	64.40	19.67
396	3926.30	62.05	22.91	3.36	7.52	3.06	1848	3000	2994	99.69	16.95	64.66	18.39
397	3936.24	62.11	23.01	3.39	7.43	3.01	1810	2919	2884	99.71	17.25	64.51	18.25
398	3946.18	62.11	23.10	3.21	7.50	3.17	1624	3510	3107	99.92	16.22	64.69	19.09
399	3956.12	62.52	23.03	3.44	7.54	3.17	1864	2776	2857	100.45	17.13	64.08	18.79
400	3966.06	62.32	22.83	3.17	7.54	3.23	1823	2857	2779	99.84	15.96	64.70	19.34
401	3976.00	62.37	22.92	3.28	7.54	3.14	1804	3062	2619	99.99	16.49	64.69	18.82
402	3985.94	61.79	22.72	3.25	7.43	3.11	1779	3062	2406	99.02	16.54	64.58	18.88
403	3995.88	62.90	22.58	2.91	7.56	3.43	2032	3204	2462	100.15	14.63	64.84	20.53
404	4005.82	62.42	22.90	3.29	7.48	3.27	1881	2286	2191	100.00	16.50	63.98	19.51
405	4015.76	62.33	23.13	3.42	7.44	3.01	1578	3062	2662	100.06	17.37	64.44	18.19
406	4025.70	61.95	23.04	3.43	7.49	2.95	1746	2859	2929	99.63	17.39	64.79	17.82
407	4035.64	60.94	23.19	3.91	7.26	2.71	1951	2634	3041	98.78	20.03	63.42	16.56
408	4045.58	60.25	23.29	4.27	7.09	2.38	1584	2185	2736	97.94	22.25	62.98	14.77
414	4105.22	61.38	22.66	3.42	7.48	2.92	2006	2613	2901	98.61	17.38	64.93	17.69
415	4115.16	62.07	22.75	3.41	7.57	2.97	2258	2287	2610	99.49	17.17	65.01	17.82
416	4125.10	61.77	22.34	3.12	7.37	3.19	1892	2389	3144	98.53	16.01	64.52	19.47
417	4135.04	62.10	23.04	3.46	8.13	3.05	2317	3164	2769	100.59	16.51	66.15	17.34
418	4144.98	61.93	23.18	3.52	7.48	2.97	2165	2185	3202	99.84	17.75	64.43	17.83
419	4154.92	62.32	22.83	3.20	7.61	3.23	2205	2246	2635	99.90	15.97	64.81	19.22
420	4164.86	62.76	22.90	2.92	7.69	3.27	2295	3407	2874	100.39	14.65	65.83	19.52
422	4184.74	63.04	22.63	3.04	7.64	3.34	2451	3389	2446	100.52	15.16	64.99	19.85
423	4194.68	62.96	22.87	3.15	7.58	3.28	2001	3061	2327	100.57	15.74	64.71	19.55
424	4204.62	62.98	22.77	3.15	7.62	3.36	1998	3348	2599	100.67	15.61	64.52	19.87
425	4214.56	61.78	21.79	2.60	7.30	3.62	2321	2898	2645	97.88	13.45	64.28	22.26
426	4224.50	62.40	22.42	2.94	7.45	3.40	2211	2960	2862	99.41	14.92	64.53	20.55
429	4254.32	62.23	22.41	2.81	7.47	3.49	1980	3777	2574	99.25	14.27	64.62	21.11
430	4264.26	62.24	22.01	2.85	7.46	3.55	1977	3205	2706	98.90	14.38	64.28	21.35
431	4274.20	62.27	22.58	2.99	7.53	3.38	1898	3429	2429	99.52	15.08	64.67	20.25
432	4284.14	62.17	22.73	3.11	7.53	3.21	1953	2327	2362	99.40	15.70	64.95	19.35
433	4294.08	62.10	22.86	3.35	7.50	3.06	1866	2940	2952	99.65	16.93	64.66	18.41
434	4304.02	61.94	23.02	3.44	7.43	3.04	1977	3247	2818	99.66	17.43	64.24	18.33
435	4313.96	61.49	23.11	3.50	7.46	2.98	1962	3532	2435	99.33	17.68	64.34	17.98
436	4323.90	61.56	22.96	3.44	7.59	3.02	1934	2920	3203	99.38	17.19	64.78	18.03
437	4333.84	61.88	23.09	3.48	7.56	2.98	1887	2389	2869	99.71	17.47	64.71	17.81
457	4532.64	62.88	22.63	2.96	7.60	3.35	2335	2901	2567	100.20	14.88	65.10	20.02
458	4542.58	62.47	22.98	3.33	7.67	2.97	1793	2757	3116	100.20	16.69	65.58	17.73
459	4552.52	63.23	23.29	3.43	7.87	3.01	1926	3329	3262	101.68	16.80	65.68	17.52
463	4592.28	62.09	22.80	3.16	7.71	3.29	2016	2940	2663	99.82	15.62	65.00	19.38
465	4612.16	63.05	22.67	2.88	7.76	3.42	2434	3411	2866	100.66	14.26	65.57	20.18
466	4622.10	62.04	22.72	3.01	7.67	3.25	1687	2717	3346	99.46	15.06	65.54	19.40
467	4632.04	61.37	22.94	3.56	7.64	2.95	2307	2512	2700	99.21	17.73	64.81	17.47
468	4641.98	61.50	23.13	3.58	7.49	2.96	2109	2063	3179	99.39	18.01	64.26	17.73
469	4651.92	61.60	23.11	3.46	7.56	2.84	1983	2431	2778	99.29	17.54	65.34	17.12
470	4661.86	61.73	23.26	3.76	7.56	2.85	2108	2656	3224	99.96	18.77	64.30	16.93
471	4671.80	62.17	23.28	3.56	7.63	2.89	1859	3472	2744	100.34	17.79	65.00	17.22
472	4681.74	61.97	23.60	3.81	7.73	2.72	1770	2962	3457	100.64	18.84	65.15	16.01
473	4691.68	60.71	23.47	4.08	7.52	2.50	1884	2452	2937	99.01	20.51	64.50	14.99



**Table F.1.1 cont**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub> (wt%)	Al <sub>2</sub> O <sub>3</sub> (wt%)	CaO (wt%)	Na <sub>2</sub> O (wt%)	K <sub>2</sub> O (wt%)	FeO (ppm)	BaO (ppm)	SrO (ppm)	Total	Endmembers		
											An	Ab	Or
474	4701.62	61.55	23.10	3.54	7.63	2.84	1771	2308	2701	99.34	17.76	65.27	16.97
475	4711.56	60.11	22.25	3.44	7.29	2.93	1870	3105	2894	96.80	17.76	64.21	18.03
476	4721.50	56.53	20.07	2.79	6.80	2.91	3862	3655	2327	90.08	15.63	64.95	19.43
477	4731.44	61.68	23.12	3.53	7.51	2.81	1697	2472	2906	99.36	17.91	65.06	17.03
478	4741.38	61.39	23.05	3.58	7.57	2.94	1666	2574	3017	99.26	17.90	64.59	17.51
479	4751.32	61.76	22.94	3.41	7.47	2.99	1858	2697	3075	99.34	17.29	64.62	18.09
480	4761.26	62.12	22.63	3.03	7.62	3.34	1567	2839	2636	99.44	15.14	64.98	19.88
481	4771.20	62.04	22.57	3.08	7.49	3.23	1768	2922	3200	99.19	15.64	64.85	19.51
482	4781.14	61.91	22.32	2.90	7.36	3.46	1609	3166	3238	98.75	14.83	64.12	21.05
483	4791.08	62.17	22.35	2.81	7.54	3.51	1798	2554	2438	99.06	14.14	64.80	21.06
484	4801.02	61.32	22.81	3.41	7.56	3.00	3010	2757	2718	98.96	17.16	64.88	17.96
485	4810.96	61.48	22.80	3.44	7.59	3.02	2112	2105	2640	99.02	17.20	64.78	18.02
486	4820.90	61.42	22.87	3.43	7.53	3.01	1975	3187	2632	99.03	17.27	64.68	18.05
487	4830.84	61.42	23.03	3.59	7.49	2.92	1416	2983	3068	99.20	18.09	64.39	17.52
488	4840.78	61.46	22.90	3.51	7.54	2.98	1729	2268	2785	99.07	17.61	64.55	17.83
489	4850.72	61.44	23.17	3.42	7.43	2.88	1678	2922	2968	99.10	17.53	64.90	17.56
490	4860.66	61.71	22.82	3.25	7.38	3.13	1560	2676	2911	99.00	16.59	64.37	19.03
491	4870.60	62.02	23.15	3.40	7.57	3.17	1538	2359	3046	100.00	16.93	64.28	18.78
492	4880.54	62.24	22.95	3.32	7.61	3.17	1623	2876	2569	100.00	16.53	64.67	18.80
493	4890.48	62.18	22.97	3.32	7.70	3.15	1657	2359	2838	100.00	16.44	65.00	18.56
494	4900.42	62.25	23.08	3.43	7.53	3.07	1938	1988	2484	100.00	17.19	64.44	18.37
495	4910.36	62.07	23.05	3.48	7.54	3.10	2097	2260	3354	100.00	17.36	64.18	18.46
496	4920.30	62.06	23.08	3.48	7.47	3.09	1742	3309	3103	100.00	17.48	64.02	18.50
497	4930.24	62.40	22.75	3.26	7.60	3.27	1727	2713	2768	100.00	16.22	64.42	19.37
498	4940.18	62.46	22.80	3.04	7.51	3.51	1508	2803	2444	100.00	15.17	63.98	20.85
499	4950.12	62.47	22.70	2.97	7.58	3.47	1896	3050	3089	100.00	14.82	64.55	20.63
500	4960.06	62.26	22.93	3.21	7.45	3.37	1933	2812	3056	100.00	16.10	63.75	20.16
501	4970.00	62.36	22.90	3.11	7.45	3.37	1903	3326	2866	100.00	15.68	64.06	20.26
502	4979.94	62.33	22.74	3.22	7.49	3.40	2265	2926	2964	100.00	16.06	63.73	20.22
503	4989.88	62.35	22.85	3.22	7.52	3.30	1696	3257	2755	100.00	16.09	64.21	19.69
504	4999.82	62.42	22.68	3.06	7.60	3.40	2354	3045	3048	100.00	15.26	64.59	20.15
505	5009.76	62.48	22.58	2.84	7.87	3.47	2337	2896	2376	100.00	13.93	65.81	20.26
506	5019.70	62.59	22.60	2.86	7.66	3.41	2812	3410	2478	100.00	14.32	65.35	20.33
514	5099.22	62.21	22.84	3.09	7.67	3.24	2192	3767	3540	100.00	15.42	65.32	19.26
515	5109.16	62.41	22.73	3.16	7.60	3.34	1858	2941	2889	100.00	15.73	64.49	19.78
516	5119.10	62.40	22.85	3.11	7.57	3.29	2003	3032	2741	100.00	15.61	64.76	19.63
517	5129.04	62.72	22.55	2.87	7.51	3.61	1799	2730	2760	100.00	14.37	64.12	21.51
518	5138.98	62.28	22.92	3.16	7.55	3.34	1864	2995	2702	100.00	15.77	64.33	19.90
519	5148.92	62.15	22.89	3.22	7.59	3.33	2228	3113	2974	100.00	15.99	64.29	19.72
520	5158.86	61.88	23.06	3.46	7.63	3.13	2145	3527	2726	100.00	17.12	64.40	18.47
521	5168.80	61.91	23.23	3.33	7.65	3.12	1648	3158	2938	100.00	16.57	64.94	18.48
522	5178.74	62.09	23.17	3.36	7.57	3.10	1966	2323	2751	100.00	16.83	64.68	18.49
523	5188.68	62.55	22.70	2.96	7.58	3.46	1765	2932	2890	100.00	14.78	64.63	20.60
524	5198.62	62.55	22.65	2.93	7.62	3.55	1620	2708	2799	100.00	14.53	64.49	20.97
525	5208.56	62.32	22.87	3.05	7.63	3.35	1748	2995	2981	100.00	15.21	64.87	19.92
526	5218.50	62.30	22.89	3.09	7.55	3.37	1816	3353	2836	100.00	15.45	64.44	20.11
527	5228.44	62.34	22.96	3.16	7.50	3.28	1575	3064	2976	100.00	15.92	64.41	19.67
528	5238.38	62.26	22.94	3.20	7.51	3.30	2018	3028	2791	100.00	16.04	64.23	19.73
529	5248.32	62.12	22.81	3.24	7.59	3.41	1862	3284	3203	100.00	15.99	63.97	20.05
530	5258.26	62.16	23.02	3.12	7.63	3.31	1649	3230	2814	100.00	15.53	64.80	19.66
531	5268.20	62.06	22.95	3.28	7.63	3.24	1780	3416	3170	100.00	16.27	64.56	19.16
532	5278.14	62.25	22.84	3.08	7.55	3.41	2039	3596	3083	100.00	15.38	64.30	20.32

**Table F.1.1 cont**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub> (wt%)	Al <sub>2</sub> O <sub>3</sub> (wt%)	CaO (wt%)	Na <sub>2</sub> O (wt%)	K <sub>2</sub> O (wt%)	FeO (ppm)	BaO (ppm)	SrO (ppm)	Total	Endmembers		
											An	Ab	Or
533	5288.08	62.28	22.87	3.09	7.58	3.47	1408	2783	2975	100.00	15.33	64.16	20.51
534	5298.02	62.35	22.82	2.90	7.67	3.45	1923	2888	3238	100.00	14.45	65.12	20.43
535	5307.96	62.05	23.12	3.23	7.64	3.21	1667	2736	3051	100.00	16.09	64.86	19.05
536	5317.90	62.03	23.25	3.52	7.47	3.02	1845	2602	2785	100.00	17.73	64.17	18.10
537	5327.84	62.39	22.80	3.06	7.51	3.46	1830	3438	2647	100.00	15.30	64.10	20.61
538	5337.78	62.36	22.87	3.03	7.54	3.49	1727	2756	2650	100.00	15.13	64.13	20.74
539	5347.72	61.70	23.28	3.48	7.56	3.14	1657	3772	2896	100.00	17.32	64.08	18.60
540	5357.66	61.63	23.45	3.65	7.52	2.92	1895	3117	3211	100.00	18.28	64.27	17.45
541	5367.60	61.77	23.39	3.54	7.51	2.95	1962	3082	3390	100.00	17.83	64.50	17.67
542	5377.54	62.11	23.07	3.29	7.56	3.20	1694	3213	2791	100.00	16.46	64.50	19.04
543	5387.48	62.34	22.91	2.96	7.54	3.45	1831	3231	2910	100.00	14.87	64.54	20.59
544	5397.42	62.65	22.64	3.07	7.46	3.48	1745	3123	2210	100.00	15.39	63.80	20.81
545	5407.36	61.93	23.14	3.55	7.56	3.04	1826	3497	2569	100.00	17.69	64.25	18.06
546	5417.30	62.39	22.82	3.05	7.44	3.48	1737	3369	3118	100.00	15.31	63.85	20.84
547	5427.24	62.02	23.25	3.34	7.52	3.11	1712	3000	2894	100.00	16.83	64.54	18.63
548	5437.18	62.23	22.98	3.19	7.54	3.27	1790	2857	3234	100.00	15.97	64.51	19.52
549	5447.12	62.24	22.86	3.17	7.52	3.43	1709	3078	2981	100.00	15.79	63.85	20.36
550	5457.06	62.25	22.93	3.20	7.47	3.41	1865	2813	2743	100.00	16.00	63.71	20.29
551	5467.00	62.14	22.88	3.16	7.62	3.36	2034	3485	2869	100.00	15.68	64.47	19.84
552	5476.94	62.30	22.89	3.15	7.65	3.22	1230	3514	3225	100.00	15.74	65.10	19.16
553	5486.88	61.86	23.16	3.35	7.63	3.16	1883	3789	2727	100.00	16.66	64.64	18.70
554	5496.82	62.12	23.08	3.19	7.58	3.29	1791	2727	2759	100.00	15.93	64.51	19.56
555	5506.76	62.29	23.04	3.24	7.52	3.27	1724	2080	2607	100.00	16.24	64.24	19.52
556	5516.70	62.04	22.96	3.30	7.70	3.25	1352	3286	2896	100.00	16.26	64.69	19.05
557	5526.64	61.74	23.07	3.54	7.66	3.21	1410	3277	3090	100.00	17.34	63.94	18.72
558	5536.58	61.85	22.99	3.45	7.70	3.21	1814	3473	2765	100.00	16.91	64.35	18.74
559	5546.52	61.80	23.20	3.43	7.67	3.16	1984	3036	2401	100.00	16.94	64.51	18.55
560	5556.46	61.98	23.13	3.33	7.66	3.15	1896	2991	2573	100.00	16.52	64.83	18.65
561	5566.40	62.13	22.96	3.28	7.70	3.16	2172	2721	2844	100.00	16.25	65.09	18.67
562	5576.34	61.68	23.38	3.61	7.59	2.92	2125	2849	3230	100.00	18.04	64.61	17.36
563	5586.28	61.43	23.59	3.69	7.59	2.81	2028	3556	3311	100.00	18.47	64.78	16.75
564	5596.22	62.38	22.80	3.00	7.59	3.47	1824	3014	2837	100.00	14.93	64.48	20.59
565	5606.16	62.30	22.88	3.12	7.70	3.26	1717	2990	2784	100.00	15.50	65.23	19.28
566	5616.10	61.52	23.48	3.55	7.64	2.96	2094	3309	3076	100.00	17.65	64.81	17.55
567	5626.04	62.28	22.99	3.03	7.75	3.11	1884	3185	3212	100.00	15.19	66.23	18.57
568	5635.98	62.07	22.97	3.33	7.66	3.17	1787	3422	2720	100.00	16.50	64.79	18.71
569	5645.92	61.86	23.11	3.36	7.74	3.18	1649	3002	2814	100.00	16.52	64.85	18.63
570	5655.86	61.88	23.22	3.35	7.62	3.12	1920	3329	2865	100.00	16.69	64.76	18.55
571	5665.80	62.11	22.97	3.36	7.58	3.19	1945	2954	3030	100.00	16.73	64.36	18.91
572	5675.74	61.95	23.10	3.37	7.62	3.24	1748	2570	2831	100.00	16.67	64.25	19.07
573	5685.68	62.45	22.77	3.10	7.52	3.41	2165	2218	3131	100.00	15.50	64.17	20.34
574	5695.62	62.39	22.75	3.10	7.54	3.46	1775	3192	2745	100.00	15.45	64.05	20.51
576	5715.50	61.41	23.65	3.84	7.49	2.81	1927	3277	2791	100.00	19.22	64.03	16.76
577	5725.44	61.48	23.49	3.66	7.60	2.98	1894	3234	2833	100.00	18.13	64.28	17.60
578	5735.38	61.91	23.15	3.40	7.68	3.14	1455	3146	2623	100.00	16.78	64.76	18.47
579	5745.32	61.92	23.12	3.20	7.59	3.32	1732	3550	3092	100.00	15.92	64.39	19.69
580	5755.26	62.06	23.09	3.22	7.59	3.32	1768	3085	2422	100.00	16.01	64.32	19.67
581	5765.20	61.72	23.25	3.42	7.64	3.12	1809	3225	3357	100.00	16.97	64.60	18.44
582	5775.14	61.71	23.42	3.55	7.47	3.05	1940	3001	3074	100.00	17.81	63.93	18.25
583	5785.08	61.77	23.43	3.54	7.48	3.02	1664	3469	2467	100.00	17.78	64.14	18.08
584	5795.02	61.89	23.18	3.40	7.52	3.22	2135	2834	2941	100.00	16.95	63.94	19.12
585	5804.96	61.75	23.23	3.33	7.63	3.25	2121	2880	3167	100.00	16.45	64.38	19.17

**Table F.1.1 cont**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub> (wt%)	Al <sub>2</sub> O <sub>3</sub> (wt%)	CaO (wt%)	Na <sub>2</sub> O (wt%)	K <sub>2</sub> O (wt%)	FeO (ppm)	BaO (ppm)	SrO (ppm)	Total	Endmembers		
											An	Ab	Or
586	5814.90	61.76	23.19	3.33	7.62	3.27	1793	3712	2809	100.00	16.48	64.26	19.26
587	5824.84	62.06	23.02	3.18	7.58	3.42	1919	2374	3115	100.00	15.74	64.05	20.21
588	5834.78	62.18	22.88	3.13	7.71	3.26	2004	3417	2919	100.00	15.53	65.20	19.27
589	5844.72	62.14	23.04	3.16	7.60	3.27	1672	3209	2903	100.00	15.80	64.74	19.46
590	5854.66	61.83	23.27	3.35	7.61	3.12	2035	3157	3118	100.00	16.70	64.77	18.54
591	5864.60	62.13	22.95	3.33	7.56	3.21	2037	3340	2907	100.00	16.60	64.32	19.07
592	5874.54	62.09	22.99	3.17	7.63	3.27	1830	3515	3053	100.00	15.79	64.81	19.40
593	5884.48	62.34	22.70	2.96	7.67	3.57	1561	3440	2549	100.00	14.57	64.47	20.96
594	5894.42	62.30	22.85	3.04	7.58	3.45	1949	2942	2938	100.00	15.13	64.39	20.48
595	5904.36	62.28	22.88	3.07	7.65	3.44	1667	2396	2608	100.00	15.20	64.52	20.28
596	5914.30	61.95	23.17	3.13	7.59	3.34	1997	3409	2783	100.00	15.60	64.56	19.84
597	5924.24	61.78	23.21	3.52	7.63	3.07	2080	2914	2921	100.00	17.44	64.43	18.13
598	5934.18	62.50	22.88	3.06	7.51	3.31	1819	2671	2881	100.00	15.44	64.68	19.88
599	5944.12	62.09	23.08	3.41	7.60	3.12	1915	2329	2807	100.00	16.96	64.52	18.53
600	5954.06	62.28	22.85	3.07	7.60	3.41	1719	3144	3056	100.00	15.28	64.51	20.21
601	5964.00	62.20	22.87	3.18	7.58	3.38	1746	3477	2783	100.00	15.77	64.21	20.02
602	5973.94	62.09	23.01	3.09	7.68	3.42	1797	3034	2327	100.00	15.24	64.66	20.10
603	5983.88	62.23	22.97	3.13	7.63	3.22	2105	3155	2926	100.00	15.66	65.12	19.22
604	5993.82	62.15	22.85	3.25	7.68	3.28	1754	2747	3391	100.00	16.06	64.63	19.31
605	6003.76	62.00	23.04	3.23	7.62	3.28	2081	3175	2961	100.00	16.04	64.53	19.43
606	6013.70	62.10	23.13	3.20	7.61	3.16	2031	2705	3193	100.00	16.05	65.06	18.89
607	6023.64	62.01	23.10	3.28	7.61	3.19	2433	2769	2895	100.00	16.37	64.68	18.95
608	6033.58	61.31	22.95	3.16	7.69	3.43	8479	3290	2829	100.00	15.51	64.39	20.09
611	6063.40	61.85	23.21	3.37	7.69	3.00	2724	2711	3422	100.00	16.77	65.41	17.82
612	6073.34	61.99	22.98	3.29	7.77	3.10	1991	3655	3041	100.00	16.27	65.48	18.25
613	6083.28	61.97	23.04	3.31	7.62	3.18	2260	3519	2838	100.00	16.48	64.65	18.87
614	6093.22	62.03	23.05	3.42	7.62	3.09	2063	3248	2673	100.00	17.00	64.70	18.30
615	6103.16	61.98	23.13	3.18	7.59	3.32	1923	3455	2681	100.00	15.82	64.49	19.69
616	6113.10	62.36	22.65	2.90	7.61	3.59	2003	3856	3072	100.00	14.39	64.41	21.20
617	6123.04	61.46	23.30	3.53	7.70	3.17	1782	3758	2798	100.00	17.26	64.26	18.48
618	6132.98	62.05	23.08	3.31	7.58	3.22	1916	3171	2583	100.00	16.47	64.42	19.11
619	6142.92	62.00	22.94	3.28	7.59	3.26	1890	3942	3349	100.00	16.33	64.34	19.33
620	6152.86	61.74	23.28	3.44	7.56	3.19	1811	3350	2786	100.00	17.07	64.07	18.87
621	6162.80	61.91	23.19	3.33	7.59	3.23	2111	2886	2537	100.00	16.56	64.33	19.11
622	6172.74	62.00	23.11	3.18	7.65	3.30	1707	2886	2895	100.00	15.78	64.72	19.50
623	6182.68	62.34	22.73	3.05	7.58	3.48	1793	3578	2874	100.00	15.16	64.25	20.59
624	6192.62	62.18	22.97	3.01	7.56	3.39	1914	3454	3544	100.00	15.11	64.66	20.24
625	6202.56	62.09	23.02	3.23	7.49	3.33	1954	2999	3392	100.00	16.19	63.95	19.86
626	6212.50	61.73	23.22	3.33	7.66	3.23	1988	3246	2937	100.00	16.46	64.53	19.01
627	6222.44	62.09	23.11	3.22	7.56	3.20	1801	3670	2696	100.00	16.16	64.68	19.15
628	6232.38	62.23	22.93	3.08	7.67	3.36	1854	2297	3099	100.00	15.27	64.87	19.86
629	6242.32	62.14	22.95	3.11	7.65	3.38	1895	3101	2760	100.00	15.42	64.63	19.95
630	6252.26	62.39	22.88	3.11	7.58	3.39	1497	2730	2351	100.00	15.48	64.42	20.10
631	6262.20	62.38	22.76	3.17	7.52	3.36	1649	3604	2756	100.00	15.84	64.13	20.03
632	6272.14	62.15	23.08	3.27	7.53	3.26	1704	2745	2648	100.00	16.37	64.23	19.40
633	6282.08	62.07	23.17	3.26	7.53	3.23	1756	2867	2835	100.00	16.35	64.37	19.28
634	6292.02	61.85	23.07	3.27	7.69	3.29	1925	2812	3554	100.00	16.11	64.59	19.30
635	6301.96	61.80	23.35	3.36	7.52	3.16	2107	3229	2615	100.00	16.85	64.27	18.89
636	6311.90	62.06	23.09	3.34	7.59	3.20	1565	2857	2723	100.00	16.63	64.40	18.97
637	6321.84	61.99	23.07	3.27	7.63	3.31	1613	2866	2712	100.00	16.16	64.35	19.49
638	6331.78	61.66	23.32	3.52	7.57	3.08	1589	4077	2950	100.00	17.51	64.26	18.24
639	6341.72	61.97	23.17	3.27	7.57	3.23	1746	3175	2927	100.00	16.33	64.46	19.21

**Table F.1.1 cont**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
640	6351.66	61.96	23.15	3.40	7.53	3.16	1729	3028	3276	100.00	16.99	64.22	18.79
641	6361.60	62.02	23.17	3.42	7.48	3.09	1984	2664	3385	100.00	17.22	64.23	18.55
642	6371.54	61.39	23.67	3.75	7.41	3.00	1716	2567	3462	100.00	18.79	63.32	17.89
643	6381.48	61.68	23.51	3.69	7.44	2.97	1539	3026	2516	100.00	18.54	63.69	17.76
644	6391.42	61.77	23.29	3.44	7.62	3.15	1432	2413	3319	100.00	17.05	64.35	18.60
645	6401.36	61.89	23.21	3.53	7.53	3.08	1755	2337	3442	100.00	17.59	64.09	18.31
646	6411.30	61.83	23.21	3.67	7.58	2.99	1603	2626	2953	100.00	18.20	64.14	17.65
647	6421.24	62.08	23.07	3.23	7.62	3.25	1544	2990	2816	100.00	16.08	64.65	19.27
648	6431.18	62.09	23.01	3.44	7.57	3.16	1604	2783	2890	100.00	17.12	64.17	18.71
649	6441.12	61.97	23.25	3.44	7.50	3.15	1807	2480	2655	100.00	17.20	64.01	18.79
650	6451.06	61.90	23.14	3.40	7.52	3.28	1770	2736	3008	100.00	16.90	63.69	19.41
651	6461.00	62.34	22.86	3.15	7.61	3.38	1582	2265	2785	100.00	15.63	64.40	19.97
652	6470.94	62.30	22.83	3.08	7.61	3.46	1764	2705	2709	100.00	15.25	64.34	20.41
653	6480.88	62.06	23.17	3.27	7.48	3.29	1944	2566	2690	100.00	16.40	63.94	19.65
654	6490.82	62.04	23.08	3.26	7.61	3.22	1868	3154	2876	100.00	16.22	64.69	19.09
655	6500.76	61.97	23.16	3.35	7.54	3.16	1933	2960	3258	100.00	16.77	64.42	18.82
656	6510.70	61.89	23.19	3.35	7.59	3.17	1689	3251	3176	100.00	16.70	64.47	18.83
657	6520.64	61.78	23.21	3.42	7.53	3.21	2453	2598	3464	100.00	17.05	63.93	19.02
658	6530.58	62.03	23.17	3.33	7.54	3.15	2152	2970	2756	100.00	16.70	64.47	18.84
659	6540.52	61.99	23.04	3.48	7.53	3.09	2068	3220	3287	100.00	17.40	64.20	18.40
660	6550.46	61.90	23.17	3.52	7.52	3.15	1580	3139	2661	100.00	17.52	63.81	18.67
661	6560.40	61.73	23.30	3.39	7.61	3.15	2139	2708	3497	100.00	16.85	64.51	18.64
662	6570.34	61.82	23.19	3.40	7.58	3.19	1871	3151	3296	100.00	16.89	64.23	18.88
663	6580.28	61.91	23.22	3.26	7.55	3.26	2067	3127	2705	100.00	16.29	64.34	19.37
664	6590.22	62.10	23.01	3.16	7.61	3.31	1855	2907	3251	100.00	15.73	64.62	19.65
665	6600.16	62.09	23.03	3.19	7.46	3.43	2207	3236	2591	100.00	15.94	63.63	20.43
666	6610.10	62.12	22.98	3.12	7.53	3.46	2109	2832	2892	100.00	15.56	63.90	20.54
667	6620.04	62.21	22.80	3.21	7.53	3.41	1936	3275	3279	100.00	15.97	63.85	20.19
668	6629.98	62.32	22.77	3.02	7.50	3.56	1915	4043	2385	100.00	15.05	63.82	21.13
669	6639.92	62.50	22.90	2.96	7.45	3.47	1816	2390	3055	100.00	14.93	64.19	20.88
670	6649.86	62.38	22.81	2.95	7.55	3.58	1916	2755	2573	100.00	14.66	64.11	21.24
671	6659.80	62.49	22.39	3.18	7.48	3.72	1843	2480	3264	100.00	15.62	62.64	21.74
672	6669.74	62.22	22.79	2.93	7.56	3.69	1986	3351	2790	100.00	14.49	63.78	21.73
673	6679.68	62.41	22.63	3.23	7.29	3.56	2070	4024	2710	100.00	16.24	62.48	21.28
674	6689.62	62.05	23.03	3.18	7.49	3.37	1969	3585	3182	100.00	15.93	63.97	20.11
675	6699.56	61.61	23.36	3.61	7.53	3.13	2214	2386	3117	100.00	17.87	63.65	18.48
676	6709.50	61.95	23.02	3.37	7.59	3.30	1443	3473	2817	100.00	16.66	63.94	19.40
677	6719.44	61.65	23.32	3.59	7.55	3.07	1886	3557	2742	100.00	17.83	63.99	18.18
678	6729.38	62.08	23.08	3.35	7.52	3.20	1717	3222	2817	100.00	16.75	64.15	19.10
679	6739.32	62.18	22.96	3.29	7.62	3.28	2011	2336	2374	100.00	16.28	64.39	19.33
680	6749.26	61.93	23.26	3.54	7.48	3.01	1613	3066	3095	100.00	17.83	64.17	18.00
681	6759.20	61.82	23.27	3.45	7.52	3.16	1718	3595	2595	100.00	17.20	64.02	18.78
682	6769.14	61.64	23.47	3.58	7.56	3.02	1548	2911	2857	100.00	17.85	64.23	17.92
683	6779.08	61.49	23.61	3.67	7.46	2.93	1747	3329	3221	100.00	18.47	63.99	17.55
684	6789.02	61.28	23.59	3.94	7.61	2.73	1785	3509	3214	100.00	19.52	64.37	16.11
685	6798.96	61.41	23.68	3.86	7.52	2.72	1853	2880	3408	100.00	19.37	64.38	16.25
686	6808.90	61.56	23.45	3.79	7.51	2.91	1708	2944	3098	100.00	18.88	63.86	17.26
687	6818.84	61.70	23.26	3.47	7.56	3.18	1560	3918	2815	100.00	17.23	63.97	18.80
688	6828.78	62.01	22.99	3.42	7.57	3.21	1706	3403	3039	100.00	16.97	64.07	18.96
689	6838.72	61.66	23.40	3.64	7.60	2.95	2030	2628	2886	100.00	18.09	64.45	17.46
690	6848.66	61.60	23.50	3.67	7.42	3.01	1999	2988	3030	100.00	18.41	63.56	18.03
691	6858.60	61.81	23.14	3.48	7.53	3.25	1749	3218	2964	100.00	17.22	63.60	19.18

**Table F.1.1 cont**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
692	6868.54	61.49	23.37	3.67	7.48	2.94	4388	3031	3139	100.00	18.43	64.02	17.56
693	6878.48	61.53	23.55	3.81	7.47	2.78	2132	3018	3333	100.00	19.19	64.13	16.68
694	6888.42	61.77	23.30	3.66	7.49	2.99	2020	3002	2881	100.00	18.30	63.91	17.80
695	6898.36	62.18	22.88	3.13	7.58	3.33	2116	3860	3017	100.00	15.65	64.54	19.81
696	6908.30	62.27	22.93	3.14	7.46	3.40	1826	3383	2827	100.00	15.75	63.91	20.34
697	6918.24	61.87	23.31	3.46	7.46	3.13	1640	2846	3282	100.00	17.36	63.91	18.72
698	6928.18	62.03	23.18	3.29	7.54	3.10	2336	3075	3287	100.00	16.58	64.82	18.60
699	6938.12	62.03	23.09	3.44	7.56	3.14	2194	2400	2923	100.00	17.12	64.25	18.63
700	6948.06	62.14	22.94	3.31	7.44	3.29	1974	3531	3197	100.00	16.63	63.70	19.67
701	6958.00	61.89	23.24	3.56	7.50	3.10	1957	2051	3089	100.00	17.78	63.83	18.39
702	6967.94	61.79	23.10	3.35	7.64	3.21	2225	3745	3144	100.00	16.61	64.48	18.91
703	6977.88	61.78	23.29	3.44	7.48	3.14	2028	3362	3321	100.00	17.25	64.00	18.74
704	6987.82	62.12	22.89	3.24	7.61	3.39	1912	3076	2597	100.00	15.97	64.06	19.96
705	6997.76	62.33	22.91	3.04	7.48	3.34	1902	4130	3034	100.00	15.36	64.51	20.13
706	7007.70	62.29	22.95	3.20	7.53	3.30	2051	2516	2785	100.00	16.01	64.30	19.68
707	7017.64	62.05	23.09	3.19	7.56	3.35	2011	2351	3194	100.00	15.89	64.22	19.89
708	7027.58	61.38	23.62	3.84	7.54	2.88	1957	2298	3144	100.00	19.08	63.87	17.05
709	7037.52	62.16	23.04	3.15	7.51	3.37	1908	2696	3213	100.00	15.75	64.15	20.10
710	7047.46	62.28	22.79	3.00	7.55	3.53	1408	3742	3372	100.00	14.93	64.14	20.93
711	7057.40	61.96	23.06	3.34	7.55	3.25	2117	3020	3271	100.00	16.63	64.08	19.29
712	7067.34	62.03	23.18	3.35	7.41	3.24	2070	2891	2900	100.00	16.87	63.69	19.44
713	7077.28	62.28	22.95	3.05	7.53	3.41	1832	2987	2976	100.00	15.30	64.34	20.36
714	7087.22	62.11	23.02	3.22	7.54	3.25	1856	3612	3204	100.00	16.13	64.46	19.40
715	7097.16	62.06	23.08	3.29	7.64	3.14	1787	2885	3129	100.00	16.41	64.93	18.66
716	7107.10	61.99	23.20	3.45	7.52	3.09	1694	3248	2612	100.00	17.28	64.29	18.43
717	7117.04	61.96	23.15	3.41	7.56	3.08	1694	3560	3207	100.00	17.06	64.58	18.36
718	7126.98	61.75	23.31	3.60	7.55	2.98	1445	3204	3610	100.00	17.98	64.31	17.71
719	7136.92	61.29	23.14	3.30	7.61	3.34	7649	2834	2657	100.00	16.30	64.04	19.66
720	7146.86	61.61	23.46	3.66	7.50	2.96	2024	2764	3253	100.00	18.31	64.02	17.67
721	7156.80	61.52	23.64	3.83	7.41	2.79	2232	2760	3030	100.00	19.36	63.84	16.81
722	7166.74	61.29	23.82	4.09	7.44	2.62	2015	2782	2692	100.00	20.54	63.80	15.66
723	7176.68	61.15	23.74	4.14	7.52	2.61	2108	2999	3239	100.00	20.62	63.86	15.51
724	7186.62	61.50	23.56	4.01	7.44	2.71	2255	2541	3035	100.00	20.11	63.69	16.20
725	7196.56	61.70	23.02	4.05	7.53	2.89	1663	3294	3231	100.00	19.92	63.17	16.91
726	7206.50	62.02	22.87	3.32	7.54	3.41	1570	3334	3468	100.00	16.39	63.52	20.09
727	7216.44	62.14	23.01	3.25	7.53	3.30	1597	3325	2640	100.00	16.22	64.13	19.65
728	7226.38	61.95	23.00	3.39	7.48	3.32	2025	3478	3056	100.00	16.86	63.45	19.69
729	7236.32	61.77	23.35	3.52	7.58	3.02	2020	2856	2636	100.00	17.54	64.50	17.95
730	7246.26	62.18	22.96	3.30	7.42	3.30	1962	3050	3465	100.00	16.59	63.65	19.76
731	7256.20	62.23	22.75	3.25	7.54	3.39	2201	3166	3100	100.00	16.13	63.83	20.04
732	7266.14	62.25	22.87	3.16	7.52	3.40	1779	3003	3223	100.00	15.80	64.01	20.20
733	7276.08	62.63	22.54	3.07	7.48	3.46	1995	3278	3023	100.00	15.38	63.98	20.65
734	7286.02	62.56	22.58	2.97	7.53	3.46	1844	4320	2849	100.00	14.88	64.41	20.71
735	7295.96	62.38	22.83	2.96	7.50	3.44	2153	3386	3384	100.00	14.92	64.44	20.63
736	7305.90	62.26	22.91	3.13	7.48	3.40	2002	3463	2737	100.00	15.68	64.00	20.31
737	7315.84	62.27	22.78	3.10	7.51	3.49	2439	2811	3225	100.00	15.44	63.83	20.73
738	7325.78	61.73	22.70	2.93	7.61	3.74	8029	2232	2590	100.00	14.41	63.72	21.88
739	7335.72	62.42	22.77	3.03	7.60	3.39	2458	3052	2411	100.00	15.12	64.72	20.16
740	7345.66	62.62	22.66	2.97	7.52	3.43	2419	3103	2616	100.00	14.93	64.50	20.57
749	7435.12	62.28	22.85	3.08	7.72	3.20	2665	3156	2865	100.00	15.34	65.68	18.98
750	7445.06	62.09	23.11	3.40	7.53	3.02	1897	3013	3588	100.00	17.13	64.72	18.14
751	7455.00	61.84	23.17	3.43	7.44	3.17	2561	3706	3222	100.00	17.23	63.80	18.96

**Table F.1.1 cont**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub> (wt%)	Al <sub>2</sub> O <sub>3</sub> (wt%)	CaO (wt%)	Na <sub>2</sub> O (wt%)	K <sub>2</sub> O (wt%)	FeO (ppm)	BaO (ppm)	SrO (ppm)	Total	Endmembers		
											An	Ab	Or
752	7464.94	61.97	23.17	3.44	7.48	3.04	2371	3544	3026	100.00	17.37	64.37	18.26
753	7474.88	62.00	23.18	3.59	7.40	2.98	2477	2741	3362	100.00	18.19	63.85	17.95
754	7484.82	62.07	23.09	3.46	7.52	3.07	1776	3079	2958	100.00	17.34	64.30	18.35
755	7494.76	62.06	23.09	3.23	7.60	3.11	1731	3765	3603	100.00	16.22	65.15	18.63
756	7504.70	62.40	22.53	3.08	7.60	3.59	1829	3587	2535	100.00	15.15	63.80	21.05
757	7514.64	62.33	23.03	3.18	7.52	3.18	1803	2721	3108	100.00	16.08	64.79	19.13
758	7524.58	61.81	23.26	3.69	7.45	2.98	1962	2857	3247	100.00	18.49	63.71	17.80
759	7534.52	61.75	23.30	3.68	7.48	2.98	1821	3148	3059	100.00	18.42	63.84	17.74
760	7544.46	61.98	23.29	3.47	7.45	3.00	2175	3300	2674	100.00	17.57	64.34	18.09
761	7554.40	61.91	23.24	3.56	7.46	3.01	2032	3272	2875	100.00	17.89	64.04	18.07
762	7564.34	62.43	22.79	3.26	7.49	3.26	1896	3204	2659	100.00	16.36	64.15	19.49
763	7574.28	61.97	23.16	3.52	7.51	3.09	1580	2834	3088	100.00	17.61	64.02	18.37
764	7584.22	61.91	23.23	3.49	7.56	3.02	1595	3245	3097	100.00	17.48	64.49	18.03
765	7594.16	61.88	23.21	3.53	7.47	3.09	1822	3549	2787	100.00	17.67	63.87	18.45
766	7604.10	61.86	23.40	3.56	7.45	2.93	1756	2932	3438	100.00	18.02	64.31	17.67
767	7614.04	61.44	23.63	3.88	7.45	2.80	1719	3302	3036	100.00	19.47	63.81	16.72
768	7623.98	61.07	23.89	4.26	7.42	2.60	1776	3251	2639	100.00	21.27	63.25	15.48
769	7633.92	61.52	23.72	3.94	7.34	2.75	1640	2389	3341	100.00	19.98	63.42	16.60
770	7643.86	61.44	23.47	3.88	7.45	2.75	1926	4179	3849	100.00	19.54	63.95	16.51
771	7653.80	61.93	23.14	3.62	7.49	2.99	2135	2908	3320	100.00	18.13	64.02	17.85
772	7663.74	61.80	23.48	3.71	7.28	2.86	1693	3462	3545	100.00	19.00	63.59	17.41
773	7673.68	61.50	23.65	3.85	7.43	2.75	1787	3214	3274	100.00	19.45	64.02	16.53
774	7683.62	61.79	23.44	3.59	7.50	2.84	2074	3023	3312	100.00	18.15	64.71	17.14
775	7693.56	61.66	23.55	3.82	7.48	2.77	1496	2245	3490	100.00	19.20	64.19	16.61
776	7703.50	61.72	23.52	3.85	7.34	2.81	1669	3044	2834	100.00	19.54	63.51	16.95
777	7713.44	61.83	23.34	3.53	7.49	3.00	1590	3275	3270	100.00	17.75	64.27	17.99
778	7723.38	61.80	23.38	3.74	7.45	2.89	1617	2528	3329	100.00	18.79	63.89	17.32
779	7733.32	62.68	22.66	3.06	7.45	3.42	1508	2618	3215	100.00	15.43	64.03	20.54
780	7743.26	61.94	23.17	3.54	7.35	3.21	1786	3266	2903	100.00	17.81	62.99	19.19
781	7753.20	62.15	22.96	3.36	7.41	3.22	1764	3973	3174	100.00	16.94	63.71	19.35
782	7763.14	62.49	22.75	3.03	7.52	3.43	1722	3163	3016	100.00	15.19	64.32	20.49
783	7773.08	62.33	22.85	3.12	7.47	3.37	1675	3891	3026	100.00	15.71	64.11	20.18
784	7783.02	61.79	23.22	3.72	7.34	3.05	1648	3967	3135	100.00	18.72	63.01	18.28
785	7792.96	61.65	23.29	3.79	7.42	2.99	2056	3261	3276	100.00	18.96	63.27	17.77
786	7802.90	61.92	23.25	3.63	7.33	3.07	1733	3477	2864	100.00	18.35	63.18	18.47
787	7812.84	61.35	22.98	3.63	7.34	3.02	1600	3010	3108	99.10	18.39	63.38	18.23
788	7822.78	62.41	22.25	2.73	7.37	3.69	1864	4135	2962	99.35	13.85	63.85	22.30
789	7832.72	61.99	22.47	2.98	7.35	3.48	2155	4359	2751	99.19	15.14	63.79	21.07
790	7842.66	62.00	22.39	2.88	7.34	3.54	1908	3725	2588	98.98	14.70	63.82	21.48
791	7852.60	62.41	22.42	2.91	7.40	3.65	1964	3664	3150	99.67	14.64	63.51	21.85
792	7862.54	62.61	22.11	2.61	7.34	3.80	1779	3603	2116	99.23	13.29	63.70	23.01
793	7872.48	62.41	21.85	2.53	7.32	3.90	2082	3438	2207	98.77	12.86	63.51	23.62
794	7882.42	62.41	22.07	2.59	7.46	3.81	1974	2824	2618	99.08	13.02	64.10	22.87
795	7892.36	62.13	22.49	3.06	7.38	3.50	2473	3991	2453	99.45	15.45	63.53	21.02
796	7902.30	62.79	21.72	2.52	7.27	4.09	2678	2743	1822	99.10	12.73	62.67	24.59
799	7932.12	62.90	21.50	2.34	7.22	4.52	1876	3256	1838	99.18	11.66	61.48	26.87
800	7942.06	63.09	21.64	2.08	7.16	4.50	2000	3030	2059	99.19	10.60	62.13	27.27
801	7952.00	63.05	21.87	2.34	7.31	4.26	1718	3173	2239	99.54	11.76	62.71	25.54

**Table F.1.2: Section eb05027a2 Rim to Rim Transect by EMP**Step size: 9.94  $\mu\text{m}$  $n =$  EMP analysis number

$n$	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
1	0	63.47	22.13	2.48	7.40	3.95	2241	3175	1858	100.16	12.52	63.75	23.73
2	10	63.88	22.08	2.42	7.41	4.01	1765	3412	2161	100.54	12.19	63.74	24.07
4	30	64.20	21.74	2.06	7.45	4.55	2046	2574	2049	100.68	10.21	62.93	26.87
5	40	64.00	21.69	2.14	7.31	4.47	2087	3389	1764	100.33	10.72	62.59	26.69
6	50	64.04	21.74	2.20	7.38	4.41	1693	3648	2059	100.51	11.00	62.80	26.19
7	60	63.80	21.89	2.21	7.28	4.35	1870	3326	1944	100.25	11.14	62.71	26.16
8	70	64.25	21.70	2.03	7.35	4.59	1829	4055	2148	100.73	10.15	62.57	27.28
9	80	64.13	21.68	2.03	7.41	4.60	1633	3240	2059	100.55	10.06	62.73	27.21
10	90	63.91	21.59	2.10	7.32	4.53	1793	2811	2129	100.13	10.51	62.48	27.00
11	100	63.48	21.76	2.11	7.36	4.52	1750	3840	2212	100.01	10.52	62.63	26.85
12	110	63.90	21.82	2.19	7.30	4.33	1900	3326	2274	100.29	11.06	62.88	26.06
13	120	63.68	22.04	2.19	7.31	4.26	1921	2939	2240	100.20	11.12	63.19	25.69
14	130	63.64	21.83	2.33	7.44	4.16	1880	3154	2320	100.13	11.64	63.54	24.82
15	140	63.50	21.90	2.36	7.37	4.21	2193	3390	2606	100.16	11.83	63.04	25.13
16	150	63.58	21.95	2.33	7.42	4.18	2123	4376	2080	100.32	11.66	63.40	24.93
17	160	63.28	22.01	2.44	7.36	3.93	1986	4012	2072	99.82	12.39	63.82	23.80
18	170	63.18	22.11	2.51	7.33	3.93	1833	4741	2788	100.00	12.76	63.46	23.78
19	180	63.19	22.03	2.60	7.45	3.74	1555	2747	2546	99.70	13.15	64.30	22.55
20	190	63.26	22.31	2.80	7.58	3.54	1461	3369	2388	100.22	14.05	64.80	21.15
21	200	62.29	22.54	3.26	7.47	3.19	1871	3819	2938	99.62	16.45	64.35	19.20
22	210	62.42	22.97	3.39	7.48	2.97	1936	3262	2386	99.98	17.21	64.84	17.95
23	220	62.21	23.04	3.49	7.40	2.91	1544	2790	2762	99.76	17.85	64.45	17.70
24	230	62.10	23.20	3.49	7.61	2.87	1565	2939	3151	100.03	17.54	65.25	17.21
25	240	62.97	22.81	3.11	7.59	3.31	1718	3926	2572	100.61	15.55	64.73	19.72
26	250	62.67	22.36	2.94	7.58	3.40	2108	4226	2954	99.88	14.74	64.91	20.34
27	260	62.98	22.73	3.05	7.40	3.31	1965	3540	2722	100.30	15.57	64.34	20.10
28	270	62.42	22.76	3.22	7.41	3.29	1975	4227	3083	100.04	16.29	63.89	19.82
29	280	61.90	22.76	3.36	7.38	3.12	2109	3733	2968	99.39	17.07	64.02	18.91
30	290	62.28	22.81	3.42	7.46	3.18	1967	3369	2877	99.98	17.13	63.85	19.02
31	300	62.43	22.91	3.43	7.36	3.08	1812	3863	2788	100.04	17.46	63.89	18.65
32	310	62.18	22.50	3.04	7.41	3.34	1654	3947	2973	99.33	15.47	64.31	20.22
33	320	62.42	22.50	3.00	7.31	3.41	1632	3176	2694	99.39	15.36	63.83	20.81
34	330	61.81	23.32	3.72	7.42	2.83	1875	3261	3295	99.95	18.85	64.06	17.09
35	340	61.81	23.10	3.65	7.35	2.87	1557	3905	3293	99.66	18.60	63.94	17.46
36	350	62.28	22.78	3.29	7.29	3.03	1518	3412	3136	99.47	17.04	64.29	18.67
37	360	61.68	22.84	3.54	7.35	3.08	1792	2789	3236	99.27	17.91	63.52	18.57
38	370	56.29	20.91	3.64	6.18	2.67	1863	2490	3206	90.44	20.95	60.69	18.35
40	390	59.03	22.27	2.98	8.07	2.31	2133	3067	2063	95.37	15.27	70.62	14.10
41	400	63.67	23.69	3.31	8.18	2.98	1971	3947	2813	102.70	15.89	67.05	17.06
42	410	62.22	23.20	3.68	7.36	3.00	1607	3455	3095	100.27	18.58	63.40	18.02
43	420	62.36	22.88	3.35	7.42	3.27	2086	3819	3325	100.19	16.83	63.60	19.56
44	430	62.44	22.77	3.24	7.48	3.16	1848	4184	3406	100.04	16.38	64.55	19.07
45	440	61.99	22.64	3.15	7.43	3.24	1751	3282	3762	99.33	15.98	64.39	19.63
46	450	62.31	22.82	3.28	7.46	2.97	1664	3047	2976	99.60	16.78	65.11	18.11
47	460	61.68	23.40	3.70	7.45	2.85	1945	3519	3072	99.93	18.67	64.18	17.15
48	470	61.98	23.25	3.74	7.44	2.80	2067	2275	3410	100.00	18.93	64.21	16.86
49	480	61.89	23.24	3.74	7.40	2.83	1994	3112	3339	99.94	18.95	63.97	17.08
50	490	61.79	23.15	3.68	7.33	2.88	1811	2662	2863	99.57	18.77	63.75	17.48
51	500	62.29	23.23	3.65	7.46	2.89	2006	3047	3006	100.33	18.45	64.19	17.36

**Table F.1.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
51	500	62.29	23.23	3.65	7.46	2.89	2006	3047	3006	100.33	18.45	64.19	17.36
52	510	61.92	23.01	3.44	7.47	2.91	1876	3090	3114	99.56	17.51	64.85	17.63
53	520	61.59	23.24	3.79	7.33	2.68	1813	3219	3008	99.42	19.45	64.19	16.36
54	530	62.10	23.13	3.48	7.33	2.96	1917	3349	2764	99.80	17.86	64.08	18.06
55	540	61.89	22.76	3.37	7.33	3.14	1691	2832	3145	99.26	17.20	63.74	19.06
56	550	62.11	23.08	3.52	7.43	3.02	1594	3605	3158	99.99	17.77	64.05	18.18
57	560	61.93	22.97	3.57	7.40	2.96	1928	3326	3345	99.69	18.09	64.02	17.89
58	570	61.67	23.16	3.77	7.35	2.78	1739	2854	3813	99.58	19.21	63.92	16.87
59	580	61.61	23.32	3.94	7.31	2.65	1623	2361	2443	99.48	20.14	63.71	16.15
60	590	61.41	23.48	4.03	7.38	2.69	1767	2533	3145	99.73	20.31	63.54	16.15
61	600	61.95	23.31	3.64	7.39	2.76	1993	3669	3107	99.93	18.66	64.51	16.83
62	610	61.82	23.19	3.53	7.46	2.85	1615	2254	3303	99.56	17.96	64.75	17.29
63	620	61.96	22.94	3.48	7.42	3.01	1732	3541	3453	99.69	17.64	64.17	18.20
64	630	62.22	22.98	3.39	7.48	3.00	1995	3155	3050	99.88	17.20	64.70	18.11
65	640	62.12	23.10	3.41	7.45	3.02	1916	3047	2997	99.90	17.30	64.44	18.26
66	650	62.11	23.02	3.42	7.31	2.96	1576	2597	3443	99.59	17.60	64.22	18.18
67	660	62.04	22.84	3.38	7.46	3.07	1848	2812	2735	99.53	17.10	64.41	18.50
68	670	61.64	23.20	3.63	7.49	2.84	1797	2854	3340	99.60	18.34	64.55	17.11
69	680	61.81	23.06	3.64	7.37	2.86	1690	2447	3068	99.46	18.56	64.08	17.36
70	690	61.79	23.16	3.58	7.41	2.80	1964	3777	3430	99.66	18.32	64.62	17.06
71	700	61.64	23.29	3.78	7.32	2.69	2031	3112	3439	99.57	19.44	64.11	16.45
72	710	61.53	23.26	3.68	7.29	2.67	2038	2962	3188	99.26	19.08	64.46	16.46
73	720	61.83	23.25	3.55	7.43	2.74	1660	2726	3017	99.54	18.22	65.05	16.73
74	730	61.29	23.40	3.87	7.33	2.46	1947	3412	3272	99.22	20.03	64.79	15.18
75	740	61.76	23.24	3.80	7.53	2.67	1842	2962	3036	99.79	19.16	64.79	16.05
76	750	62.07	22.92	3.36	7.53	2.96	1662	2961	3301	99.64	17.02	65.10	17.88
77	760	62.03	23.09	3.47	7.60	2.90	2119	2961	3635	99.95	17.43	65.19	17.38
81	800	60.68	22.17	2.76	7.65	3.19	5213	2444	2414	97.45	14.05	66.57	19.38
82	810	62.45	22.57	2.95	7.47	3.10	2393	3712	3441	99.48	15.21	65.76	19.03
83	820	62.36	22.55	3.10	7.63	3.12	2050	3455	2842	99.60	15.65	65.62	18.73
84	830	61.62	22.88	3.46	7.47	2.90	2084	1846	2970	99.02	17.61	64.84	17.55
85	840	61.87	22.89	3.41	7.45	2.85	1905	2832	3229	99.27	17.49	65.09	17.42
86	850	62.05	22.86	3.33	7.47	2.96	1435	3004	3022	99.42	16.99	65.03	17.99
87	860	61.96	23.16	3.63	7.38	2.73	2030	2704	3015	99.63	18.62	64.65	16.73
88	870	61.93	22.99	3.44	7.45	2.89	1987	2855	2908	99.47	17.57	64.85	17.58
89	880	61.72	23.30	3.73	7.34	2.70	1785	3069	3143	99.59	19.18	64.29	16.53
90	890	61.57	23.29	3.72	7.43	2.79	2085	2597	3457	99.62	18.88	64.25	16.87
91	900	45.24	13.86	2.57	3.67	2.90	5704	2491	2500	69.31	20.90	51.02	28.08
92	910	61.72	22.57	3.12	7.49	3.17	1883	3198	2744	98.86	15.85	64.94	19.21
93	920	62.04	22.99	3.45	7.44	2.91	1863	3026	3141	99.63	17.58	64.73	17.69
94	930	61.85	22.93	3.55	7.52	2.92	2180	2468	2781	99.52	17.89	64.59	17.52
95	940	61.66	23.07	3.54	7.27	2.86	1673	2705	3132	99.15	18.29	64.08	17.63
96	950	61.59	23.39	3.82	7.41	2.72	2055	2554	3234	99.72	19.40	64.16	16.44
97	960	61.97	22.88	3.24	7.26	3.09	1764	3004	2627	99.19	16.79	64.13	19.07
98	970	62.16	22.79	3.36	7.40	2.97	1606	3090	3245	99.48	17.22	64.64	18.14
99	980	62.11	22.62	3.20	7.43	3.14	1945	3799	3272	99.39	16.30	64.62	19.08
100	990	62.01	22.85	3.30	7.33	3.12	1818	3305	2663	99.39	16.90	64.06	19.04
101	1000	62.47	22.67	3.18	7.38	3.21	1737	3370	2975	99.72	16.22	64.26	19.53
102	1010	62.83	22.05	2.54	7.29	3.71	1857	2941	2575	99.16	13.11	64.13	22.76
103	1020	62.92	22.19	2.78	7.53	3.56	1741	3477	2952	99.79	14.02	64.64	21.34
104	1030	62.78	22.32	2.73	7.34	3.50	1980	3112	3221	99.51	14.08	64.46	21.46
105	1040	62.89	22.30	2.54	7.54	3.64	1860	2833	2693	99.65	12.86	65.19	21.95



**Table F.1.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
109	1080	62.43	22.04	2.80	7.46	3.67	6269	3474	2810	99.65	14.07	63.97	21.96
110	1090	62.83	22.54	2.94	7.39	3.45	2061	3542	2669	99.96	14.94	64.16	20.89
111	1100	62.25	22.63	3.07	7.35	3.29	2020	2941	3047	99.39	15.70	64.22	20.08
112	1110	62.37	22.70	3.13	7.33	3.24	1649	3413	3029	99.59	16.06	64.12	19.82
113	1120	62.27	22.65	3.13	7.38	3.35	2029	3648	3037	99.66	15.90	63.88	20.22
114	1130	62.38	22.45	2.98	7.30	3.38	1515	3156	2991	99.26	15.31	64.01	20.68
115	1140	62.47	22.50	3.13	7.30	3.44	1766	3305	2837	99.64	15.91	63.28	20.81
116	1150	63.07	21.79	2.23	7.07	4.13	2006	4421	2517	99.18	11.62	62.79	25.60
117	1160	63.14	21.79	2.31	7.45	4.15	1738	3692	2537	99.63	11.58	63.65	24.77
118	1170	62.60	22.40	2.84	7.43	3.57	1736	3069	3114	99.64	14.37	64.10	21.53
119	1180	62.40	22.30	2.97	7.22	3.34	2032	2726	2702	98.96	15.41	63.94	20.64
120	1190	62.16	22.45	3.05	7.45	3.32	1689	2962	2848	99.18	15.46	64.45	20.09
121	1200	62.58	22.39	2.95	7.50	3.39	1726	3113	3259	99.62	14.91	64.67	20.42
122	1210	62.10	22.83	3.36	7.32	3.05	1983	3671	3220	99.55	17.24	64.11	18.66
123	1220	62.56	22.57	2.98	7.47	3.23	1384	2726	2893	99.52	15.24	65.08	19.67
124	1230	61.95	22.86	3.37	7.40	3.05	1737	2769	3730	99.45	17.16	64.31	18.53
125	1240	62.02	23.07	3.40	7.37	2.96	2119	3628	3043	99.70	17.42	64.47	18.11
126	1250	62.36	22.52	3.16	7.42	3.23	1877	3714	3028	99.55	16.10	64.34	19.56
127	1260	62.00	22.76	3.40	7.53	3.06	1766	3800	2441	99.55	17.09	64.56	18.35
128	1270	62.64	22.22	2.63	7.39	3.60	1743	3670	2962	99.31	13.45	64.58	21.97
129	1280	62.51	22.45	3.04	7.40	3.32	1595	1675	2828	99.33	15.50	64.31	20.19
130	1290	61.73	23.08	3.51	7.40	3.01	1645	3199	3133	99.52	17.79	64.02	18.19
131	1300	62.34	22.66	3.19	7.41	3.18	1694	3284	3504	99.63	16.25	64.44	19.31
132	1310	62.54	22.47	2.88	7.36	3.46	1874	2963	3295	99.52	14.74	64.16	21.10
133	1320	62.63	22.48	2.85	7.35	3.41	2031	3842	2786	99.59	14.67	64.43	20.90
134	1330	61.88	22.92	3.40	7.39	2.98	2195	3049	2782	99.37	17.38	64.48	18.14
135	1340	62.00	22.70	3.36	7.27	3.15	1951	2148	2958	99.18	17.20	63.56	19.24
136	1350	61.66	23.06	3.63	7.32	2.88	1556	2577	2810	99.23	18.59	63.85	17.56
137	1360	62.92	22.66	3.23	7.30	3.17	1821	3177	2624	100.04	16.60	63.98	19.42
138	1370	62.24	22.84	3.43	7.40	3.11	1803	3006	2977	99.80	17.34	63.89	18.77
139	1380	61.60	23.07	3.50	7.33	3.01	1609	2855	3321	99.29	17.88	63.80	18.31
140	1390	62.69	22.24	2.82	7.35	3.65	1856	3435	2147	99.50	14.31	63.61	22.08
141	1400	61.86	22.64	3.20	7.29	3.34	2157	2813	3603	99.19	16.30	63.41	20.29
142	1410	63.12	22.28	2.60	7.21	3.81	2007	3435	2745	99.83	13.38	63.27	23.34
143	1420	62.57	22.37	3.02	7.42	3.44	1858	3371	2731	99.62	15.28	63.97	20.75
144	1430	62.82	22.19	2.70	7.37	3.63	2185	3177	2747	99.53	13.78	64.16	22.06
145	1440	63.44	22.03	2.51	7.35	3.95	2197	3477	2207	100.07	12.71	63.49	23.80
146	1450	63.03	22.20	2.63	7.38	3.74	1556	2577	2379	99.62	13.36	64.00	22.64
147	1460	62.69	21.92	2.66	7.31	3.78	1604	2705	2690	99.08	13.57	63.50	22.94
148	1470	62.73	22.42	3.04	7.42	3.45	1948	3413	3124	99.92	15.35	63.91	20.75
149	1480	62.07	22.68	3.27	7.33	3.13	2089	3306	3237	99.34	16.79	64.07	19.14
150	1490	62.37	22.85	3.20	7.48	3.13	2367	3027	3068	99.88	16.25	64.82	18.93
151	1500	61.61	23.01	3.84	7.33	2.88	1964	3372	2748	99.48	19.41	63.23	17.36
152	1510	61.78	22.99	3.75	7.45	2.90	1749	2620	2881	99.59	18.83	63.84	17.33
153	1520	61.76	23.15	3.70	7.39	2.83	1929	2620	3062	99.59	18.79	64.07	17.13
154	1530	61.87	23.21	3.63	7.37	2.81	2104	2792	3359	99.71	18.56	64.31	17.13
155	1540	61.78	23.00	3.39	7.49	2.97	1921	2791	2640	99.36	17.22	64.83	17.95
156	1550	62.20	22.89	3.56	7.32	2.94	2022	3457	3256	99.78	18.19	63.88	17.93
157	1560	62.00	22.89	3.47	7.36	3.04	1541	3565	3714	99.65	17.66	63.89	18.44
158	1570	62.13	22.76	3.19	7.39	3.16	1307	3500	3004	99.41	16.29	64.44	19.27
159	1580	62.63	22.18	2.89	7.34	3.45	1874	3628	2855	99.32	14.79	64.16	21.05
160	1590	62.59	22.55	3.07	7.51	3.30	1526	3199	2832	99.77	15.48	64.66	19.86

**Table F.1.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
161	1600	62.13	22.75	3.28	7.40	3.21	1864	2748	2743	99.51	16.61	64.00	19.38
162	1610	61.96	22.86	3.40	7.34	3.09	1832	3264	2853	99.45	17.33	63.89	18.78
163	1620	61.28	23.42	3.96	7.37	2.74	2006	3307	3003	99.60	20.01	63.50	16.49
164	1630	62.07	22.99	3.43	7.41	2.95	1876	3157	3258	99.67	17.51	64.55	17.94
165	1640	62.01	23.04	3.59	7.42	2.89	1770	4016	2919	99.83	18.23	64.29	17.48
166	1650	62.68	22.48	2.92	7.48	3.33	1838	3199	2876	99.68	14.87	64.94	20.18
167	1660	62.12	22.92	3.36	7.30	3.22	1540	3436	2861	99.71	17.11	63.35	19.55
168	1670	61.75	23.07	3.49	7.37	2.90	1979	3671	2623	99.41	17.88	64.44	17.67
169	1680	62.10	22.72	3.37	7.41	3.11	1450	2749	3389	99.47	17.10	64.11	18.79
170	1690	62.43	22.74	3.15	7.55	3.34	1986	3177	2913	100.00	15.73	64.38	19.89
171	1700	62.16	22.55	3.17	7.28	3.42	2047	2856	3135	99.38	16.10	63.20	20.70
172	1710	62.50	22.63	3.11	7.35	3.23	2259	3607	2761	99.68	15.96	64.30	19.74
173	1720	62.42	22.70	3.07	7.35	3.30	1884	2619	3243	99.62	15.73	64.18	20.10
174	1730	62.31	22.61	3.23	7.40	3.30	2543	3285	3083	99.74	16.32	63.82	19.86
175	1740	62.15	22.53	3.33	7.42	3.13	1657	3308	3254	99.38	16.88	64.22	18.91
177	1760	62.42	22.75	3.24	7.43	3.06	1771	3050	2798	99.66	16.57	64.79	18.64
178	1770	62.22	22.64	3.18	7.50	3.08	2020	3800	2826	99.47	16.18	65.15	18.67
179	1780	61.29	23.57	4.09	7.33	2.55	2008	2212	3202	99.58	20.82	63.70	15.49
180	1790	61.39	23.30	3.80	7.23	2.69	1780	3350	2849	99.21	19.65	63.78	16.58
181	1800	61.74	23.24	3.75	7.41	2.78	2090	2898	3359	99.76	19.04	64.17	16.79
182	1810	61.74	23.27	3.71	7.41	2.82	1802	3007	3064	99.74	18.80	64.14	17.06
183	1820	61.69	23.03	3.60	7.35	2.94	1778	2899	3232	99.40	18.34	63.81	17.85
184	1830	62.33	22.49	3.04	7.42	3.40	1761	3886	2724	99.52	15.40	64.08	20.52
185	1840	62.50	22.65	3.09	7.25	3.40	2074	3371	2912	99.73	15.84	63.40	20.76
186	1850	62.03	23.01	3.43	7.44	2.96	1894	2964	2739	99.64	17.45	64.61	17.94
187	1860	61.82	23.03	3.55	7.48	2.88	2269	3715	3054	99.67	17.96	64.64	17.40
188	1870	62.02	22.94	3.35	7.52	3.02	2101	3908	3394	99.79	16.96	64.84	18.21
189	1880	62.63	22.53	2.93	7.57	3.33	2009	3220	3020	99.81	14.81	65.14	20.05
190	1890	62.30	22.69	3.18	7.46	3.16	1755	3328	3210	99.61	16.16	64.69	19.15
191	1900	61.94	23.04	3.46	7.47	2.86	1935	2963	3008	99.57	17.63	64.99	17.38
192	1910	61.80	23.28	3.77	7.40	2.82	2031	3286	2983	99.91	19.08	63.90	17.02
193	1920	61.58	23.31	3.53	7.49	2.88	2161	3135	3326	99.66	17.90	64.71	17.39
194	1930	62.48	22.71	3.08	7.47	3.26	1631	3478	3039	99.82	15.65	64.63	19.72
196	1950	62.56	22.65	3.07	7.42	3.21	2097	2856	3155	99.72	15.68	64.74	19.57
197	1960	62.38	22.49	3.08	7.53	3.40	2016	3392	3405	99.75	15.40	64.30	20.30
198	1970	62.01	22.47	3.02	7.40	3.40	1867	3178	3396	99.13	15.37	64.08	20.55
199	1980	62.51	22.43	3.16	7.49	3.36	2183	2748	2687	99.73	15.85	64.07	20.09
200	1990	62.03	22.74	3.35	7.36	3.11	1961	3479	2799	99.42	17.09	64.01	18.90
201	2000	62.72	22.36	3.05	7.29	3.42	1823	3286	3106	99.65	15.61	63.57	20.82
202	2010	62.51	22.55	3.05	7.56	3.38	1403	3414	3351	99.88	15.28	64.55	20.17
203	2020	62.42	22.57	3.28	7.47	3.15	2080	3844	2977	99.78	16.56	64.45	18.99
204	2030	62.32	23.01	3.40	7.52	3.00	1821	3329	2362	100.00	17.15	64.80	18.05
205	2040	61.59	23.25	3.70	7.48	2.88	1813	3350	2822	99.71	18.62	64.11	17.27
206	2050	61.65	23.12	3.70	7.35	2.89	1926	1912	3081	99.40	18.80	63.70	17.49
207	2060	61.94	23.00	3.52	7.37	3.02	1980	3071	3007	99.65	17.87	63.85	18.28
208	2070	61.87	22.99	3.46	7.42	3.02	2010	3736	3367	99.67	17.55	64.18	18.27
209	2080	62.14	23.00	3.52	7.31	3.02	1845	2878	3374	99.80	17.96	63.66	18.37
210	2090	62.13	22.80	3.41	7.40	3.14	1891	2792	3283	99.69	17.25	63.83	18.92
211	2100	62.73	22.57	3.02	7.34	3.32	1677	3006	2840	99.72	15.48	64.23	20.29
212	2110	62.01	22.80	3.31	7.38	3.08	1783	3307	2916	99.38	16.92	64.32	18.76
213	2120	61.61	22.80	3.52	7.38	2.96	1155	3072	3159	99.00	17.94	64.09	17.97
214	2130	62.26	22.52	3.01	7.38	3.35	1536	3501	3531	99.38	15.38	64.27	20.35

**Table F.1.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub> (wt%)	Al <sub>2</sub> O <sub>3</sub> (wt%)	CaO (wt%)	Na <sub>2</sub> O (wt%)	K <sub>2</sub> O (wt%)	FeO (ppm)	BaO (ppm)	SrO (ppm)	Total	Endmembers		
											An	Ab	Or
215	2140	62.22	22.64	3.16	7.46	3.21	1917	2685	2717	99.42	16.05	64.57	19.38
216	2150	62.57	22.36	2.87	7.38	3.51	2040	3136	3045	99.52	14.59	64.11	21.30
217	2160	62.57	22.13	2.79	7.43	3.59	2121	3222	2247	99.27	14.12	64.21	21.67
218	2170	62.46	22.06	2.84	7.42	3.46	1683	3909	2892	99.09	14.49	64.48	21.02
219	2180	62.84	22.50	2.78	7.60	3.50	2220	3221	2939	100.07	13.98	65.07	20.95
220	2190	62.59	22.19	2.82	7.42	3.48	1823	2921	2847	99.26	14.35	64.51	21.13
221	2200	62.52	22.48	3.05	7.37	3.37	1966	2620	3064	99.55	15.52	64.03	20.45
222	2210	62.77	22.42	2.76	7.52	3.43	1781	3587	3118	99.76	14.03	65.19	20.78
223	2220	62.63	22.68	3.05	7.43	3.25	1910	2856	2940	99.80	15.55	64.67	19.79
224	2230	62.10	22.56	3.10	7.31	3.28	1878	2685	3459	99.14	15.90	64.02	20.07
225	2240	62.24	22.44	3.00	7.42	3.27	2176	2578	2537	99.09	15.33	64.72	19.96
226	2250	63.12	22.15	2.69	7.61	3.53	1656	2620	2354	99.78	13.54	65.29	21.17
227	2260	62.36	22.53	3.07	7.39	3.27	1763	3179	3173	99.42	15.68	64.42	19.90
228	2270	62.68	22.44	2.86	7.44	3.46	2463	3565	2805	99.76	14.54	64.50	20.96
240	2390	61.76	21.99	2.80	7.53	3.46	6749	2425	3038	98.76	14.18	64.99	20.84
241	2400	62.16	22.76	3.33	7.39	3.10	1839	3307	3355	99.59	16.99	64.22	18.79
242	2410	62.03	22.70	3.28	7.43	3.11	2005	2900	2144	99.26	16.67	64.47	18.86
243	2420	62.91	22.14	2.79	7.41	3.41	1582	3201	2256	99.35	14.30	64.88	20.82
244	2430	62.42	22.40	2.82	7.48	3.46	1628	3287	2671	99.35	14.30	64.78	20.92
245	2440	62.89	21.93	2.39	7.39	4.10	1927	3200	2628	99.48	12.03	63.41	24.56
246	2450	62.87	22.04	2.72	7.41	3.72	1916	3394	2416	99.53	13.73	63.87	22.40
247	2460	62.63	22.26	2.71	7.48	3.54	2243	3072	2222	99.36	13.75	64.85	21.41
248	2470	62.66	22.30	2.74	7.39	3.55	2240	2663	2570	99.39	13.99	64.42	21.59
249	2480	62.62	22.21	2.78	7.45	3.55	2265	2985	2534	99.39	14.09	64.44	21.47
250	2490	62.41	22.53	3.18	7.41	3.32	1550	2965	2698	99.57	16.10	63.90	20.00
251	2500	62.73	22.42	3.05	7.46	3.46	1721	2900	2929	99.88	15.34	63.93	20.73
252	2510	62.57	22.36	2.85	7.50	3.52	2229	3629	2733	99.67	14.38	64.49	21.13
253	2520	60.04	21.50	2.43	7.90	4.30	22334	1176	2047	98.72	11.58	64.08	24.35
255	2540	62.72	22.41	2.80	7.49	3.47	2385	2727	3054	99.70	14.22	64.82	20.97
256	2550	62.77	22.55	2.91	7.59	3.52	1826	2836	2375	100.05	14.52	64.56	20.93
257	2560	62.59	22.41	2.91	7.51	3.38	1779	4125	2717	99.66	14.74	64.85	20.41
258	2570	62.67	22.57	3.03	7.67	3.25	2064	2771	2637	99.93	15.16	65.45	19.39
259	2580	62.52	22.48	3.18	7.52	3.23	1628	2772	2511	99.63	16.04	64.60	19.36
260	2590	62.30	22.44	2.95	7.47	3.40	1835	3243	2644	99.34	14.96	64.51	20.53
261	2600	62.31	22.48	3.12	7.42	3.29	1940	3352	2502	99.41	15.86	64.23	19.92
262	2610	62.32	22.58	3.21	7.43	3.23	1901	3093	2923	99.56	16.27	64.25	19.48
263	2620	62.17	22.85	3.26	7.45	3.12	1928	3072	2890	99.64	16.54	64.58	18.88
264	2630	61.87	23.11	3.42	7.38	2.97	1886	3330	2130	99.49	17.52	64.37	18.11
265	2640	61.86	22.90	3.44	7.45	3.00	1802	2836	3205	99.44	17.45	64.40	18.15
266	2650	61.98	22.97	3.63	7.35	2.98	1766	2729	2514	99.62	18.41	63.57	18.02
267	2660	61.84	23.16	3.61	7.38	2.96	1938	3523	3082	99.80	18.32	63.81	17.87
268	2670	62.57	22.46	3.03	7.41	3.38	1763	3179	2948	99.65	15.39	64.18	20.43
269	2680	62.63	22.52	3.03	7.43	3.47	1985	4146	2779	99.97	15.29	63.90	20.81
270	2690	62.62	22.74	3.01	7.52	3.34	1976	3029	2548	99.99	15.18	64.76	20.07
271	2700	62.71	22.45	3.00	7.38	3.57	1985	3137	2598	99.88	15.11	63.45	21.44
272	2710	61.83	22.08	2.97	7.30	3.58	2105	2664	2445	98.49	15.07	63.25	21.67
273	2720	62.57	22.22	2.75	7.48	3.63	1706	2964	2677	99.39	13.88	64.32	21.80
274	2730	62.23	22.39	2.96	7.43	3.41	1887	3416	2510	99.21	15.04	64.35	20.62
275	2740	62.42	22.54	2.98	7.40	3.17	1478	3997	2279	99.28	15.38	65.11	19.50
276	2750	61.95	22.83	3.35	7.37	3.06	2009	3051	2810	99.34	17.12	64.27	18.61
277	2760	62.53	22.59	3.10	7.46	3.24	1650	2879	2314	99.61	15.74	64.62	19.64
278	2770	61.80	22.87	3.48	7.35	3.01	2264	2665	2039	99.20	17.74	63.98	18.28

**Table F.1.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
279	2780	62.01	23.18	3.52	7.40	2.93	2229	2557	2875	99.81	17.93	64.29	17.78
280	2790	62.05	22.69	3.33	7.51	3.15	1446	3030	3087	99.48	16.75	64.40	18.85
281	2800	62.71	22.61	3.02	7.62	3.31	2006	3395	2297	100.03	15.12	65.14	19.75
282	2810	62.26	22.64	3.21	7.49	3.33	1536	3910	3166	99.79	16.08	64.02	19.91
283	2820	62.53	22.37	2.97	7.42	3.45	2233	3459	2706	99.59	15.03	64.13	20.83
284	2830	62.47	22.28	2.82	7.46	3.55	2359	3501	2876	99.44	14.25	64.36	21.39
285	2840	62.06	21.51	2.15	7.54	4.46	10086	3345	1870	99.25	10.59	63.28	26.13
286	2850	62.53	21.77	2.48	7.22	4.20	3595	1933	2100	98.97	12.53	62.21	25.26
287	2860	62.48	22.35	2.83	7.32	3.70	1852	3352	2660	99.47	14.37	63.27	22.36
288	2870	62.66	22.26	2.78	7.31	3.70	2307	3309	2570	99.53	14.13	63.45	22.42
289	2880	62.52	22.16	2.73	7.35	3.78	2005	3180	2507	99.31	13.81	63.41	22.78
290	2890	62.30	22.06	2.65	7.39	3.83	1791	3674	2838	99.07	13.37	63.61	23.01
291	2900	62.70	22.01	2.49	7.38	3.93	1967	2578	2729	99.24	12.61	63.73	23.66
292	2910	62.64	22.24	2.70	7.32	3.83	1934	2020	2327	99.36	13.70	63.22	23.08
293	2920	62.67	22.37	2.80	7.28	3.76	1758	3353	2078	99.60	14.21	63.04	22.75
294	2930	62.48	22.54	3.03	7.32	3.54	1919	3180	2536	99.67	15.36	63.27	21.37
295	2940	62.02	22.68	3.19	7.41	3.41	1883	2921	2601	99.45	16.03	63.56	20.41
296	2950	62.49	22.38	2.94	7.33	3.46	1566	3502	2652	99.36	15.04	63.92	21.04
297	2960	63.51	22.55	2.73	7.52	3.60	1855	2686	2562	100.61	13.74	64.63	21.63
298	2970	62.41	22.19	2.85	7.43	3.59	1785	3073	2168	99.17	14.37	64.00	21.62
299	2980	62.65	22.12	2.54	7.50	3.83	1974	3245	2561	99.42	12.76	64.31	22.93
300	2990	62.04	22.15	2.94	7.11	3.59	1693	2815	2221	98.49	15.20	62.70	22.11
301	3000	62.41	22.27	2.92	7.44	3.56	1991	3653	2536	99.42	14.71	63.94	21.35
302	3010	63.38	21.96	2.38	7.41	4.01	1859	3674	2450	99.93	12.03	63.84	24.13
303	3020	63.15	21.96	2.52	7.35	3.95	1764	3416	2432	99.70	12.77	63.43	23.80
304	3030	63.07	22.01	2.52	7.37	3.97	1730	2944	2969	99.70	12.73	63.42	23.84
305	3040	62.72	21.99	2.58	7.34	3.87	1835	2772	2388	99.20	13.10	63.50	23.40
306	3050	62.79	22.01	2.60	7.32	3.87	1772	2880	2129	99.26	13.21	63.41	23.39
307	3060	63.00	22.12	2.67	7.41	3.85	1527	1956	2460	99.64	13.42	63.53	23.05
308	3070	62.72	22.00	2.58	7.37	3.77	1525	2407	2318	99.06	13.14	63.98	22.88
309	3080	62.88	22.18	2.59	7.46	3.87	1899	2794	2095	99.66	13.00	63.89	23.11
310	3090	62.69	21.98	2.61	7.39	3.95	1978	3417	2550	99.41	13.10	63.29	23.61
311	3100	62.94	22.14	2.73	7.35	3.86	2217	2708	2649	99.78	13.73	63.10	23.17
312	3110	62.78	22.19	2.65	7.35	3.77	1981	3181	2597	99.51	13.45	63.72	22.83
313	3120	62.83	22.19	2.73	7.33	3.71	1734	2687	2336	99.47	13.91	63.59	22.50
314	3130	62.39	22.13	2.56	7.31	3.82	1489	2794	2444	98.89	13.10	63.67	23.23
315	3140	61.27	21.54	2.50	6.92	3.84	1768	3094	2361	96.80	13.21	62.53	24.25
316	3150	63.29	22.04	2.54	7.34	3.88	1964	2708	2325	99.79	12.90	63.62	23.48
317	3160	63.01	21.91	2.60	7.35	3.82	1735	3524	2433	99.45	13.19	63.71	23.10
318	3170	62.77	22.09	2.69	7.35	3.80	1795	3181	2775	99.47	13.63	63.46	22.91
319	3180	62.82	21.90	2.48	7.36	3.93	1911	3288	2273	99.24	12.58	63.68	23.74
320	3190	63.04	21.89	2.25	7.36	4.17	1496	3697	2585	99.49	11.39	63.48	25.13
321	3200	63.13	22.08	2.38	7.24	4.09	1864	3932	2147	99.72	12.14	62.99	24.87
322	3210	62.79	22.07	2.53	7.27	3.93	1833	3267	2130	99.32	12.90	63.20	23.89
323	3220	62.81	21.93	2.61	7.27	3.90	1846	2944	2245	99.22	13.26	63.10	23.64
324	3230	63.09	22.01	2.50	7.40	3.87	2108	3781	2174	99.67	12.67	63.96	23.37
325	3240	62.93	22.10	2.66	7.38	3.78	1856	3460	2605	99.64	13.45	63.76	22.79
326	3250	62.65	22.45	2.86	7.43	3.61	1664	2836	3019	99.75	14.42	63.92	21.66
327	3260	62.92	22.15	2.62	7.43	3.78	1734	2945	2426	99.61	13.22	64.05	22.73
328	3270	63.06	21.86	2.42	7.48	3.91	1852	2879	2504	99.45	12.22	64.32	23.46
329	3280	63.02	22.03	2.57	7.50	3.83	1835	2944	2596	99.69	12.89	64.18	22.93
330	3290	62.84	22.26	2.73	7.39	3.70	1545	2493	2749	99.60	13.82	63.84	22.34

**Table F.1.2 cont.**

n	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub> (wt%)	Al <sub>2</sub> O <sub>3</sub> (wt%)	CaO (wt%)	Na <sub>2</sub> O (wt%)	K <sub>2</sub> O (wt%)	FeO (ppm)	BaO (ppm)	SrO (ppm)	Total	Endmembers		
											An	Ab	Or
331	3300	62.80	22.12	2.68	7.43	3.60	1991	2793	2981	99.40	13.65	64.52	21.84
332	3310	62.61	22.32	2.72	7.29	3.63	1303	3826	2303	99.32	13.96	63.86	22.18
333	3320	62.58	22.27	2.86	7.45	3.51	2028	3632	2966	99.53	14.48	64.34	21.18
334	3330	62.66	22.40	2.89	7.34	3.52	1861	3482	2733	99.61	14.73	63.89	21.38
335	3340	61.98	22.28	3.43	7.36	3.37	1979	2837	3289	99.22	17.15	62.80	20.05
336	3350	62.24	22.77	3.26	7.34	3.22	1344	2751	2880	99.53	16.62	63.83	19.55
337	3360	61.83	23.08	3.53	7.54	2.96	2071	3267	2679	99.74	17.72	64.55	17.73
338	3370	61.80	23.35	3.80	7.41	2.86	1616	3224	3021	100.01	19.16	63.68	17.16
339	3380	61.86	23.23	3.85	7.37	2.86	2104	3524	3029	100.03	19.41	63.42	17.17
340	3390	62.04	22.71	3.28	7.44	3.15	1475	3632	2523	99.39	16.63	64.34	19.02
341	3400	62.01	22.87	3.53	7.32	3.07	1532	3396	3178	99.62	17.96	63.48	18.56
342	3410	61.89	22.95	3.46	7.45	2.97	2318	3782	2957	99.62	17.53	64.50	17.97
343	3420	61.88	23.02	3.58	7.30	2.96	1819	4212	3343	99.67	18.30	63.67	18.03
344	3430	61.82	22.96	3.52	7.34	2.92	1587	3331	3144	99.38	18.03	64.13	17.84
345	3440	61.55	23.01	3.72	7.41	2.91	2028	3181	2715	99.40	18.77	63.74	17.49
346	3450	61.28	22.99	3.70	7.21	2.82	1726	3052	2085	98.68	19.12	63.51	17.38
347	3460	61.72	23.27	3.84	7.37	2.84	1769	2880	3533	99.85	19.41	63.51	17.08
348	3470	61.60	23.57	3.99	7.42	2.69	1531	3096	3250	100.06	20.10	63.74	16.16
349	3480	61.69	23.43	3.73	7.32	2.76	1599	3460	2924	99.73	19.12	64.01	16.87
350	3490	61.54	23.35	3.76	7.24	2.75	2121	3052	2771	99.43	19.38	63.75	16.88
351	3500	61.66	23.21	3.81	7.42	2.75	1853	3181	3058	99.66	19.29	64.11	16.60
352	3510	61.84	23.44	3.77	7.42	2.66	1967	3675	2844	99.98	19.23	64.59	16.18
353	3520	61.40	23.66	4.06	7.25	2.58	2041	2902	3538	99.79	20.80	63.46	15.74
354	3530	61.30	23.57	4.10	7.28	2.55	2109	2150	3132	99.53	20.97	63.50	15.52
355	3540	61.37	23.31	3.98	7.34	2.69	1625	2901	3327	99.48	20.21	63.53	16.26
356	3550	61.34	23.59	4.01	7.43	2.68	2064	2730	3025	99.83	20.19	63.73	16.08
357	3560	61.24	23.61	4.08	7.32	2.60	1667	2644	3358	99.62	20.75	63.49	15.76
358	3570	61.79	23.04	3.49	7.45	2.95	2256	2773	2796	99.49	17.72	64.47	17.81
359	3580	61.94	23.11	3.50	7.42	2.96	1514	2536	2983	99.63	17.77	64.31	17.92
360	3590	61.88	23.01	3.48	7.41	3.03	1874	2429	3027	99.53	17.64	64.08	18.28
361	3600	62.05	22.86	3.44	7.41	2.93	2125	2924	3108	99.52	17.58	64.58	17.84
362	3610	62.05	22.80	3.39	7.43	3.05	1448	3203	3592	99.54	17.19	64.36	18.45
363	3620	62.07	22.93	3.51	7.36	3.00	1792	1913	2837	99.52	17.85	63.93	18.22
364	3630	61.96	23.01	3.33	7.44	3.06	2305	3052	2984	99.63	16.93	64.55	18.52
365	3640	62.07	22.94	3.40	7.42	2.98	1928	2966	2767	99.57	17.33	64.59	18.08
366	3650	62.15	22.84	3.46	7.46	3.06	1622	3032	2632	99.71	17.45	64.17	18.37
367	3660	61.70	22.67	3.38	7.29	2.96	1704	3031	2918	98.76	17.49	64.28	18.23
368	3670	62.04	23.06	3.40	7.55	2.94	1339	2429	2777	99.64	17.18	65.12	17.70
369	3680	62.04	22.93	3.53	7.61	2.96	1293	3031	3037	99.80	17.62	64.78	17.60
370	3690	61.94	23.02	3.49	7.49	2.95	1816	3546	3191	99.74	17.66	64.56	17.78
371	3700	62.16	22.94	3.49	7.43	2.95	1594	2236	3027	99.66	17.74	64.39	17.87
372	3710	62.27	23.03	3.46	7.49	2.94	1778	2430	2633	99.87	17.54	64.70	17.75
373	3720	62.05	22.97	3.32	7.52	2.95	1708	2451	3136	99.54	16.90	65.21	17.89
374	3730	62.07	22.92	3.38	7.49	2.87	1785	2988	3576	99.56	17.24	65.29	17.47
375	3740	62.20	23.02	3.47	7.49	2.93	1663	3010	2472	99.82	17.58	64.76	17.66
376	3750	62.08	22.97	3.44	7.42	3.04	1547	1892	3134	99.60	17.43	64.18	18.39
377	3760	61.90	22.99	3.38	7.44	3.02	1811	2429	2938	99.44	17.20	64.53	18.27
378	3770	62.15	22.96	3.42	7.47	3.12	1809	2580	2865	99.84	17.20	64.12	18.68
379	3780	61.98	22.96	3.28	7.53	2.99	1606	2880	3011	99.49	16.64	65.27	18.09
380	3790	62.29	22.95	3.31	7.47	3.06	2025	2859	3449	99.91	16.80	64.71	18.49
381	3800	62.38	22.93	3.43	7.42	3.08	1858	3289	3349	100.10	17.35	64.05	18.59
382	3810	62.28	22.90	3.32	7.38	3.06	2217	2644	3224	99.74	16.96	64.38	18.66

**Table F.1.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub> (wt%)	Al <sub>2</sub> O <sub>3</sub> (wt%)	CaO (wt%)	Na <sub>2</sub> O (wt%)	K <sub>2</sub> O (wt%)	FeO (ppm)	BaO (ppm)	SrO (ppm)	Total	Endmembers		
											An	Ab	Or
383	3820	62.18	22.91	3.33	7.49	3.06	2032	1892	3000	99.65	16.89	64.67	18.44
384	3830	62.32	22.86	3.27	7.44	3.10	2072	2558	2416	99.68	16.64	64.60	18.77
385	3840	62.32	22.86	3.30	7.47	3.11	2271	2644	2766	99.84	16.71	64.52	18.77
386	3850	61.93	22.81	3.31	7.44	3.10	1748	3289	2543	99.35	16.79	64.46	18.75
387	3860	62.30	22.70	3.28	7.54	3.05	1664	2816	2757	99.59	16.57	65.08	18.36
388	3870	62.27	22.88	3.32	7.53	3.04	1653	2430	2785	99.73	16.76	64.92	18.32
389	3880	62.22	22.73	3.40	7.38	3.05	1912	2601	2926	99.53	17.31	64.17	18.51
390	3890	62.40	22.90	3.34	7.45	3.05	1840	2967	2982	99.93	16.97	64.56	18.47
391	3900	62.27	22.96	3.35	7.55	3.09	1503	2601	3288	99.95	16.84	64.67	18.50
392	3910	62.30	22.84	3.25	7.51	3.11	1665	2838	3305	99.79	16.45	64.80	18.74
393	3920	62.30	22.90	3.29	7.50	3.14	1934	2838	2928	99.91	16.58	64.53	18.89
394	3930	62.34	22.68	3.21	7.56	3.12	1792	3912	3072	99.77	16.19	65.07	18.74
395	3940	62.35	22.52	3.07	7.50	3.31	1666	3397	2675	99.52	15.49	64.62	19.90
396	3950	61.93	23.16	3.70	7.43	2.86	1948	3182	2689	99.87	18.68	64.08	17.24
397	3960	61.71	23.14	3.75	7.38	2.85	1555	2344	2976	99.52	19.01	63.82	17.17
398	3970	61.99	23.05	3.63	7.40	2.96	1796	3268	2642	99.80	18.36	63.80	17.84
399	3980	61.65	22.99	3.65	7.41	2.85	2011	3547	3066	99.40	18.54	64.22	17.24
400	3990	61.50	23.24	3.79	7.38	2.79	2014	2731	2861	99.46	19.25	63.88	16.87
401	4000	61.50	23.26	3.88	7.45	2.73	1622	2881	3257	99.61	19.55	64.04	16.41
402	4010	61.27	23.02	3.58	7.50	2.98	7313	2920	2385	99.62	17.95	64.21	17.84
403	4020	61.01	22.98	3.70	7.39	2.81	3674	2472	2655	98.77	18.83	64.16	17.01
404	4030	61.39	23.09	3.84	7.32	2.71	1764	2538	2644	99.04	19.65	63.83	16.51
405	4040	61.74	23.29	3.78	7.38	2.77	2175	3117	3391	99.83	19.20	64.00	16.80
406	4050	62.24	22.94	3.53	7.42	2.93	1491	2301	2497	99.69	17.97	64.31	17.73
407	4060	61.77	23.04	3.75	7.45	2.88	1677	2709	3002	99.62	18.84	63.92	17.24
408	4070	61.76	23.09	3.70	7.48	2.92	1827	3290	2959	99.75	18.56	63.98	17.46
409	4080	61.05	23.03	3.72	7.42	2.90	6028	3008	3105	99.34	18.77	63.81	17.42
410	4090	61.23	23.12	3.71	7.54	2.89	5475	2750	3132	99.62	18.52	64.29	17.19
411	4100	61.94	23.00	3.63	7.47	2.92	1748	2495	2786	99.66	18.29	64.18	17.52
412	4110	61.87	22.95	3.48	7.43	2.96	1640	3269	2616	99.45	17.68	64.39	17.93
413	4120	61.79	23.27	3.78	7.34	2.70	1635	3549	2790	99.68	19.35	64.18	16.48
414	4130	61.44	23.24	3.88	7.27	2.73	1604	2731	3005	99.29	19.86	63.49	16.65
415	4140	61.52	23.34	3.98	7.34	2.70	1866	3268	2574	99.66	20.19	63.49	16.32
416	4150	61.55	23.50	3.88	7.33	2.77	1625	2838	3042	99.78	19.72	63.54	16.74
417	4160	61.77	22.96	3.66	7.45	2.92	1784	2623	3190	99.52	18.45	64.04	17.51
418	4170	61.53	23.41	3.84	7.48	2.77	2042	2172	2602	99.71	19.30	64.10	16.60
419	4180	61.49	23.39	3.86	7.29	2.73	2220	2946	2871	99.57	19.74	63.64	16.62
420	4190	61.44	23.59	4.10	7.36	2.52	2314	2344	2864	99.76	20.84	63.86	15.30
421	4200	61.86	23.21	3.62	7.35	2.89	1889	3483	3148	99.78	18.47	63.98	17.56
422	4210	62.03	22.84	3.31	7.47	3.25	2002	2559	2830	99.65	16.62	63.98	19.40
423	4220	62.34	22.68	3.28	7.42	3.19	2153	2559	2971	99.68	16.61	64.15	19.24
424	4230	62.10	22.79	3.23	7.47	3.14	2060	3376	3046	99.59	16.38	64.64	18.98
425	4240	62.58	22.60	3.18	7.41	3.34	2023	3204	2620	99.89	16.08	63.85	20.07
426	4250	62.68	22.36	3.00	7.52	3.57	1846	2645	2349	99.81	14.94	63.88	21.19
427	4260	62.76	22.07	2.55	7.48	3.87	2161	3504	2651	99.57	12.82	64.02	23.16
428	4270	62.83	22.01	2.63	7.41	3.93	2500	3376	2364	99.64	13.19	63.36	23.45
429	4280	63.03	21.97	2.56	7.22	4.03	2724	3311	2425	99.66	13.03	62.59	24.38
430	4290	62.33	22.47	3.05	7.34	3.50	2646	2408	2995	99.50	15.45	63.42	21.13
431	4300	62.31	22.68	3.14	7.38	3.26	3272	2987	2307	99.63	16.01	64.17	19.82
432	4310	62.72	22.78	3.27	7.51	3.36	3289	2515	2621	100.47	16.26	63.78	19.96
433	4320	62.50	22.58	2.99	7.54	3.35	2962	2601	2540	99.78	15.08	64.80	20.11
434	4330	62.39	22.89	3.34	7.47	3.22	3178	2537	3251	100.21	16.77	63.99	19.25

**Table F.1.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub> (wt%)	Al <sub>2</sub> O <sub>3</sub> (wt%)	CaO (wt%)	Na <sub>2</sub> O (wt%)	K <sub>2</sub> O (wt%)	FeO (ppm)	BaO (ppm)	SrO (ppm)	Total	Endmembers		
											An	Ab	Or
435	4340	62.32	22.71	3.22	7.48	3.21	3577	2902	3296	99.93	16.26	64.44	19.30
436	4350	62.53	22.68	3.13	7.46	3.27	4019	3396	2613	100.07	15.84	64.42	19.74
437	4360	62.13	22.72	3.27	7.34	3.18	4769	2085	2703	99.60	16.70	63.94	19.36
438	4370	62.46	22.60	3.18	7.57	3.26	6311	3008	2533	100.25	15.90	64.63	19.47
439	4380	62.61	22.78	3.03	7.53	3.27	8744	1868	2731	100.56	15.33	64.99	19.69
459	4580	62.46	22.69	3.20	7.51	3.22	3686	1999	2451	99.89	16.15	64.54	19.31
460	4590	62.46	22.58	3.09	7.45	3.33	2996	3118	2182	99.74	15.63	64.30	20.07
461	4600	62.57	22.72	3.22	7.44	3.31	2730	2602	2621	100.05	16.20	63.95	19.84
462	4610	62.15	22.55	3.29	7.29	3.23	2259	2237	2360	99.21	16.81	63.54	19.65
463	4620	62.82	22.28	2.64	7.39	3.67	2203	2968	2599	99.57	13.46	64.25	22.29
464	4630	62.92	22.32	2.72	7.49	3.73	2342	3182	2411	99.98	13.63	64.09	22.28
465	4640	61.34	22.09	3.04	7.28	3.35	2179	3871	3015	98.02	15.63	63.84	20.53
466	4650	59.40	21.63	3.16	6.78	3.09	2217	3033	3114	94.91	17.18	62.83	19.99
467	4660	59.89	21.81	3.18	6.88	3.07	1884	2302	2585	95.51	17.12	63.18	19.71
468	4670	59.30	22.01	3.44	6.83	2.87	2108	2840	2543	95.21	18.58	62.92	18.49
469	4680	61.56	22.83	3.59	7.68	2.89	5818	3159	2736	99.73	17.83	65.06	17.11
470	4690	61.56	22.99	3.52	7.45	2.95	2013	2495	2995	99.22	17.84	64.38	17.78
471	4700	62.19	23.24	3.63	7.44	2.99	1467	3527	2824	100.27	18.24	63.86	17.90
472	4710	61.21	23.31	4.04	7.44	2.65	2108	2947	3233	99.48	20.32	63.79	15.89
473	4720	61.50	23.27	3.86	7.30	2.78	2222	3313	2988	99.55	19.67	63.46	16.87
474	4730	61.97	23.13	3.63	7.35	2.89	2148	3420	2636	99.79	18.52	63.93	17.55
475	4740	61.86	22.99	3.58	7.32	3.00	1955	2496	2724	99.48	18.22	63.57	18.22
476	4750	61.87	23.22	3.63	7.28	2.89	1834	3764	3167	99.77	18.64	63.70	17.66
477	4760	61.95	23.32	3.64	7.37	2.93	1934	2689	2951	99.96	18.48	63.82	17.70
478	4770	61.10	23.76	4.30	7.36	2.40	1962	2560	3372	99.70	21.81	63.69	14.51
479	4780	59.33	22.21	2.79	7.91	4.11	23442	1241	2136	99.02	13.16	63.74	23.11
481	4800	62.56	22.70	3.13	7.46	3.32	1895	3506	2873	99.98	15.79	64.26	19.95
482	4810	62.46	22.58	3.23	7.48	3.22	2245	3592	3008	99.87	16.29	64.36	19.35
483	4820	62.43	22.68	3.23	7.29	3.30	1896	3312	2953	99.75	16.49	63.47	20.03
484	4830	62.16	22.67	3.33	7.38	3.28	1789	3033	2586	99.57	16.80	63.48	19.72
485	4840	62.70	22.34	2.79	7.39	3.67	1644	3506	3058	99.71	14.11	63.79	22.10
486	4850	62.08	22.54	3.25	7.40	3.32	1742	2926	2989	99.36	16.37	63.69	19.94
487	4860	61.55	23.20	3.79	7.25	2.80	1891	2904	3149	99.39	19.43	63.48	17.10
488	4870	62.02	22.89	3.35	7.35	3.02	2003	2453	3047	99.39	17.20	64.33	18.47
489	4880	61.69	23.14	3.81	7.26	2.85	1768	2517	3336	99.50	19.43	63.26	17.31
490	4890	61.35	23.10	3.76	7.23	2.89	2124	3248	3302	99.21	19.24	63.12	17.64
491	4900	61.51	23.37	3.82	7.24	2.81	1944	2904	3195	99.55	19.56	63.27	17.17
492	4910	61.33	23.37	3.68	7.23	2.85	1626	2990	3331	99.26	18.96	63.55	17.49
493	4920	61.88	23.02	3.55	7.30	2.95	1767	3313	3390	99.56	18.20	63.79	18.02
494	4930	61.69	23.12	3.78	7.29	2.81	1888	3205	3094	99.49	19.32	63.58	17.09
495	4940	61.50	23.27	3.96	7.34	2.77	1796	2797	2818	99.58	20.02	63.32	16.65
496	4950	62.05	23.01	3.55	7.34	3.04	1520	3894	3039	99.83	18.00	63.60	18.39
497	4960	61.89	23.09	3.63	7.38	2.93	1769	3033	3211	99.72	18.41	63.91	17.69
498	4970	61.57	23.01	3.63	7.37	2.95	1924	3872	3365	99.46	18.42	63.74	17.84
499	4980	62.06	22.95	3.46	7.41	3.00	1972	2689	2904	99.64	17.59	64.26	18.15
500	4990	62.09	22.87	3.59	7.42	2.98	1918	2646	2938	99.70	18.11	63.95	17.94
501	5000	61.86	23.19	3.69	7.47	2.91	1913	3377	3312	99.98	18.55	64.03	17.42
502	5010	61.83	23.18	3.60	7.46	2.88	1915	3677	3715	99.88	18.21	64.43	17.36
503	5020	61.87	23.11	3.50	7.41	3.01	1701	3743	3311	99.77	17.77	64.08	18.15
504	5030	61.89	22.81	3.47	7.41	3.04	1825	2216	3028	99.32	17.59	64.08	18.33
505	5040	61.86	22.49	3.24	7.43	3.17	1839	2345	2587	98.87	16.45	64.38	19.17
506	5050	62.29	22.83	3.29	7.50	3.15	1613	1850	3189	99.73	16.58	64.51	18.91

**Table F.1.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
507	5060	62.53	22.67	3.06	7.48	3.24	1893	3226	2748	99.77	15.58	64.82	19.60
508	5070	62.52	22.42	2.85	7.51	3.50	2131	3098	2513	99.58	14.35	64.61	21.03
509	5080	62.40	22.58	3.04	7.39	3.38	1656	2947	3150	99.56	15.44	64.08	20.48
510	5090	62.49	22.61	3.21	7.42	3.11	1836	3442	2667	99.63	16.39	64.67	18.94
511	5100	62.53	22.69	3.30	7.41	3.27	1986	3141	2918	99.99	16.62	63.73	19.65
512	5110	62.27	22.70	3.34	7.41	3.18	1599	2904	3107	99.66	16.91	63.91	19.18
513	5120	62.26	22.68	3.24	7.45	3.22	2027	2194	2883	99.57	16.39	64.22	19.38
514	5130	62.13	22.75	3.27	7.47	3.24	1821	2087	2632	99.52	16.45	64.11	19.45
515	5140	62.07	22.65	3.29	7.38	3.12	1764	2108	2891	99.19	16.80	64.24	18.95
516	5150	62.14	22.72	3.36	7.45	3.11	1953	2087	2785	99.45	17.00	64.27	18.73
517	5160	62.08	22.67	3.21	7.43	3.18	1736	2173	3377	99.29	16.32	64.43	19.25
518	5170	62.02	22.57	3.30	7.33	3.28	1560	2819	2837	99.21	16.73	63.46	19.81
519	5180	62.18	22.57	3.20	7.42	3.25	1874	2668	2541	99.33	16.24	64.13	19.64
520	5190	62.38	22.60	3.09	7.36	3.20	1624	2925	3133	99.40	15.86	64.54	19.60
521	5200	62.11	22.38	3.14	7.18	3.29	1737	2690	3077	98.85	16.25	63.42	20.33
522	5210	62.20	22.64	3.14	7.47	3.32	1677	2968	3044	99.53	15.83	64.22	19.95
523	5220	62.36	22.43	3.19	7.31	3.33	1330	2109	2592	99.23	16.25	63.53	20.22
524	5230	62.21	22.61	3.22	7.49	3.31	1609	2367	2819	99.52	16.12	64.09	19.79
525	5240	61.93	22.58	3.21	7.29	3.23	1593	2539	2972	98.95	16.47	63.81	19.71
526	5250	61.95	22.64	3.25	7.40	3.17	1809	2474	3207	99.16	16.52	64.26	19.22
527	5260	62.14	22.67	3.23	7.37	3.20	1764	3463	3207	99.45	16.47	64.10	19.43
528	5270	61.68	23.13	3.65	7.42	2.92	1724	2689	2456	99.48	18.43	63.99	17.58
529	5280	62.20	22.76	3.31	7.44	3.13	1580	3184	2624	99.57	16.78	64.33	18.89
530	5290	61.87	22.92	3.43	7.41	3.03	2070	3270	3480	99.54	17.41	64.25	18.35
531	5300	62.37	22.48	3.01	7.42	3.44	1778	3141	2567	99.47	15.21	64.03	20.76
532	5310	62.38	22.41	3.07	7.32	3.45	2261	3076	2674	99.43	15.59	63.50	20.91
533	5320	62.09	22.73	3.25	7.32	3.18	1977	3162	2992	99.38	16.64	63.96	19.40
534	5330	62.51	22.87	3.31	7.43	3.20	1758	2776	3243	100.10	16.73	64.04	19.23
535	5340	62.17	22.59	3.05	7.38	3.29	1560	3528	3116	99.31	15.58	64.36	20.05
536	5350	62.23	22.94	3.52	7.30	2.99	1692	2754	2687	99.70	18.03	63.75	18.23
537	5360	61.78	23.13	3.61	7.41	2.91	1714	3551	3133	99.68	18.31	64.09	17.59
538	5370	62.09	22.91	3.52	7.32	2.97	2054	3141	3460	99.67	18.01	63.89	18.10
539	5380	62.15	22.55	3.26	7.36	3.23	1796	2690	2882	99.28	16.58	63.86	19.56
540	5390	62.45	22.53	3.18	7.53	3.29	1746	2754	3017	99.74	15.95	64.39	19.66
541	5400	62.01	22.99	3.47	7.47	3.10	1468	3657	3587	99.92	17.41	64.02	18.57
542	5410	62.00	22.83	3.63	7.38	2.98	1815	2367	2508	99.48	18.36	63.70	17.94
543	5420	61.51	23.19	3.71	7.31	2.96	1520	2345	3346	99.41	18.84	63.29	17.87
544	5430	61.03	23.50	3.88	7.34	2.69	1594	1743	3603	99.14	19.81	63.86	16.33
545	5440	61.82	23.25	3.56	7.30	2.81	2137	2173	3483	99.52	18.38	64.36	17.26
546	5450	62.10	22.77	3.30	7.30	3.13	1417	2712	2992	99.31	16.93	63.92	19.15
547	5460	62.37	22.85	3.09	7.31	3.18	1923	3184	2813	99.59	15.98	64.44	19.59
548	5470	62.28	22.76	3.26	7.36	3.22	1491	3185	2875	99.64	16.60	63.87	19.53
549	5480	62.48	22.66	3.18	7.50	3.21	1717	3056	2597	99.76	16.05	64.63	19.32
550	5490	62.34	22.46	2.98	7.44	3.30	1739	2970	3215	99.32	15.21	64.71	20.08
551	5500	62.41	22.54	2.96	7.42	3.41	1622	3141	3250	99.53	15.04	64.33	20.63
552	5510	62.47	22.63	3.10	7.47	3.24	1511	2690	2721	99.61	15.74	64.67	19.59
553	5520	62.59	22.50	2.90	7.45	3.36	2003	3356	3025	99.65	14.79	64.79	20.42
554	5530	62.41	22.25	3.00	7.41	3.44	1571	2733	2763	99.23	15.21	64.05	20.74
555	5540	62.42	22.32	2.95	7.40	3.30	1920	2281	3239	99.12	15.10	64.73	20.17
556	5550	62.49	22.37	2.81	7.47	3.36	2250	3055	3070	99.34	14.36	65.17	20.48
565	5640	62.31	22.47	3.03	7.43	3.36	2317	3120	2766	99.42	15.37	64.33	20.30
566	5650	62.22	22.39	3.13	7.46	3.34	1789	2669	2909	99.28	15.77	64.18	20.05



**Table F.1.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
567	5660	62.45	22.56	3.08	7.32	3.35	1919	2604	2963	99.52	15.73	63.85	20.43
568	5670	62.47	22.69	3.03	7.48	3.32	1857	3055	3099	99.80	15.35	64.64	20.00
569	5680	62.38	22.52	3.14	7.38	3.35	2086	3120	3249	99.61	15.91	63.82	20.27
570	5690	62.16	22.75	3.31	7.38	3.16	2218	3572	3029	99.63	16.82	64.05	19.13
571	5700	61.52	22.96	3.32	7.36	3.08	1948	2970	3410	99.08	16.98	64.24	18.78
572	5710	62.39	22.59	3.18	7.34	3.23	1518	3185	3232	99.52	16.26	64.04	19.70
573	5720	62.38	22.58	2.94	7.36	3.40	1627	3658	2703	99.45	15.07	64.23	20.71
574	5730	62.47	22.52	3.01	7.43	3.40	2005	3056	2667	99.60	15.24	64.20	20.55
575	5740	62.82	22.52	2.93	7.46	3.50	1956	3056	2908	100.01	14.77	64.22	21.01
576	5750	62.42	22.43	2.98	7.33	3.42	1715	2712	2890	99.32	15.24	63.93	20.82
577	5760	62.23	22.60	3.13	7.47	3.22	1403	2432	2794	99.32	15.88	64.64	19.47
578	5770	61.98	22.83	3.41	7.42	3.21	1713	2949	2850	99.60	17.14	63.65	19.21
579	5780	62.55	22.19	3.05	7.43	3.46	1792	3337	3033	99.50	15.36	63.87	20.76
580	5790	63.10	22.06	2.60	7.34	3.78	2082	3293	2608	99.68	13.27	63.77	22.96
581	5800	62.52	22.41	2.72	7.39	3.59	1876	2776	2603	99.34	13.86	64.30	21.84
582	5810	62.59	22.26	2.71	7.42	3.66	1630	2733	3121	99.38	13.76	64.14	22.10
583	5820	62.62	22.09	2.85	7.23	3.67	1699	3530	3209	99.31	14.57	63.06	22.36
584	5830	62.42	22.41	3.01	7.36	3.47	2239	2797	2827	99.46	15.28	63.72	21.00
585	5840	61.33	21.84	2.90	7.09	3.48	1902	2906	2879	97.41	15.13	63.20	21.67
586	5850	62.58	22.36	2.96	7.35	3.42	1570	3056	3105	99.44	15.12	64.04	20.84
587	5860	62.54	22.45	3.03	7.38	3.34	1825	2970	2873	99.50	15.46	64.21	20.33
588	5870	62.65	22.32	3.00	7.23	3.67	2271	4025	2673	99.76	15.25	62.57	22.18
589	5880	62.45	22.48	3.02	7.35	3.43	1522	3595	2999	99.55	15.38	63.83	20.79
590	5890	62.61	22.51	2.97	7.52	3.51	1670	3121	3295	99.92	14.85	64.22	20.92
591	5900	62.33	22.73	3.33	7.36	3.16	1496	2799	3226	99.65	16.95	63.88	19.17
592	5910	61.69	22.85	3.48	7.26	2.93	1354	2713	2815	98.90	17.98	63.99	18.03
593	5920	61.51	23.09	3.68	7.37	2.89	1735	2841	3537	99.34	18.69	63.83	17.48
594	5930	61.91	22.80	3.47	7.33	2.99	1842	2583	3452	99.29	17.78	64.01	18.21
595	5940	62.01	22.93	3.37	7.42	2.97	1809	2798	2708	99.42	17.23	64.71	18.06
596	5950	62.13	22.86	3.42	7.52	3.06	1759	2841	2769	99.74	17.21	64.49	18.31
597	5960	62.24	22.56	3.24	7.51	3.15	1439	2841	2722	99.40	16.36	64.68	18.96
598	5970	61.24	22.07	3.03	7.13	3.30	1769	3164	2917	97.55	15.85	63.61	20.54
599	5980	62.97	22.80	2.91	7.56	3.40	1710	3379	2687	100.42	14.65	64.94	20.41
600	5990	62.83	22.36	2.91	7.37	3.51	1852	2884	3005	99.76	14.78	63.96	21.26
601	6000	62.29	22.53	3.18	7.30	3.29	1844	3917	2605	99.42	16.26	63.72	20.02
602	6010	62.13	22.87	3.41	7.33	3.16	1632	2928	3021	99.67	17.34	63.53	19.13
603	6020	62.04	22.72	3.32	7.37	3.17	1855	3659	3523	99.54	16.89	63.90	19.21
604	6030	62.46	22.44	2.86	7.36	3.47	2192	3163	3528	99.48	14.64	64.22	21.13
605	6040	62.42	22.79	3.21	7.48	3.19	1807	2863	2589	99.82	16.25	64.54	19.20
606	6050	62.28	22.58	3.12	7.48	3.38	1531	2626	2605	99.52	15.69	64.07	20.24
607	6060	62.06	22.85	3.31	7.35	3.16	1710	3379	3093	99.54	16.88	63.92	19.19
608	6070	61.20	23.35	3.91	7.37	2.74	1830	3229	2686	99.34	19.79	63.67	16.54
609	6080	61.80	22.96	3.56	7.27	2.95	1878	3100	2762	99.32	18.27	63.67	18.07
610	6090	62.25	22.35	2.98	7.39	3.36	1843	2949	3142	99.12	15.22	64.35	20.43
611	6100	61.80	22.84	3.44	7.47	3.09	2228	2712	3202	99.45	17.31	64.15	18.54
612	6110	62.29	22.50	2.96	7.45	3.29	2158	3056	3027	99.31	15.12	64.89	19.99
613	6120	62.29	22.79	3.47	7.43	3.07	2313	4218	3237	100.02	17.53	63.98	18.49
614	6130	62.45	22.20	2.76	7.34	3.59	2180	3723	2799	99.21	14.13	64.00	21.87
615	6140	62.33	22.47	3.07	7.36	3.40	2640	3164	3098	99.52	15.58	63.82	20.60
616	6150	62.37	22.26	2.82	7.48	3.37	2891	2776	2981	99.17	14.41	65.09	20.50
617	6160	62.45	22.44	2.98	7.45	3.37	2383	3702	3359	99.63	15.13	64.49	20.38
618	6170	62.12	22.45	3.08	7.37	3.23	2836	2690	3369	99.14	15.81	64.47	19.71

**Table F.1.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub> (wt%)	Al <sub>2</sub> O <sub>3</sub> (wt%)	CaO (wt%)	Na <sub>2</sub> O (wt%)	K <sub>2</sub> O (wt%)	FeO (ppm)	BaO (ppm)	SrO (ppm)	Total	Endmembers		
											An	Ab	Or
619	6180	62.09	22.78	3.34	7.52	3.05	2869	2561	3238	99.65	16.87	64.75	18.37
620	6190	61.18	23.18	3.85	7.22	2.79	2970	2562	3026	99.09	19.76	63.18	17.06
621	6200	61.08	23.44	4.01	7.36	2.57	2832	2949	3364	99.37	20.41	63.98	15.61
622	6210	61.50	22.99	3.55	7.42	2.90	2977	2734	2882	99.22	18.07	64.37	17.56
623	6220	61.76	23.15	3.70	7.47	2.91	2987	3572	3332	99.98	18.58	64.02	17.40
624	6230	62.00	23.15	3.51	7.30	3.01	2370	2325	2987	99.72	17.95	63.69	18.36
625	6240	61.09	23.37	4.09	7.34	2.69	2464	2411	3595	99.42	20.64	63.18	16.19
626	6250	61.87	22.84	3.29	7.36	3.12	2426	3078	2923	99.31	16.83	64.18	18.99
627	6260	61.99	22.64	3.31	7.32	3.23	2188	2432	2821	99.23	16.85	63.56	19.59
628	6270	56.39	21.03	3.79	6.19	2.87	1968	3531	3333	91.15	21.33	59.45	19.22
629	6280	57.40	21.33	3.51	6.36	2.96	1808	2606	2993	92.30	19.65	60.65	19.70
630	6290	62.39	22.92	3.30	7.42	3.10	2280	2841	2707	99.91	16.80	64.40	18.80
631	6300	61.55	22.80	3.51	7.12	3.02	1876	2756	2554	98.73	18.24	63.08	18.69
632	6310	61.30	23.24	3.82	7.27	2.77	2123	3531	2982	99.28	19.57	63.50	16.92
633	6320	61.91	23.58	3.99	7.34	2.78	1822	2863	2874	100.36	20.14	63.17	16.68
634	6330	61.32	23.27	3.83	7.51	2.73	1575	2907	3209	99.43	19.28	64.38	16.34
635	6340	62.00	23.02	3.54	7.38	2.84	1941	2325	3059	99.51	18.17	64.48	17.35
636	6350	61.78	22.93	3.50	7.32	3.08	2078	3509	2843	99.44	17.80	63.54	18.66
637	6360	61.72	23.14	3.86	7.29	2.77	1698	2800	2674	99.49	19.71	63.48	16.82
638	6370	62.70	22.54	3.03	7.40	3.44	1288	3509	2847	99.86	15.33	63.91	20.76
639	6380	61.99	22.97	3.58	7.39	2.94	1680	3402	2268	99.61	18.17	64.04	17.79
640	6390	61.71	22.95	3.52	7.46	2.99	1542	3144	2926	99.39	17.77	64.26	17.97
641	6400	62.25	22.80	3.37	7.45	3.09	2102	3488	2510	99.77	17.05	64.31	18.64
642	6410	62.89	21.99	2.74	7.30	3.76	1613	3897	2904	99.52	13.90	63.31	22.79
643	6420	62.85	22.20	2.64	7.34	3.76	1716	3380	2494	99.55	13.43	63.75	22.81
644	6430	63.14	21.88	2.47	7.43	3.77	1656	3057	1963	99.36	12.56	64.59	22.85
645	6440	62.93	22.05	2.56	7.40	3.86	1713	2433	2295	99.45	12.95	63.80	23.25
646	6450	63.28	21.78	2.37	7.45	4.04	2779	3637	1747	99.73	11.91	63.88	24.21
647	6460	63.08	22.08	2.72	7.42	3.89	2715	2798	2366	99.99	13.60	63.23	23.17
648	6470	63.30	21.86	2.45	7.34	4.00	2302	3316	1729	99.68	12.43	63.43	24.14
649	6480	63.19	21.87	2.36	7.38	4.17	2204	3359	2132	99.74	11.84	63.20	24.96
650	6490	63.39	21.80	2.32	7.28	4.15	1992	3488	2122	99.70	11.77	63.11	25.12
651	6500	63.10	21.76	2.16	7.31	4.17	2119	3574	1926	99.26	11.03	63.63	25.34
652	6510	63.56	21.67	2.18	7.26	4.34	1615	3532	1718	99.69	11.05	62.75	26.21
653	6520	63.07	21.72	2.21	7.30	4.29	1966	3036	2229	99.31	11.16	62.98	25.86
654	6530	63.24	21.57	2.25	7.34	4.29	1989	3078	1941	99.38	11.31	63.00	25.69
655	6540	62.81	21.32	2.18	7.19	4.37	1800	3488	1950	98.59	11.08	62.44	26.48
656	6550	63.16	21.41	2.08	7.35	4.32	2128	3659	2344	99.13	10.55	63.43	26.02
657	6560	63.31	21.44	2.02	7.22	4.45	2262	3401	1932	99.20	10.31	62.71	26.98
658	6570	63.48	21.49	2.12	7.22	4.34	2334	2907	1869	99.36	10.83	62.80	26.37
659	6580	63.56	21.62	2.03	7.44	4.40	2121	3078	2165	99.79	10.19	63.57	26.24
660	6590	63.44	21.50	2.05	7.28	4.50	1800	2649	2102	99.42	10.35	62.62	27.02
661	6600	63.70	21.58	2.06	7.37	4.54	2121	2606	1932	99.92	10.30	62.72	26.98
662	6610	63.48	21.61	2.17	7.12	4.46	2402	3208	1833	99.60	11.07	61.86	27.07
663	6620	63.40	21.26	2.00	7.21	4.43	1649	2929	1457	98.90	10.21	62.85	26.94
664	6630	63.14	21.31	1.97	6.98	4.54	1671	2929	1796	98.58	10.23	61.71	28.06
665	6640	60.77	20.23	1.91	6.61	4.47	1780	2778	1669	94.62	10.35	60.90	28.75
666	6650	61.78	20.55	1.86	6.82	4.62	1348	2563	1509	96.17	9.79	61.24	28.97
667	6660	63.31	21.30	1.83	7.45	4.64	1629	3229	2208	99.24	9.10	63.34	27.56
668	6670	63.17	21.46	2.17	7.21	4.38	1656	2196	2083	98.99	11.03	62.49	26.48

**Table F.1.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
669	6680	63.10	21.73	2.16	7.30	4.33	1770	3294	1961	99.32	10.93	62.97	26.10
670	6690	63.40	21.54	2.08	7.33	4.45	1550	2864	1601	99.41	10.47	62.87	26.67
671	6700	63.50	21.42	1.74	7.26	4.77	1757	3940	1770	99.44	8.80	62.53	28.67
672	6710	61.26	21.10	2.08	7.52	4.60	15613	2619	1776	98.56	10.22	62.90	26.88
674	6730	62.89	21.77	2.45	7.52	3.94	3360	2217	1828	99.31	12.29	64.22	23.49
675	6740	63.51	21.95	2.31	7.40	4.26	2595	3100	2284	100.22	11.56	63.08	25.36
676	6750	63.36	21.71	2.42	7.32	4.08	2274	3402	1719	99.64	12.26	63.16	24.58
677	6760	62.97	21.98	2.39	7.34	4.00	2043	2670	1900	99.34	12.16	63.60	24.23
678	6770	62.95	22.01	2.65	7.52	3.83	2167	3100	2125	99.69	13.21	64.02	22.77
679	6780	62.53	22.04	2.69	7.49	3.76	1847	3510	2334	99.27	13.50	64.06	22.44
680	6790	62.15	22.15	2.73	7.36	3.60	2393	3573	2550	98.85	13.95	64.12	21.93

**Table F.1.3: Section eb05019b Scan 1 Intermediate Transect by EMP**Step size: 10.07  $\mu\text{m}$  $n$  = EMP analysis number

$n$	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
1	1398	61.42	22.63	3.39	7.32	2.99	1733	4240	3514	98.71	17.46	64.25	18.29
2	1408	60.95	22.53	3.72	7.19	3.05	1574	4349	3027	98.33	18.96	62.54	18.50
3	1418	61.54	22.80	3.24	7.30	3.12	1658	4649	3445	98.98	16.70	64.14	19.17
4	1428	61.25	22.73	3.38	7.21	3.11	1685	3918	3584	98.60	17.43	63.45	19.13
5	1438	61.29	22.71	3.17	7.35	3.11	2321	3271	2824	98.46	16.35	64.58	19.07
6	1448	61.32	22.78	3.27	7.37	3.19	2365	4283	3381	98.92	16.65	64.02	19.33
8	1468	62.03	22.29	2.96	7.41	3.44	2015	4648	3298	99.12	15.01	64.20	20.79
9	1478	61.59	22.60	3.05	7.40	3.39	1721	4004	3205	98.92	15.46	64.03	20.51
10	1488	61.99	22.23	2.90	7.36	3.41	2142	4197	2953	98.82	14.88	64.29	20.82
12	1508	61.24	22.43	3.13	7.35	3.18	2116	3293	3302	98.20	16.08	64.48	19.45
13	1518	61.04	22.55	3.26	7.53	3.20	1886	4111	3245	98.50	16.36	64.50	19.14
14	1528	61.18	22.62	3.20	7.35	3.13	2099	4026	3020	98.40	16.46	64.40	19.15
15	1538	61.47	22.52	3.07	7.37	3.18	1741	4628	3153	98.57	15.80	64.69	19.51
16	1548	61.74	22.61	3.05	7.42	3.26	2195	3465	2946	98.94	15.58	64.59	19.83
17	1558	61.37	22.35	2.95	7.50	3.31	2068	3982	3049	98.40	14.99	64.99	20.02
18	1568	61.07	22.55	3.07	7.34	3.28	2027	3960	3309	98.23	15.76	64.22	20.02
19	1578	61.38	22.56	3.18	7.40	3.13	2178	3724	3342	98.58	16.27	64.62	19.11
20	1588	61.14	22.59	3.21	7.55	3.17	1774	3616	3229	98.53	16.16	64.81	19.03
21	1598	60.88	22.57	3.26	7.41	3.05	1934	3961	2745	98.04	16.71	64.70	18.60
22	1608	60.91	22.82	3.54	7.43	2.93	2491	3681	3653	98.60	17.94	64.34	17.71
24	1628	61.95	22.17	2.67	7.44	3.54	2635	4842	2960	98.82	13.66	64.80	21.54
35	1738	61.61	22.22	2.93	7.38	3.43	2506	4197	3117	98.57	14.96	64.20	20.84
36	1748	61.31	22.38	3.00	7.47	3.30	2441	3272	3167	98.35	15.24	64.78	19.98
37	1758	61.66	22.65	3.15	7.52	3.24	2352	5015	3149	99.27	15.90	64.67	19.43
38	1768	61.43	22.60	3.27	7.41	3.14	2488	3918	3250	98.82	16.64	64.32	19.04
39	1778	61.88	22.57	3.23	7.37	3.24	2058	3703	3150	99.19	16.41	63.95	19.64
40	1788	61.30	22.76	3.32	7.40	3.05	1988	3057	3208	98.66	16.96	64.46	18.58
41	1798	60.82	23.08	3.70	7.30	2.79	1991	3703	3693	98.63	18.98	63.95	17.07
42	1808	61.24	22.70	3.25	7.51	3.03	2096	3789	3220	98.65	16.51	65.13	18.37
43	1818	60.93	22.66	3.33	7.28	3.03	2320	4285	3312	98.23	17.19	64.15	18.67
46	1848	61.58	22.64	3.12	7.38	3.20	1726	3251	3303	98.73	15.99	64.49	19.52
47	1858	61.93	22.52	3.00	7.39	3.42	2193	3983	3037	99.17	15.25	64.06	20.69
48	1868	61.69	22.74	3.20	7.43	3.30	1946	4500	3062	99.31	16.18	63.97	19.85
49	1878	61.78	22.57	3.08	7.44	3.24	2149	3768	3362	99.04	15.70	64.65	19.65
50	1888	61.65	22.53	3.08	7.51	3.19	2329	3854	3342	98.92	15.64	65.07	19.29
54	1928	60.48	21.93	3.15	7.47	3.29	15175	3457	2594	98.44	15.89	64.35	19.76
55	1938	62.02	22.37	2.85	7.39	3.49	2464	4263	3182	99.11	14.52	64.28	21.20
56	1948	61.92	22.64	3.20	7.25	3.25	2016	3661	3275	99.14	16.45	63.64	19.91
57	1958	61.94	22.73	3.20	7.43	3.15	2091	4242	3477	99.44	16.32	64.59	19.09
58	1968	62.16	22.74	3.23	7.39	3.16	1939	5232	3218	99.71	16.47	64.33	19.20
59	1978	61.97	22.78	3.26	7.40	3.08	2067	3510	3088	99.35	16.67	64.58	18.75
60	1988	61.75	22.63	3.20	7.51	3.11	2210	2520	3283	99.00	16.21	65.01	18.78
61	1998	61.88	22.90	3.22	7.51	3.11	2248	3574	3177	99.52	16.30	64.92	18.78
62	2008	61.64	22.68	3.16	7.57	3.10	1613	3166	3268	98.95	16.00	65.32	18.68
63	2018	61.83	22.56	3.19	7.50	3.10	1755	3963	3148	99.08	16.20	65.01	18.79
64	2028	61.88	22.66	3.27	7.47	3.08	2157	3144	3131	99.20	16.61	64.74	18.64
65	2038	61.58	22.83	3.24	7.48	3.19	2091	4264	2989	99.25	16.38	64.45	19.17

**Table F.1.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
66	2048	61.68	22.79	3.09	7.49	3.10	1719	3725	3128	99.01	15.82	65.33	18.85
67	2058	61.52	22.61	3.23	7.52	3.11	1972	3338	3208	98.83	16.33	64.92	18.75
68	2068	61.99	22.62	3.24	7.41	3.08	2076	3467	3131	99.21	16.59	64.63	18.78
69	2078	61.92	22.64	3.16	7.45	3.18	2208	3854	3239	99.28	16.06	64.63	19.30
70	2088	61.73	22.74	3.23	7.52	3.07	1584	3274	3074	99.07	16.37	65.08	18.55
71	2098	61.98	22.69	3.19	7.54	3.18	2189	3230	3175	99.43	16.07	64.83	19.10
72	2108	61.53	22.48	3.39	7.51	3.05	1592	3726	2737	98.76	17.12	64.58	18.31
74	2128	62.00	22.74	3.37	7.44	3.05	2132	3726	3100	99.51	17.10	64.43	18.47
75	2138	61.08	22.47	3.35	7.28	2.99	1950	4092	3413	98.11	17.31	64.28	18.40
76	2148	61.42	22.98	3.53	7.43	2.93	1979	4329	3460	99.27	17.93	64.35	17.71
77	2158	62.05	22.67	3.14	7.46	3.23	2175	3855	3056	99.45	15.93	64.54	19.52
78	2168	62.28	22.60	3.05	7.37	3.35	1547	4286	3291	99.57	15.56	64.07	20.37
79	2178	62.33	22.65	2.92	7.44	3.33	1815	3726	3076	99.53	14.93	64.81	20.27
80	2188	62.40	22.50	2.90	7.41	3.35	2228	3683	3253	99.49	14.88	64.69	20.43
81	2198	62.22	22.50	3.09	7.41	3.26	1782	4609	3081	99.43	15.75	64.43	19.82
82	2208	63.33	23.00	3.00	7.96	3.31	2135	3704	3370	101.51	14.61	66.18	19.20
84	2228	62.89	22.69	2.95	7.44	3.30	2371	3747	3064	100.20	15.06	64.85	20.09
85	2238	62.94	22.78	3.01	7.53	3.31	1820	4825	3056	100.54	15.18	64.91	19.91
91	2298	62.06	22.74	3.30	7.54	3.08	2126	4029	2918	99.63	16.64	64.83	18.53
92	2308	61.62	22.83	3.46	7.38	2.87	2060	4287	3092	99.11	17.78	64.66	17.56
93	2318	61.77	23.24	3.68	7.43	2.78	2185	2758	3219	99.72	18.71	64.43	16.86
94	2328	61.76	23.54	3.90	7.39	2.63	1524	4007	3421	100.11	19.85	64.19	15.96
95	2338	57.58	20.83	3.63	6.58	2.23	1838	2522	2731	91.56	20.74	64.10	15.15
96	2348	61.59	23.53	3.96	7.52	2.68	2155	3490	3649	100.22	19.83	64.19	15.98
98	2368	61.12	23.46	4.00	7.46	2.52	2345	3232	3191	99.43	20.28	64.51	15.21
99	2378	61.05	23.31	3.95	7.37	2.53	1894	2866	3460	99.03	20.23	64.35	15.42
100	2388	60.88	23.64	4.16	7.40	2.38	2156	3577	3210	99.36	21.22	64.32	14.46
101	2398	61.21	23.47	4.02	7.27	2.46	2208	2909	3379	99.28	20.76	64.10	15.13
102	2408	61.98	23.68	4.28	7.46	2.36	2203	2822	3405	100.60	21.61	64.19	14.19
103	2418	61.12	23.65	4.19	7.38	2.41	2032	3599	3133	99.62	21.33	64.08	14.60
104	2428	63.94	23.16	3.91	7.41	2.56	1989	2996	3319	101.81	19.95	64.50	15.55
107	2458	60.14	23.33	4.36	7.39	2.16	2208	2693	3664	98.25	22.33	64.48	13.19
110	2488	61.28	24.00	4.43	7.48	2.08	1974	2586	3357	100.05	22.53	64.87	12.60
111	2498	60.80	23.68	4.18	7.48	2.21	1809	3254	3211	99.18	21.35	65.19	13.46
112	2508	62.46	23.37	3.95	7.50	2.69	2015	3663	3142	100.85	19.81	64.11	16.08
113	2518	61.94	23.28	3.58	7.48	2.84	2257	3899	3084	100.04	18.14	64.74	17.13
114	2528	60.98	23.36	4.03	7.36	2.51	2033	2694	3850	99.09	20.57	64.15	15.28
115	2538	61.31	23.37	4.03	7.50	2.44	1819	2715	3190	99.42	20.43	64.85	14.72
116	2548	61.35	23.54	4.17	7.48	2.33	2017	2198	3071	99.61	21.16	64.74	14.09
117	2558	61.77	23.80	4.08	7.51	2.31	2320	2737	3290	100.30	20.78	65.19	14.04
119	2578	60.73	24.12	4.55	7.48	2.09	1873	3276	3090	99.79	22.96	64.47	12.57
120	2588	61.32	23.40	4.08	7.49	2.43	1758	3125	3234	99.52	20.66	64.68	14.67
121	2598	61.39	23.61	4.23	7.45	2.39	2218	2694	3272	99.89	21.35	64.23	14.42
122	2608	61.86	22.95	3.58	7.46	2.67	1664	2845	3239	99.30	18.36	65.30	16.35
123	2618	61.27	23.57	4.17	7.41	2.30	2039	2608	3240	99.52	21.32	64.65	14.03
124	2628	61.68	24.26	4.45	7.71	2.05	1822	2285	3279	100.89	22.19	65.60	12.21
125	2638	60.38	22.82	3.82	7.23	2.36	1922	2629	3112	97.38	20.15	65.02	14.83
126	2648	60.80	23.51	4.28	7.47	2.19	2183	2091	3215	99.00	21.79	64.91	13.30
127	2658	60.80	23.56	4.24	7.53	2.30	1860	2651	2929	99.17	21.39	64.80	13.81
128	2668	62.23	23.32	3.93	7.42	2.54	1899	3233	3430	100.30	20.06	64.51	15.42
129	2678	61.88	23.72	4.35	7.44	2.17	1516	2544	3158	100.27	22.15	64.68	13.17
130	2688	61.22	23.40	3.86	7.50	2.46	2310	3362	3046	99.31	19.70	65.35	14.94

**Table F.1.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
131	2698	61.42	23.57	3.93	7.53	2.55	1989	3857	3317	99.92	19.82	64.86	15.33
132	2708	60.91	23.15	4.08	7.41	2.40	1679	2845	3503	98.75	20.83	64.59	14.58
133	2718	60.72	23.24	3.94	7.43	2.34	2119	2478	3283	98.46	20.33	65.33	14.34
134	2728	61.60	23.48	4.01	7.46	2.36	2285	3319	3230	99.80	20.54	65.10	14.36
135	2738	60.29	23.32	3.97	7.79	2.26	1943	2651	3354	98.43	19.91	66.61	13.47
139	2778	60.95	22.94	3.60	7.39	2.65	1640	3104	3112	98.31	18.62	65.09	16.30
140	2788	63.21	23.30	3.26	8.04	2.70	1659	3512	2847	101.31	16.13	67.93	15.94
146	2848	63.47	23.49	3.39	8.04	2.78	2002	3210	3269	102.03	16.61	67.15	16.24
149	2878	61.57	22.80	3.49	7.42	2.76	1952	3944	3202	98.95	17.94	65.14	16.92
150	2888	62.06	23.07	3.73	7.53	2.76	2323	3965	3051	100.07	18.79	64.67	16.54
151	2898	65.30	23.59	3.55	7.81	2.73	1891	4094	3192	103.90	17.62	66.21	16.17
152	2908	61.36	23.07	3.46	7.94	2.67	2100	3210	3126	99.34	17.14	67.11	15.75
157	2958	62.87	23.11	3.50	7.81	2.67	2102	3749	2959	100.85	17.52	66.59	15.90
158	2968	60.97	22.87	3.58	7.52	2.59	1894	3642	3194	98.39	18.35	65.81	15.84
159	2978	60.94	23.11	3.66	7.44	2.70	1790	4483	3884	98.86	18.73	64.86	16.41
160	2988	63.74	23.02	3.79	7.35	2.61	2149	3320	3455	101.41	19.50	64.49	16.00
161	2998	61.45	22.65	3.55	7.37	2.75	2871	4396	2872	98.79	18.29	64.81	16.90
163	3018	60.96	23.04	3.59	7.36	2.69	2160	4698	3445	98.68	18.55	64.90	16.56
164	3028	61.24	23.44	4.17	7.32	2.53	2012	3471	3889	99.64	21.19	63.48	15.32
165	3038	60.95	23.49	4.17	7.31	2.44	1901	3665	3610	99.28	21.35	63.80	14.85
166	3048	61.27	23.58	4.00	7.50	2.51	2050	4396	3231	99.83	20.21	64.66	15.13
167	3058	61.09	23.52	3.97	7.44	2.50	1467	3514	3486	99.36	20.20	64.62	15.18
168	3068	61.00	23.43	4.11	7.44	2.48	1615	2587	3414	99.22	20.82	64.23	14.95
169	3078	63.60	23.37	3.98	7.40	2.59	1938	3105	3555	101.80	20.22	64.10	15.68
170	3088	61.33	23.48	4.08	7.28	2.50	1873	3536	3743	99.59	20.94	63.77	15.29
171	3098	61.05	23.41	4.09	7.27	2.59	1869	4290	3473	99.37	20.87	63.38	15.75
172	3108	61.02	23.47	4.01	7.39	2.48	1605	3881	3616	99.28	20.51	64.40	15.09
173	3118	61.27	23.02	3.72	7.36	2.79	1859	3428	3507	99.03	18.96	64.08	16.96
174	3128	61.65	22.91	3.36	7.51	2.89	2250	3642	3176	99.23	17.13	65.32	17.56
175	3138	61.63	22.85	3.61	7.27	2.79	1760	3687	3212	99.02	18.69	64.10	17.22
176	3148	61.87	22.96	3.50	7.45	2.90	1941	3514	3007	99.53	17.80	64.64	17.56
177	3158	61.56	23.08	3.53	7.49	2.83	1903	3880	3362	99.41	17.94	64.91	17.15
178	3168	61.54	23.21	3.71	7.51	2.74	1885	4010	3331	99.64	18.77	64.74	16.49
179	3178	62.23	23.24	3.66	7.58	2.65	1696	3600	3643	100.25	18.55	65.46	15.99
180	3188	61.55	23.23	3.96	7.49	2.62	2249	3772	3617	99.81	19.93	64.37	15.70
181	3198	61.30	23.14	3.76	7.44	2.71	2034	3966	3411	99.29	19.08	64.52	16.40
182	3208	60.80	22.89	3.63	7.41	2.77	2226	4267	3422	98.49	18.56	64.59	16.86
183	3218	62.66	23.66	3.58	7.83	2.74	1929	4655	3257	101.45	17.74	66.09	16.17
184	3228	62.26	23.07	3.64	7.45	2.78	1941	3924	3565	100.15	18.53	64.63	16.84
185	3238	61.19	23.50	3.98	7.28	2.60	2584	3557	3295	99.49	20.41	63.71	15.87
186	3248	61.30	23.25	3.89	7.41	2.68	1717	3622	3661	99.44	19.73	64.09	16.18
187	3258	60.99	23.30	3.94	7.45	2.62	2067	4440	3658	99.32	19.93	64.27	15.81
188	3268	61.30	23.11	3.65	7.41	2.71	2273	4461	3596	99.21	18.72	64.75	16.53
189	3278	61.55	23.15	3.78	7.33	2.73	2126	3966	3534	99.50	19.34	64.02	16.64
190	3288	61.45	23.25	3.92	7.35	2.61	1490	3946	3417	99.47	20.05	64.06	15.89
191	3298	61.35	23.34	3.98	7.42	2.61	2203	3945	3245	99.64	20.17	64.07	15.76
192	3308	61.60	23.35	3.83	7.39	2.68	1988	4548	3407	99.84	19.50	64.23	16.28
193	3318	61.54	23.24	3.81	7.40	2.69	1789	3536	3168	99.52	19.41	64.28	16.31
194	3328	61.53	23.23	3.77	7.50	2.68	2049	3665	3314	99.61	19.07	64.74	16.19
195	3338	61.71	23.03	3.53	7.54	2.76	2159	3643	3367	99.50	17.95	65.34	16.71
196	3348	61.31	23.47	3.96	7.42	2.58	1917	3471	3858	99.66	20.12	64.30	15.58
197	3358	62.25	22.77	3.26	7.46	3.05	2302	3018	3280	99.65	16.63	64.86	18.51

**Table F.1.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
198	3368	62.24	22.64	3.17	7.44	3.13	1628	4399	3107	99.54	16.19	64.76	19.04
199	3378	62.02	22.68	3.21	7.41	3.15	1901	4418	3204	99.42	16.35	64.49	19.15
200	3388	62.23	22.73	3.31	7.47	3.12	1857	4807	3313	99.85	16.76	64.43	18.81
201	3398	62.23	22.57	3.22	7.50	3.08	1742	4613	3020	99.54	16.35	64.98	18.67
202	3408	62.00	22.88	3.41	7.45	2.89	2050	4568	3201	99.61	17.43	64.95	17.62
203	3418	61.68	22.85	3.42	7.50	2.91	1799	3924	2787	99.21	17.38	65.00	17.62
204	3428	61.78	23.00	3.51	7.53	2.91	1730	3406	3192	99.56	17.72	64.77	17.50
205	3438	61.66	22.98	3.59	7.43	2.73	2019	3536	3177	99.26	18.39	64.96	16.65
206	3448	61.76	23.18	3.69	7.44	2.78	1758	4075	3265	99.77	18.73	64.44	16.84
208	3468	62.43	23.07	3.40	7.71	2.92	2184	5496	3243	100.62	16.98	65.65	17.37
209	3478	62.23	22.71	3.08	7.62	3.15	2109	3557	3368	99.70	15.54	65.52	18.93
210	3488	62.30	22.77	3.29	7.63	3.06	2172	3773	3395	99.98	16.51	65.24	18.25
211	3498	62.00	22.78	3.28	7.45	3.02	1655	3752	3071	99.38	16.74	64.88	18.37
212	3508	61.88	22.88	3.53	7.48	2.90	2202	3752	3311	99.59	17.87	64.62	17.51
213	3518	61.79	23.14	3.73	7.40	2.74	2300	4076	3481	99.78	19.00	64.36	16.64
214	3528	61.49	23.18	3.83	7.45	2.66	1947	3774	3455	99.52	19.44	64.50	16.06
215	3538	62.52	22.56	3.13	7.66	3.21	2200	3751	3214	99.99	15.63	65.26	19.11
216	3548	61.46	23.35	3.80	7.40	2.59	1658	3299	3370	99.43	19.48	64.72	15.80
217	3558	60.91	23.33	3.96	7.38	2.59	1821	3881	3501	99.09	20.19	64.12	15.70
218	3568	61.65	23.32	3.82	7.53	2.66	2002	3213	3434	99.84	19.27	64.74	15.98
219	3578	61.64	23.34	3.98	7.48	2.57	2082	3407	3575	99.92	20.11	64.41	15.47
220	3588	61.27	23.37	4.03	7.49	2.61	1749	3494	3452	99.64	20.23	64.16	15.61
221	3598	61.41	23.26	3.98	7.51	2.54	2088	2588	3327	99.49	20.08	64.66	15.26
222	3608	61.92	23.03	3.61	7.48	2.80	2199	3515	3004	99.72	18.31	64.74	16.95
223	3618	61.79	23.17	3.55	7.43	2.70	2203	2846	3064	99.45	18.28	65.16	16.56
224	3628	61.67	23.30	3.87	7.50	2.48	1937	3235	3088	99.64	19.73	65.21	15.06
225	3638	61.30	23.49	4.13	7.44	2.46	2559	2782	3328	99.68	20.89	64.25	14.86
226	3648	58.59	22.18	3.96	7.60	2.72	27851	2466	2271	98.31	19.65	64.30	16.05
230	3688	61.76	22.79	3.50	7.43	2.86	2419	4053	3175	99.30	17.85	64.76	17.38
231	3698	61.48	23.29	3.97	7.42	2.58	2419	3343	3586	99.68	20.16	64.26	15.58
232	3708	61.90	23.10	3.63	7.40	2.78	2334	3730	3215	99.74	18.57	64.53	16.91
233	3718	61.62	22.97	3.63	7.44	2.73	2251	4053	3037	99.32	18.53	64.87	16.60
234	3728	62.08	23.01	3.50	7.50	2.79	2214	3299	3139	99.74	17.83	65.24	16.93
235	3738	62.05	22.86	3.39	7.43	2.95	2282	3794	3136	99.60	17.32	64.72	17.95
236	3748	61.35	23.16	3.87	7.61	2.64	2269	3105	3451	99.52	19.36	64.91	15.73
237	3758	61.41	23.16	3.88	7.52	2.65	2684	3687	3028	99.57	19.54	64.55	15.91
238	3768	61.31	23.20	3.86	7.33	2.61	2243	3084	3223	99.16	19.84	64.21	15.96
239	3778	61.85	23.11	3.71	7.32	2.65	1922	3408	3058	99.48	19.19	64.53	16.28
240	3788	61.63	23.11	3.64	7.40	2.71	1907	3429	3167	99.34	18.70	64.72	16.59
241	3798	61.57	23.05	3.71	7.38	2.82	2687	4226	3081	99.53	18.87	64.06	17.07
242	3808	61.59	22.94	3.46	7.42	2.88	2102	2846	3544	99.13	17.70	64.76	17.53
243	3818	61.88	22.83	3.50	7.36	2.94	2134	3709	3266	99.42	17.90	64.22	17.89
244	3828	61.85	22.95	3.67	7.38	2.85	2468	3213	2894	99.55	18.69	64.05	17.26
245	3838	61.83	22.70	3.38	7.24	2.97	1957	4765	3249	99.11	17.52	64.13	18.34

**Table F.1.4: Section eb05019b Scan 2 Intermediate Transect by EMP**Step size: 10.07  $\mu\text{m}$  $n$  = EMP analysis number

$n$	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
1	7192	62.06	22.74	3.11	7.58	3.16	2408	3839	2722	99.54	15.72	65.29	18.99
2	7202	62.17	22.46	2.98	7.57	3.29	1927	3475	2633	99.28	15.05	65.15	19.79
3	7212	62.16	22.56	3.15	7.56	3.07	2044	3003	2860	99.30	15.97	65.47	18.56
4	7222	62.12	22.51	3.11	7.45	3.27	2047	4590	3032	99.42	15.77	64.49	19.74
5	7232	62.06	22.70	3.32	7.42	3.17	2488	3989	3301	99.64	16.82	64.06	19.12
6	7242	62.56	22.05	2.70	7.60	3.63	1782	3453	3133	99.37	13.49	64.85	21.66
7	7252	62.50	22.27	2.71	7.45	3.55	2518	3710	2947	99.39	13.81	64.66	21.53
8	7262	62.33	22.54	2.89	7.50	3.34	1859	2917	2998	99.37	14.70	65.03	20.27
9	7272	62.28	22.64	3.23	7.50	3.12	1879	4247	2764	99.66	16.37	64.78	18.85
10	7282	61.83	22.93	3.34	7.48	3.02	2212	3775	3111	99.52	16.95	64.77	18.28
11	7292	61.85	22.81	3.43	7.57	2.99	2160	4932	3127	99.68	17.24	64.87	17.89
12	7302	61.75	22.89	3.38	7.49	3.00	1452	2853	2755	99.21	17.16	64.75	18.09
13	7312	62.09	22.86	3.46	7.49	2.97	2033	2810	2905	99.64	17.50	64.60	17.90
14	7322	61.62	22.87	3.36	7.47	2.92	2034	3239	3084	99.08	17.15	65.07	17.78
15	7332	61.54	23.02	3.37	7.55	2.92	1966	2252	3155	99.13	17.11	65.27	17.62
16	7342	61.83	22.66	3.26	7.61	2.91	1951	3453	3282	99.13	16.54	65.84	17.62
17	7352	61.69	22.73	3.39	7.45	2.97	2019	3583	2986	99.08	17.25	64.76	17.99
18	7362	62.22	22.40	3.07	7.46	3.17	1696	3176	2708	99.09	15.68	65.01	19.31
19	7372	62.12	22.60	3.11	7.48	3.18	2034	3282	2699	99.30	15.83	64.92	19.24
20	7382	62.07	22.76	3.25	7.62	3.00	2015	4333	2933	99.62	16.39	65.60	18.02
21	7392	62.09	22.88	3.47	7.64	2.93	1912	3776	2993	99.89	17.36	65.17	17.47
22	7402	62.17	22.82	3.41	7.44	3.02	1500	3368	3044	99.65	17.29	64.46	18.24
23	7412	62.10	22.86	3.39	7.50	2.95	2065	3347	2669	99.61	17.20	64.96	17.84
24	7422	64.08	22.79	3.26	7.49	3.03	2139	4956	3073	101.66	16.58	65.03	18.39
25	7432	62.01	22.51	2.99	7.52	3.35	1620	4161	3225	99.29	15.11	64.75	20.14
26	7442	61.90	22.76	3.15	7.32	3.12	1790	3819	2776	99.10	16.27	64.51	19.22
27	7452	62.26	22.63	3.26	7.49	3.08	2136	3947	3070	99.64	16.55	64.83	18.63
28	7462	62.04	22.61	3.21	7.50	3.14	1532	2532	2919	99.20	16.26	64.79	18.95
29	7472	64.90	22.70	3.18	7.62	3.02	2146	4484	2786	102.37	16.07	65.71	18.21
30	7482	62.14	22.96	3.24	7.52	2.97	1491	4334	3117	99.73	16.53	65.44	18.03
31	7492	61.86	22.77	3.34	7.45	3.00	1629	3605	3201	99.27	17.03	64.77	18.20
32	7502	61.98	22.96	3.39	7.39	2.93	2045	3155	3483	99.52	17.42	64.69	17.89
33	7512	64.41	22.94	3.58	7.53	2.95	1592	4657	2879	102.32	17.95	64.43	17.62
34	7522	62.79	22.98	3.52	7.51	2.86	1777	4399	2852	100.55	17.82	64.92	17.26
35	7532	64.31	22.93	3.62	7.39	2.85	1707	3327	3307	101.93	18.46	64.25	17.30
36	7542	62.00	23.13	3.55	7.59	2.81	2133	3389	3167	99.95	17.92	65.23	16.86
37	7552	62.01	22.89	3.50	7.46	2.91	1731	4141	3116	99.67	17.75	64.65	17.60
38	7562	62.46	22.87	3.37	7.70	2.97	1955	3818	2884	100.23	16.82	65.53	17.66
39	7572	62.02	22.94	3.54	7.66	2.95	2192	3690	3096	100.01	17.60	64.95	17.45
40	7582	64.42	22.88	3.45	7.46	2.83	1821	3863	2766	101.89	17.66	65.09	17.25
41	7592	61.88	22.94	3.58	7.56	2.86	1734	3047	2870	99.58	18.02	64.85	17.13
42	7602	61.86	23.17	3.62	7.52	2.77	1978	3841	3340	99.86	18.33	64.93	16.74
43	7612	61.68	23.07	3.64	7.39	2.72	2190	3561	2887	99.36	18.69	64.69	16.63
44	7622	61.26	23.68	4.22	7.40	2.40	1702	3370	3276	99.80	21.43	64.06	14.51
45	7632	60.96	23.65	4.37	7.46	2.37	2169	3304	3374	99.70	21.93	63.88	14.19
46	7642	61.09	23.58	4.16	7.35	2.39	2023	3476	3124	99.43	21.29	64.16	14.55
47	7652	61.08	23.57	4.10	7.35	2.49	1868	3583	3550	99.50	20.93	63.96	15.11
48	7662	61.28	23.38	4.02	7.33	2.49	1890	3841	3079	99.38	20.64	64.15	15.21



**Table F.1.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
49	7672	61.38	23.39	4.09	7.39	2.54	1969	3091	3284	99.63	20.76	63.92	15.32
50	7682	61.31	23.58	4.00	7.41	2.57	1932	3240	3124	99.70	20.28	64.16	15.57
51	7692	61.34	23.46	3.92	7.48	2.58	2248	4526	3576	99.81	19.83	64.61	15.55
52	7702	61.66	23.47	4.04	7.41	2.60	2210	3541	3461	100.10	20.42	63.91	15.67
53	7712	61.37	23.21	3.77	7.40	2.69	2471	3390	3282	99.36	19.23	64.41	16.36
54	7722	61.34	23.20	3.78	7.36	2.70	1890	3155	3331	99.22	19.33	64.20	16.47
55	7732	61.77	23.14	3.52	7.53	2.84	2387	4827	3164	99.84	17.82	65.02	17.15
56	7742	61.54	23.16	3.66	7.48	2.82	2638	3561	3406	99.61	18.51	64.52	16.97
57	7752	61.73	23.18	3.58	7.48	2.76	2669	3948	3024	99.69	18.26	65.00	16.74
58	7762	61.46	23.18	3.77	7.45	2.72	2244	4420	3068	99.56	19.11	64.44	16.45
59	7772	61.73	23.14	3.70	7.56	2.72	2177	3862	3513	99.80	18.64	65.00	16.36
60	7782	61.48	23.35	3.70	7.38	2.70	2131	4270	3241	99.57	18.99	64.51	16.50
61	7792	61.69	23.43	3.71	7.52	2.74	2184	3841	3511	100.05	18.76	64.76	16.47
62	7802	62.00	22.98	3.39	7.54	2.99	2106	3713	2720	99.76	17.12	64.89	17.99
63	7812	61.26	23.25	3.84	7.47	2.72	1957	4271	3015	99.47	19.35	64.29	16.36
64	7822	61.62	22.93	3.68	7.45	2.66	2036	2940	3043	99.16	18.81	64.96	16.22
65	7832	61.54	23.29	3.75	7.47	2.68	1870	2812	3531	99.56	19.06	64.70	16.24
66	7842	61.73	23.04	3.95	7.38	2.74	1459	3242	3134	99.63	19.96	63.57	16.47
67	7852	60.84	23.42	3.89	7.30	2.65	2234	2790	3280	98.94	19.95	63.83	16.21
68	7862	61.23	23.69	4.28	7.43	2.37	2286	1846	3109	99.73	21.65	64.07	14.28
69	7872	61.43	23.51	4.25	7.46	2.47	1929	3027	3247	99.95	21.34	63.89	14.78
70	7882	61.51	23.44	3.92	7.38	2.72	2201	3970	3036	99.90	19.85	63.74	16.42
71	7892	64.05	23.16	3.83	7.52	2.70	1692	3757	2909	102.09	19.30	64.53	16.17
72	7902	61.06	23.10	3.69	7.40	2.69	2159	3563	3311	98.83	18.90	64.68	16.41
73	7912	61.39	23.44	3.96	7.38	2.57	2333	2962	3247	99.60	20.22	64.18	15.60
74	7922	61.28	23.47	4.10	7.33	2.47	1925	2962	3220	99.46	20.99	63.98	15.03
75	7932	61.54	23.29	3.78	7.36	2.69	2012	2941	3331	99.49	19.37	64.25	16.38
76	7942	62.46	23.23	3.81	7.47	2.73	2549	3799	3264	100.66	19.26	64.34	16.40
77	7952	61.92	23.07	3.56	7.45	2.92	2257	3648	3587	99.87	18.02	64.37	17.62
78	7962	61.81	23.21	3.69	7.47	2.83	2075	4378	3444	100.00	18.63	64.32	17.05
79	7972	61.63	23.09	3.77	7.51	2.83	2031	3177	3179	99.67	18.91	64.18	16.90
80	7982	61.69	23.36	3.89	7.40	2.70	2396	3027	2960	99.88	19.71	64.01	16.28
81	7992	61.29	23.46	3.91	7.48	2.59	1786	3112	3253	99.55	19.80	64.57	15.63
82	8002	61.35	23.10	3.81	7.41	2.77	2300	3584	3298	99.35	19.31	64.00	16.69
83	8012	61.92	23.15	3.54	7.46	2.81	1902	3198	3361	99.73	18.04	64.87	17.09
84	8022	61.14	23.02	3.76	7.47	2.80	2002	3885	3320	99.11	18.98	64.20	16.81
85	8032	61.54	23.30	3.70	7.44	2.67	1570	2920	3435	99.44	18.89	64.84	16.27
86	8042	61.51	23.40	3.90	7.48	2.62	2116	3692	3517	99.85	19.72	64.50	15.78
87	8052	61.51	23.43	4.01	7.43	2.58	1877	3391	3144	99.80	20.29	64.14	15.56
88	8062	60.84	23.76	4.38	7.44	2.20	1924	2233	3376	99.37	22.24	64.43	13.33
89	8072	61.07	23.90	4.28	7.46	2.22	2217	2576	3134	99.73	21.79	64.78	13.43
90	8082	61.24	23.40	4.03	7.52	2.46	2058	3670	3217	99.54	20.38	64.80	14.82
91	8092	61.48	23.36	3.93	7.55	2.60	2099	3413	3064	99.78	19.74	64.68	15.58
92	8102	61.46	23.27	3.85	7.44	2.72	2378	3006	3047	99.59	19.47	64.15	16.38
93	8112	61.59	23.13	3.71	7.49	2.77	2019	3735	2992	99.57	18.74	64.57	16.69
94	8122	61.56	23.23	3.78	7.48	2.79	1831	3435	3380	99.70	19.01	64.27	16.73
95	8132	61.59	23.13	3.70	7.50	2.79	2358	3456	3207	99.62	18.65	64.56	16.78
96	8142	61.67	23.26	3.83	7.40	2.74	1827	3521	3487	99.79	19.40	64.02	16.58
97	8152	62.37	22.71	3.20	7.47	3.11	1523	3778	3271	99.71	16.29	64.83	18.87
98	8162	62.04	22.63	3.21	7.51	3.20	2147	4293	2766	99.50	16.17	64.60	19.24
99	8172	62.82	22.20	2.82	7.41	3.53	2046	4786	2942	99.76	14.36	64.28	21.36
100	8182	62.25	22.48	3.03	7.45	3.39	2067	4765	3302	99.61	15.34	64.25	20.41

**Table F.1.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
101	8192	62.40	22.76	3.15	7.53	3.13	2639	3670	3180	99.91	15.99	65.13	18.89
102	8202	62.23	22.95	3.38	7.62	2.98	2505	3563	2865	100.05	16.96	65.21	17.84
103	8212	61.29	22.54	3.40	7.70	2.85	7826	3987	3240	99.28	17.05	65.90	17.06
108	8262	62.34	22.58	3.16	7.46	3.19	2614	4314	3211	99.74	16.06	64.64	19.30
109	8272	62.44	22.65	3.23	7.45	3.21	2051	4400	3480	99.97	16.34	64.31	19.34
110	8282	61.96	23.01	3.55	7.50	2.94	2516	3671	3232	99.90	17.87	64.47	17.67
111	8292	62.00	23.19	3.53	7.45	2.87	2274	3457	3277	99.94	17.95	64.67	17.39
112	8302	62.11	22.77	3.37	7.40	2.96	2117	3392	3358	99.50	17.25	64.67	18.09
113	8312	62.31	22.79	3.29	7.57	3.13	1911	3864	3074	99.97	16.52	64.77	18.71
114	8322	62.10	22.97	3.44	7.51	3.06	2189	4207	3049	100.02	17.27	64.43	18.30
115	8332	62.11	22.97	3.34	7.60	3.02	2087	3220	3189	99.88	16.78	65.14	18.08
116	8342	62.10	23.00	3.51	7.57	2.94	1756	3693	3356	100.01	17.63	64.79	17.58
117	8352	62.18	22.83	3.33	7.51	3.02	1889	3671	3031	99.73	16.86	64.92	18.22
118	8362	62.41	22.96	3.28	7.55	2.96	1895	3414	3242	100.01	16.67	65.43	17.90
119	8372	61.66	23.26	3.73	7.49	2.85	2117	3393	3327	99.87	18.73	64.19	17.08
120	8382	61.53	23.26	3.90	7.34	2.72	1838	2878	3488	99.56	19.85	63.69	16.46
121	8392	61.70	23.40	3.78	7.52	2.77	2060	3414	3080	100.03	18.99	64.44	16.57
122	8402	61.96	23.19	3.57	7.40	2.74	1744	3156	3266	99.68	18.36	64.88	16.76
123	8412	62.01	23.02	3.69	7.61	2.86	1772	3843	3373	100.08	18.38	64.66	16.96
124	8422	62.06	22.86	3.32	7.54	3.02	1802	4186	3043	99.70	16.78	65.02	18.20
125	8432	61.88	22.96	3.63	7.54	2.86	2329	3864	3249	99.82	18.21	64.64	17.14
126	8442	62.06	23.08	3.49	7.40	2.95	2311	3993	3189	99.94	17.80	64.28	17.92
127	8452	62.18	22.83	3.50	7.46	2.97	1797	4186	2945	99.84	17.70	64.38	17.93
128	8462	62.20	22.83	3.21	7.45	2.99	1615	4337	3129	99.59	16.50	65.19	18.31
129	8472	62.45	22.68	3.12	7.47	3.09	2153	3156	3394	99.69	15.97	65.20	18.84
130	8482	62.53	22.65	3.12	7.41	3.09	2198	3628	3329	99.71	16.04	65.03	18.92
131	8492	62.33	22.87	3.28	7.62	3.04	2045	4487	2893	100.07	16.49	65.31	18.20
132	8502	62.16	22.97	3.44	7.58	2.90	1644	2877	3022	99.79	17.34	65.23	17.43
133	8512	61.96	22.93	3.36	7.52	2.92	2361	4143	3244	99.65	17.08	65.24	17.68
134	8522	62.40	22.62	3.25	7.53	3.08	1911	4143	3433	99.83	16.47	64.96	18.57
135	8532	62.53	22.66	3.05	7.39	3.18	1878	3607	2964	99.65	15.69	64.86	19.46
136	8542	62.37	22.66	3.30	7.44	3.15	2046	3350	2749	99.73	16.72	64.29	18.99
137	8552	62.47	22.62	3.22	7.56	3.16	2088	3499	3340	99.92	16.18	64.90	18.92
138	8562	61.72	23.03	3.54	7.33	2.89	2170	3135	3410	99.38	18.15	64.18	17.66
139	8572	61.64	22.83	3.32	7.44	2.92	1915	2856	3334	98.96	17.02	65.11	17.87
140	8582	61.67	22.83	3.44	7.37	2.96	1957	3865	3199	99.17	17.62	64.36	18.02
141	8592	61.67	23.12	3.83	7.55	2.79	1840	4123	3284	99.88	19.13	64.27	16.60
142	8602	61.40	23.60	3.83	7.39	2.65	1939	4123	3375	99.82	19.56	64.31	16.13
143	8612	61.48	23.23	3.84	7.39	2.69	2395	4057	3559	99.63	19.52	64.20	16.28
144	8622	61.84	23.05	3.46	7.55	2.92	1613	2771	3201	99.58	17.47	64.97	17.56
145	8632	61.65	23.18	3.72	7.53	2.75	1633	3608	3290	99.67	18.76	64.73	16.51
146	8642	61.75	23.05	3.70	7.50	2.81	1715	3630	2954	99.64	18.66	64.48	16.86
147	8652	61.88	23.11	3.64	7.59	2.89	1890	4101	3186	100.02	18.17	64.63	17.21
148	8662	61.60	23.34	3.83	7.41	2.78	1984	3543	3274	99.84	19.34	63.93	16.73
149	8672	61.92	23.11	3.65	7.40	2.79	2133	2362	3286	99.65	18.62	64.43	16.95
150	8682	62.08	22.99	3.67	7.37	2.83	2329	3629	3124	99.85	18.71	64.09	17.20
151	8692	61.79	22.99	3.56	7.59	2.96	2109	3758	3299	99.80	17.77	64.65	17.58
154	8722	61.48	22.80	3.43	7.35	2.91	3819	3671	2679	99.00	17.66	64.52	17.83
155	8732	61.91	22.99	3.54	7.46	2.86	1839	3243	3416	99.60	18.00	64.70	17.29
156	8742	62.33	22.90	3.32	7.59	3.01	2020	3414	2865	99.98	16.73	65.21	18.06
157	8752	62.40	22.96	3.35	7.49	2.97	1937	3264	3602	100.05	17.06	64.92	18.02
158	8762	61.91	22.86	3.45	7.43	2.94	2158	2749	3102	99.39	17.58	64.56	17.86

**Table F.1.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
159	8772	62.23	22.84	3.55	7.58	2.90	1973	3157	2940	99.92	17.83	64.84	17.33
160	8782	61.97	22.97	3.48	7.32	2.97	1841	3221	3156	99.53	17.84	64.01	18.15
161	8792	61.79	23.08	3.62	7.47	2.82	2094	3393	3138	99.64	18.36	64.58	17.06
162	8802	62.13	23.15	3.62	7.43	2.84	1720	3543	3055	100.00	18.43	64.40	17.17
163	8812	61.67	23.12	3.79	7.46	2.79	2257	2491	3147	99.62	19.10	64.12	16.77
164	8822	61.82	23.38	3.69	7.48	2.75	2015	4080	3453	100.07	18.71	64.69	16.60
165	8832	61.69	23.18	3.84	7.41	2.67	2292	3178	3208	99.66	19.56	64.28	16.16
166	8842	61.48	23.40	3.89	7.48	2.62	1821	4359	3708	99.85	19.69	64.54	15.77
167	8852	61.49	23.30	3.88	7.39	2.67	2064	3887	3302	99.65	19.75	64.10	16.15
168	8862	61.57	23.24	3.90	7.19	2.69	2042	3372	3547	99.49	20.13	63.33	16.54
169	8872	61.54	23.41	3.92	7.36	2.60	1803	3308	2925	99.64	20.03	64.15	15.82
170	8882	61.66	23.33	3.98	7.49	2.54	2076	3415	3432	99.90	20.13	64.57	15.30
171	8892	61.71	23.42	3.97	7.43	2.56	2393	2814	3227	99.93	20.15	64.39	15.47
172	8902	61.21	23.72	4.28	7.47	2.32	2266	3265	3016	99.86	21.62	64.41	13.97
173	8912	61.36	23.70	4.12	7.44	2.46	1845	3050	3079	99.88	20.89	64.29	14.82
174	8922	61.53	23.55	3.95	7.43	2.54	1866	2879	3132	99.80	20.11	64.49	15.39
175	8932	61.44	23.50	3.97	7.32	2.64	1934	3502	3125	99.72	20.26	63.71	16.03
176	8942	62.03	23.23	3.73	7.52	2.81	1915	3566	3225	100.20	18.74	64.46	16.81
177	8952	61.79	23.26	3.90	7.44	2.70	1815	3351	3317	99.94	19.71	64.05	16.25
178	8962	61.45	23.28	3.94	7.49	2.65	2262	3415	3125	99.70	19.84	64.28	15.88
179	8972	61.62	23.38	3.92	7.49	2.62	2313	3029	3152	99.88	19.79	64.45	15.76
180	8982	61.53	23.57	3.99	7.39	2.55	1850	3867	3073	99.92	20.33	64.21	15.46
182	9002	61.42	23.63	4.25	7.46	2.44	2323	2815	3327	100.05	21.36	64.01	14.63
183	9012	61.44	23.57	4.19	7.50	2.46	2201	3308	2992	100.01	21.01	64.25	14.73
184	9022	61.37	23.62	4.12	7.60	2.52	1836	2578	3316	100.00	20.51	64.55	14.94
185	9032	61.93	23.32	3.77	7.55	2.76	1877	2901	3032	100.12	18.92	64.58	16.50
186	9042	61.94	23.13	3.56	7.52	2.94	2096	3909	2912	99.98	17.88	64.49	17.62
187	9052	61.94	23.09	3.50	7.50	2.86	1848	3287	2880	99.69	17.77	64.97	17.27
188	9062	61.81	23.33	3.82	7.49	2.77	1994	4275	3308	100.17	19.20	64.21	16.59
189	9072	61.25	23.47	3.98	7.38	2.64	2391	3115	3353	99.61	20.21	63.85	15.95
190	9082	61.81	23.42	3.75	7.59	2.71	2139	3266	3434	100.17	18.81	64.98	16.20
191	9092	61.73	23.40	3.82	7.45	2.68	2361	3502	3228	99.99	19.35	64.45	16.20
192	9102	62.03	23.09	3.57	7.43	2.84	1763	3051	3262	99.76	18.19	64.60	17.22
193	9112	62.02	23.09	3.61	7.48	2.81	2165	4275	3387	99.98	18.30	64.74	16.96
194	9122	61.82	23.30	3.84	7.45	2.72	2398	3888	2919	100.05	19.42	64.23	16.35
195	9132	61.59	23.35	3.99	7.48	2.60	1881	3309	3314	99.86	20.11	64.28	15.61
196	9142	61.73	23.30	3.94	7.50	2.60	2105	3523	3416	99.98	19.88	64.49	15.63
197	9152	62.03	23.06	3.49	7.46	2.86	2026	4833	3231	99.90	17.80	64.83	17.37
198	9162	62.31	22.99	3.48	7.52	2.98	2190	2921	2791	100.06	17.52	64.60	17.88
199	9172	61.72	23.12	3.68	7.41	2.75	1787	4147	3199	99.59	18.78	64.51	16.71
200	9182	61.94	23.27	3.74	7.52	2.71	2372	3437	3329	100.10	18.88	64.81	16.31
201	9192	62.00	23.14	3.58	7.46	2.95	2165	3845	2901	100.03	18.07	64.19	17.73
202	9202	62.05	23.10	3.59	7.49	2.94	2003	4425	3316	100.15	18.05	64.32	17.63
203	9212	61.75	23.37	3.69	7.44	2.73	2173	4275	3131	99.94	18.81	64.62	16.57
204	9222	61.89	23.13	3.68	7.53	2.79	2278	3738	2929	99.91	18.55	64.71	16.73
205	9232	61.78	23.11	3.63	7.45	2.76	2130	3695	3581	99.67	18.50	64.76	16.74
206	9242	62.16	23.11	3.61	7.53	2.85	2282	3566	3278	100.17	18.19	64.72	17.09
207	9252	61.28	23.68	4.16	7.44	2.43	2333	3287	3421	99.90	21.07	64.26	14.67
208	9262	60.92	23.73	4.36	7.44	2.24	1417	2966	3309	99.47	22.10	64.34	13.56
209	9272	61.86	23.17	3.65	7.45	2.79	1857	3632	3377	99.80	18.53	64.60	16.86
210	9282	61.70	23.15	3.59	7.50	2.77	1925	3996	3098	99.61	18.24	65.01	16.76
211	9292	61.60	23.26	3.79	7.52	2.77	2548	3974	3109	99.90	19.01	64.41	16.57

**Table F.1.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
212	9302	61.76	23.07	3.75	7.32	2.75	2013	3331	3160	99.51	19.22	63.98	16.80
213	9312	61.70	23.41	3.72	7.46	2.62	2387	3588	3283	99.83	19.01	65.04	15.95
214	9322	61.65	23.32	3.75	7.40	2.71	2077	3546	3400	99.73	19.13	64.37	16.50
216	9342	61.82	23.36	3.97	7.41	2.61	1944	4104	3276	100.09	20.13	64.12	15.75
217	9352	61.40	23.51	4.12	7.53	2.65	1876	3224	3284	100.05	20.49	63.85	15.66
218	9362	61.32	23.35	4.13	7.33	2.57	2161	2945	3148	99.53	20.98	63.50	15.52
219	9372	61.43	23.56	4.17	7.39	2.51	2185	3438	3144	99.94	21.12	63.77	15.11
220	9382	61.23	23.73	4.22	7.41	2.43	2263	2665	3254	99.84	21.37	63.97	14.66
221	9392	61.31	23.75	4.24	7.53	2.45	2154	3825	3331	100.22	21.20	64.20	14.60
222	9402	61.87	23.08	3.65	7.55	2.76	2001	3223	3204	99.76	18.40	65.01	16.59
223	9412	62.16	23.21	3.66	7.53	2.78	1811	3846	3312	100.23	18.48	64.82	16.69
224	9422	61.98	23.13	3.59	7.50	2.76	1947	3588	2692	99.79	18.24	65.05	16.71
225	9432	62.34	23.27	3.71	7.54	2.76	2204	3095	3269	100.47	18.69	64.75	16.55
226	9442	61.74	23.11	3.77	7.49	2.76	2223	2880	3091	99.69	19.00	64.43	16.57
227	9452	61.78	23.27	3.80	7.44	2.72	1832	2816	3200	99.80	19.26	64.32	16.43
228	9462	61.70	23.22	3.85	7.42	2.71	1769	3740	3308	99.77	19.51	64.15	16.34
229	9472	61.78	23.41	3.90	7.25	2.65	2274	3503	3486	99.92	20.10	63.64	16.27
230	9482	61.74	23.36	3.97	7.46	2.68	2204	3718	3520	100.16	19.98	63.99	16.03
231	9492	61.42	23.50	4.01	7.35	2.67	2164	3245	3369	99.84	20.34	63.52	16.14
232	9502	61.26	23.69	4.17	7.45	2.38	1536	3418	3417	99.80	21.17	64.42	14.41
233	9512	61.93	23.17	3.84	7.53	2.85	1905	3160	3145	100.14	19.13	63.93	16.94
234	9522	61.84	23.15	3.65	7.63	2.80	2202	3481	3114	99.95	18.24	65.05	16.71
235	9532	61.75	23.22	3.77	7.37	2.79	2073	3782	3140	99.79	19.15	63.93	16.91
236	9542	61.91	23.40	3.70	7.54	2.65	1865	3052	3170	100.02	18.76	65.22	16.02
237	9552	61.63	23.42	3.82	7.47	2.79	1990	3224	3585	100.01	19.22	64.09	16.70
238	9562	61.72	23.30	3.77	7.43	2.72	2015	3632	3271	99.83	19.14	64.40	16.46
239	9572	61.73	23.33	3.80	7.55	2.70	2004	3782	3450	100.03	19.08	64.72	16.20
240	9582	62.00	23.24	3.82	7.56	2.76	1569	3568	3259	100.22	19.12	64.47	16.42
241	9592	61.65	23.41	3.71	7.48	2.77	1866	3482	3262	99.88	18.75	64.56	16.69
242	9602	61.95	23.07	3.69	7.43	2.71	1864	2923	3279	99.66	18.83	64.67	16.50
243	9612	61.96	23.28	3.81	7.44	2.79	1527	3353	3042	100.08	19.20	64.02	16.78
244	9622	62.01	23.15	3.75	7.37	2.77	1661	4105	3344	99.95	19.09	64.10	16.80
245	9632	61.63	23.50	3.90	7.45	2.73	1929	3524	3461	100.10	19.65	63.99	16.36
246	9642	61.70	23.61	3.81	7.34	2.71	2122	3031	3192	100.00	19.47	64.04	16.49
247	9652	61.35	23.51	4.08	7.48	2.58	1832	3245	2949	99.80	20.49	64.06	15.46
248	9662	61.49	23.61	4.08	7.33	2.60	1895	3182	3484	99.96	20.72	63.54	15.75
249	9672	61.58	23.29	4.04	7.42	2.61	2056	3590	2959	99.80	20.41	63.90	15.69
250	9682	61.63	23.29	3.91	7.49	2.58	1751	3030	3071	99.68	19.81	64.63	15.57

**Table F.1.5: Section eb05042b2 Rim to Core Transect by EMP**Step size: 10.01  $\mu\text{m}$  $n$  = EMP analysis number

$n$	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
1	0	63.12	22.23	2.69	7.49	3.61	2012	4071	2603	100.01	13.63	64.62	21.76
2	10	63.26	22.29	2.68	7.49	3.70	1705	2895	2720	100.15	13.50	64.32	22.18
3	20	63.14	22.30	2.74	7.63	3.58	2520	3329	2858	100.26	13.67	65.05	21.28
4	30	63.12	22.20	2.71	7.45	3.58	2498	3721	2280	99.91	13.77	64.54	21.69
5	40	62.88	22.25	2.72	7.60	3.61	1957	4243	2788	99.95	13.60	64.89	21.51
6	50	63.33	22.34	2.76	7.64	3.55	2206	3133	2390	100.40	13.78	65.08	21.14
7	60	61.57	22.23	2.78	7.30	3.47	2143	3808	2540	98.19	14.34	64.31	21.35
8	70	62.72	22.15	2.99	7.55	3.41	1902	3374	2510	99.59	15.00	64.64	20.36
9	80	62.60	22.60	3.08	7.55	3.29	2150	3112	2546	99.90	15.51	64.78	19.71
10	90	61.91	22.44	3.20	7.35	3.15	2306	3569	2677	98.90	16.39	64.36	19.25
11	100	62.21	22.78	3.28	7.60	3.17	3523	3699	2309	100.00	16.37	64.75	18.88
12	110	62.47	22.91	3.39	7.53	3.01	2050	3896	2582	100.16	17.10	64.80	18.11
13	120	61.75	22.54	3.16	7.70	3.18	4844	2915	2795	99.37	15.72	65.41	18.87
14	130	62.90	22.57	3.00	7.59	3.30	2130	4004	2922	100.25	15.10	65.12	19.78
15	140	62.82	21.79	2.88	7.53	3.50	2406	4635	2454	99.47	14.47	64.55	20.98
16	150	62.95	22.32	2.78	7.60	3.58	1322	3614	2446	99.97	13.92	64.79	21.30
17	160	63.20	22.34	2.72	7.51	3.60	1789	4201	2472	100.22	13.71	64.64	21.65
18	170	62.61	22.56	2.99	7.59	3.37	1646	3004	2812	99.88	14.99	64.87	20.14
19	180	63.21	22.66	2.96	7.62	3.45	1841	3765	2942	100.75	14.77	64.77	20.46
20	190	62.91	22.44	2.73	7.48	3.47	2215	4266	2730	99.95	13.91	65.02	21.07
21	200	62.90	22.40	2.94	7.55	3.43	1724	3352	2887	100.03	14.77	64.71	20.52
22	210	62.41	22.10	3.17	7.68	3.13	1884	4245	2687	99.37	15.85	65.50	18.65
23	220	62.38	22.91	3.51	7.57	3.04	2316	4440	3014	100.39	17.51	64.42	18.07
24	230	62.40	22.86	3.30	7.57	3.11	1856	3157	2620	100.00	16.55	64.85	18.60
25	240	62.76	22.49	2.99	7.62	3.29	1539	3636	2470	99.92	15.02	65.28	19.69
26	250	62.97	22.31	2.81	7.50	3.39	1983	3548	2468	99.78	14.31	65.14	20.55
27	260	62.91	22.65	2.84	7.49	3.48	2073	3004	2692	100.15	14.38	64.62	20.99
28	270	62.75	22.56	3.15	7.75	3.30	2209	3548	2787	100.37	15.50	65.12	19.38
29	280	62.57	22.58	3.06	7.55	3.33	2441	3200	2857	99.94	15.37	64.68	19.95
30	290	62.30	22.34	3.24	7.73	3.24	1813	3963	2809	99.71	15.95	65.03	19.02
31	300	62.65	23.28	3.21	7.68	3.25	2598	3113	2704	100.91	15.93	64.90	19.17
32	310	62.01	22.48	3.24	7.46	3.18	1825	2744	2612	99.08	16.40	64.43	19.17
33	320	62.20	22.23	3.23	7.43	3.14	2286	3418	2856	99.09	16.44	64.50	19.05
34	330	62.05	22.43	3.00	7.58	3.34	2251	4005	2646	99.29	15.07	64.95	19.98
35	340	61.72	22.13	2.91	7.52	3.28	2464	3896	2519	98.45	14.82	65.28	19.90
39	380	62.45	22.46	3.04	7.62	3.40	2139	4354	2716	99.90	15.12	64.72	20.17
40	390	62.44	22.23	2.91	7.58	3.43	2706	3614	2791	99.50	14.60	64.88	20.52
41	400	62.41	21.79	2.94	7.50	3.53	2814	4332	2749	99.15	14.74	64.20	21.07
42	410	62.40	21.73	3.03	7.49	3.41	3307	3766	2580	99.02	15.25	64.30	20.45
43	420	62.59	22.48	3.09	7.65	3.38	3546	3569	2770	100.17	15.35	64.72	19.94
44	430	62.67	22.48	3.06	7.46	3.17	4353	4938	2880	100.05	15.65	65.06	19.29
65	640	62.72	22.64	3.02	7.47	3.25	3279	4223	2701	100.12	15.39	64.88	19.73
66	650	63.11	22.73	2.93	7.72	3.43	2209	3941	2559	100.78	14.51	65.24	20.25
67	660	63.42	22.45	2.75	7.61	3.49	2398	3832	2600	100.60	13.81	65.26	20.93
68	670	62.59	21.66	2.83	7.48	3.49	2297	4094	2569	98.94	14.32	64.62	21.05
69	680	63.01	22.73	2.91	7.74	3.29	2238	4159	2697	100.58	14.53	65.90	19.57
70	690	62.94	22.65	2.95	7.66	3.37	2238	2940	2329	100.31	14.71	65.25	20.04
71	700	62.95	22.54	2.88	7.69	3.36	2138	4049	2782	100.31	14.38	65.59	20.03

**Table F.1.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
72	710	62.81	22.59	2.91	7.52	3.35	2130	2700	2677	99.93	14.76	65.02	20.22
73	720	62.89	22.70	3.07	7.62	3.37	2280	3658	2657	100.52	15.29	64.72	19.99
74	730	62.85	22.57	2.89	7.46	3.31	2028	3180	2754	99.86	14.77	65.07	20.15
75	740	62.92	22.79	2.96	7.74	3.34	2022	4224	2615	100.64	14.68	65.59	19.73
76	750	63.10	22.64	3.02	7.52	3.27	2413	2853	2803	100.36	15.28	64.96	19.76
77	760	62.42	22.54	3.09	7.62	3.27	1948	3136	2744	99.72	15.45	65.04	19.51
78	770	62.65	22.58	3.04	7.67	3.30	1877	3288	2482	100.00	15.16	65.25	19.59
79	780	63.01	22.66	2.99	7.57	3.32	2271	3832	2700	100.43	15.07	65.04	19.89
80	790	62.56	23.30	3.00	7.50	3.30	2174	2852	2628	100.41	15.21	64.87	19.92
81	800	62.69	22.45	3.04	7.64	3.31	2028	4051	2869	100.02	15.17	65.13	19.70
82	810	62.93	22.54	2.93	7.64	3.42	2056	3463	2509	100.26	14.63	65.06	20.31
83	820	62.75	22.16	3.03	7.57	3.34	2049	3637	2610	99.68	15.20	64.81	19.98
84	830	63.24	22.73	3.03	7.49	3.32	2111	3942	2716	100.68	15.33	64.66	20.01
85	840	62.86	22.65	3.09	7.52	3.37	2194	3136	2460	100.26	15.49	64.38	20.14
86	850	62.93	22.48	3.00	7.53	3.34	1870	4072	2650	100.14	15.13	64.79	20.08
87	860	62.68	22.73	3.07	7.62	3.23	1900	3833	2626	100.17	15.43	65.23	19.34
88	870	62.78	22.30	3.09	7.67	3.08	2312	4050	2662	99.82	15.57	65.93	18.50
89	880	62.73	22.83	3.26	7.64	3.08	2218	3419	2774	100.38	16.31	65.28	18.40
90	890	62.72	22.81	3.17	7.68	3.17	1806	3224	2724	100.33	15.82	65.35	18.83
91	900	62.93	22.51	3.08	7.55	3.22	2001	3507	2678	100.09	15.55	65.09	19.37
92	910	62.47	22.59	3.01	7.70	3.19	2122	4073	2436	99.82	15.08	65.89	19.03
93	920	62.40	22.89	3.34	7.51	3.03	1839	2941	2518	99.89	16.90	64.83	18.28
94	930	63.03	22.79	2.99	7.67	3.22	1833	3485	2691	100.50	15.02	65.74	19.24
95	940	62.54	22.85	3.32	7.63	3.02	1891	4139	2715	100.24	16.66	65.28	18.05
96	950	62.99	22.78	3.29	7.72	3.15	2263	2854	2958	100.73	16.26	65.14	18.60
97	960	63.04	22.72	2.91	7.81	3.40	1760	3093	2369	100.58	14.34	65.69	19.96
98	970	62.85	22.69	3.07	7.72	3.20	2614	2505	3034	100.33	15.30	65.70	19.00
99	980	62.43	22.61	3.05	7.72	3.37	2222	3572	2642	100.02	15.07	65.09	19.84
100	990	63.02	22.65	3.01	7.66	3.32	1979	4530	2664	100.58	15.04	65.23	19.73
101	1000	62.83	22.62	2.89	7.53	3.31	2133	3964	2679	100.06	14.70	65.27	20.03
102	1010	62.88	22.53	3.00	7.51	3.30	1729	4314	2493	100.07	15.22	64.88	19.91
103	1020	62.42	22.86	3.06	7.55	3.28	2392	4051	2606	100.08	15.44	64.88	19.69
104	1030	62.68	22.88	3.10	7.59	3.25	1824	4052	2758	100.36	15.59	64.99	19.42
105	1040	62.93	22.69	3.13	7.51	3.24	1756	4792	2494	100.40	15.80	64.70	19.49
106	1050	62.47	22.60	3.09	7.51	3.23	1899	3747	2674	99.73	15.67	64.84	19.49
107	1060	62.74	22.76	3.02	7.65	3.31	1911	3224	2735	100.26	15.08	65.20	19.72
108	1070	62.73	22.51	2.86	7.58	3.40	1860	3376	2749	99.89	14.41	65.16	20.43
109	1080	62.80	22.52	3.09	7.57	3.32	1537	2984	2579	100.01	15.51	64.68	19.81
110	1090	62.80	22.71	3.09	7.58	3.33	2408	4029	2631	100.42	15.47	64.66	19.87
111	1100	62.84	22.69	3.08	7.67	3.20	1984	3811	2860	100.34	15.42	65.48	19.10
112	1110	62.78	22.68	3.10	7.68	3.23	1959	3093	2816	100.26	15.44	65.33	19.22
113	1120	62.84	22.67	3.08	7.48	3.24	2022	3856	2691	100.16	15.63	64.80	19.56
114	1130	62.82	22.68	3.14	7.61	3.31	1749	3159	2935	100.34	15.65	64.67	19.68
115	1140	62.79	22.71	3.18	7.62	3.31	1687	3769	3231	100.47	15.78	64.63	19.59
116	1150	62.88	22.55	3.14	7.70	3.34	2039	2092	2765	100.30	15.51	64.83	19.65
117	1160	62.72	22.65	3.17	7.55	3.30	2098	3245	2810	100.20	15.88	64.45	19.67
118	1170	62.77	22.81	3.19	7.70	3.25	1777	3093	3040	100.51	15.79	65.05	19.15
119	1180	62.93	22.75	3.17	7.61	3.18	2133	4182	2582	100.54	15.88	65.11	19.01
120	1190	62.94	23.61	3.15	7.65	3.30	2041	3398	2615	101.46	15.66	64.82	19.52
121	1200	62.54	22.63	3.23	7.59	3.20	2320	2875	2832	99.99	16.16	64.77	19.07
122	1210	62.57	22.85	3.28	7.61	3.12	1615	3638	2316	100.20	16.43	64.96	18.60
123	1220	62.63	22.81	3.30	7.54	3.12	2042	2985	2773	100.18	16.59	64.72	18.69

**Table F.1.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
124	1230	62.84	22.91	3.21	7.58	3.17	1808	3486	2583	100.50	16.13	64.92	18.95
125	1240	62.56	22.75	3.11	7.53	3.21	2396	2985	2583	99.96	15.73	64.93	19.35
126	1250	62.61	22.68	3.09	7.57	3.19	2166	3486	3166	100.02	15.62	65.19	19.19
127	1260	62.81	22.60	3.13	7.58	3.27	2185	4008	2679	100.28	15.68	64.82	19.50
128	1270	63.10	22.51	2.82	7.60	3.36	1760	3748	2619	100.21	14.26	65.49	20.25
129	1280	63.02	21.87	2.78	7.55	3.48	2197	3507	2777	99.55	14.02	65.05	20.93
130	1290	63.14	22.23	2.78	7.68	3.59	1968	3747	2082	100.20	13.77	65.02	21.21
131	1300	63.15	22.32	2.83	7.55	3.57	1886	4183	2453	100.27	14.19	64.49	21.32
132	1310	63.03	22.07	3.04	7.63	3.28	2065	4248	2845	99.96	15.23	65.18	19.59
133	1320	62.81	22.71	3.04	7.58	3.31	1701	4183	2970	100.34	15.27	64.95	19.78
134	1330	62.80	22.58	3.00	7.64	3.35	1790	3835	2587	100.19	15.00	65.05	19.95
135	1340	62.96	22.71	3.16	7.66	3.23	1781	2811	2467	100.42	15.76	65.07	19.16
136	1350	62.42	22.83	3.26	7.51	3.12	2253	3595	2835	100.02	16.50	64.74	18.77
137	1360	62.39	23.03	3.28	7.70	3.11	1798	2571	2684	100.20	16.29	65.27	18.44
138	1370	62.30	22.83	3.36	7.57	3.11	2115	4227	2770	100.09	16.82	64.63	18.54
139	1380	62.67	22.88	3.22	7.56	3.18	1722	2942	2425	100.21	16.16	64.80	19.04
140	1390	62.65	22.68	3.15	7.63	3.22	1982	3529	2544	100.13	15.74	65.09	19.18
141	1400	62.98	22.66	2.99	7.63	3.21	2181	3094	2495	100.25	15.08	65.64	19.28
142	1410	62.91	22.85	3.07	7.58	3.27	2087	3246	2462	100.47	15.45	64.98	19.57
143	1420	62.99	23.65	3.19	7.66	3.14	2297	3682	3213	101.54	15.94	65.37	18.70
144	1430	62.92	22.77	3.15	7.51	3.27	1846	2964	2396	100.34	15.85	64.53	19.61
145	1440	62.93	22.57	2.84	7.57	3.41	1708	3682	2543	100.10	14.32	65.19	20.48
146	1450	63.13	21.94	2.95	7.62	3.47	1712	3857	2511	99.91	14.70	64.70	20.60
147	1460	62.69	22.71	3.01	7.64	3.31	1916	4291	2861	100.26	15.06	65.19	19.74
148	1470	63.01	22.70	3.22	7.65	3.14	1658	3007	2625	100.45	16.12	65.19	18.69
149	1480	62.80	22.81	3.25	7.55	3.22	2327	3529	2801	100.50	16.26	64.51	19.23
155	1540	63.13	22.74	3.04	7.60	3.14	1712	3857	2779	100.48	15.40	65.67	18.93
156	1550	62.56	22.86	3.24	7.49	3.18	1869	3357	2431	100.09	16.36	64.51	19.12
157	1560	62.68	22.77	3.23	7.58	3.13	1613	2899	2278	100.07	16.27	65.00	18.74
158	1570	62.71	22.78	3.23	7.59	3.02	1700	4031	2431	100.14	16.34	65.45	18.21
159	1580	62.21	22.38	3.45	7.50	2.98	2142	3727	2599	99.36	17.44	64.64	17.92
160	1590	62.68	22.84	3.16	7.53	3.14	2341	3269	2622	100.17	15.99	65.03	18.97
161	1600	63.30	22.55	2.87	7.56	3.47	2274	3923	2221	100.59	14.43	64.79	20.77
162	1610	63.23	23.57	2.85	7.59	3.40	2162	4096	2544	101.53	14.34	65.25	20.41
163	1620	62.82	22.46	2.98	7.44	3.38	2044	3770	2226	99.88	15.10	64.44	20.46
164	1630	63.42	23.48	2.82	7.59	3.47	2081	3791	2537	101.61	14.16	65.08	20.76
165	1640	63.07	22.42	2.80	7.53	3.59	2094	3900	2421	100.24	14.08	64.47	21.46
166	1650	63.17	22.49	2.82	7.60	3.53	2481	2964	2547	100.41	14.11	64.84	21.05
167	1660	63.20	22.49	2.92	7.63	3.49	2031	2855	2318	100.46	14.55	64.77	20.69
168	1670	63.24	22.44	2.92	7.55	3.48	2020	3204	2759	100.43	14.66	64.54	20.80
169	1680	63.27	22.50	2.91	7.70	3.48	2051	3792	2324	100.67	14.41	65.06	20.53
170	1690	63.39	22.24	2.83	7.55	3.44	2239	3334	2442	100.24	14.28	65.04	20.68
171	1700	63.50	23.25	2.78	7.59	3.53	1755	3704	2284	101.43	13.95	64.95	21.09
172	1710	63.45	22.17	2.62	7.57	3.58	1795	3008	1972	100.07	13.21	65.23	21.56
173	1720	63.12	22.48	2.86	7.59	3.54	1862	2027	2447	100.23	14.31	64.62	21.08
174	1730	63.01	22.23	2.83	7.68	3.57	2250	3357	1827	100.05	14.02	64.92	21.06
175	1740	63.11	22.33	2.81	7.51	3.55	2359	3313	2230	100.11	14.15	64.56	21.29
176	1750	63.29	22.44	2.63	7.64	3.72	2129	3378	1947	100.46	13.08	64.86	22.06
177	1760	63.16	22.18	2.58	7.53	3.65	2276	3094	2490	99.89	13.06	64.97	21.97
178	1770	62.93	22.22	2.74	7.49	3.63	1984	2855	2409	99.74	13.79	64.43	21.78
179	1780	63.26	22.34	2.71	7.57	3.72	1879	3988	1919	100.37	13.51	64.39	22.09
180	1790	62.41	22.39	2.86	7.59	3.51	1921	3922	1998	99.54	14.30	64.80	20.90

**Table F.1.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
181	1800	63.10	23.42	2.99	7.63	3.52	2260	3204	2045	101.39	14.80	64.45	20.76
182	1810	62.63	22.51	2.94	7.58	3.51	1801	3879	2462	99.99	14.68	64.44	20.88
183	1820	62.91	22.51	2.91	7.66	3.52	2404	4314	1708	100.36	14.45	64.74	20.81
184	1830	62.79	22.29	2.89	7.54	3.48	1833	3901	2389	99.80	14.52	64.66	20.81
185	1840	62.73	22.32	2.95	7.65	3.51	1672	3814	2362	99.94	14.61	64.67	20.72
186	1850	63.09	22.35	2.96	7.51	3.51	2296	4010	2154	100.27	14.83	64.22	20.96
187	1860	62.80	21.65	2.93	7.72	3.45	1725	3248	2658	99.31	14.48	65.19	20.33
188	1870	63.23	22.35	2.91	7.54	3.45	1961	3552	2720	100.30	14.63	64.71	20.66
189	1880	63.10	22.60	2.91	7.57	3.40	2071	3095	2576	100.36	14.64	64.97	20.39
190	1890	63.20	22.57	2.88	7.70	3.42	2162	3465	2140	100.54	14.34	65.40	20.26
191	1900	62.77	22.51	2.93	7.48	3.36	2212	2725	2330	99.77	14.89	64.79	20.32
192	1910	62.77	22.23	2.86	7.57	3.47	2084	3052	2372	99.66	14.36	64.86	20.77
193	1920	63.18	22.34	2.80	7.61	3.43	1603	2877	2334	100.04	14.10	65.30	20.59
194	1930	63.38	22.27	2.76	7.68	3.56	1949	3706	2170	100.43	13.71	65.17	21.12
195	1940	63.13	22.19	2.80	7.67	3.66	2005	3640	2464	100.26	13.83	64.63	21.54
196	1950	63.19	22.15	2.68	7.56	3.62	1867	3727	1908	99.95	13.48	64.82	21.70
197	1960	62.88	22.21	2.79	7.73	3.53	1683	2071	2247	99.74	13.82	65.35	20.83
198	1970	62.98	22.77	3.02	7.55	3.34	2157	3073	2610	100.43	15.18	64.81	20.01
199	1980	62.91	22.82	3.10	7.54	3.18	1775	3161	2283	100.27	15.72	65.12	19.16
200	1990	62.69	22.92	3.38	7.66	3.14	1968	4033	2558	100.64	16.77	64.70	18.54
201	2000	62.31	22.85	3.26	7.54	3.22	1911	3357	2519	99.96	16.34	64.42	19.23
202	2010	62.93	22.78	3.16	7.43	3.29	2110	3270	2413	100.38	16.00	64.17	19.83
203	2020	62.94	22.82	3.21	7.59	3.29	2235	3531	2168	100.65	15.98	64.48	19.54
204	2030	62.68	22.91	3.29	7.60	3.20	1891	4404	2635	100.56	16.39	64.63	18.98
205	2040	62.75	22.64	3.21	7.51	3.24	2210	3161	2582	100.15	16.15	64.44	19.42
206	2050	62.89	22.87	3.24	7.50	3.23	2076	3030	1983	100.43	16.29	64.34	19.38
207	2060	62.90	22.56	3.16	7.51	3.31	1825	3532	2265	100.21	15.86	64.31	19.82
208	2070	63.21	22.49	2.87	7.64	3.39	2136	3313	2128	100.35	14.39	65.37	20.24
209	2080	63.29	22.52	2.75	7.68	3.38	2471	3531	2282	100.46	13.84	65.90	20.26
210	2090	63.20	22.74	2.93	7.72	3.37	1875	3640	2310	100.74	14.54	65.49	19.97
211	2100	63.12	22.54	2.95	7.68	3.48	1880	3662	2581	100.58	14.62	64.87	20.51
212	2110	63.12	22.40	2.84	7.56	3.44	2120	3444	2209	100.14	14.31	65.04	20.65
213	2120	63.49	22.49	2.77	7.65	3.54	2191	3422	2302	100.73	13.81	65.13	21.06
214	2130	63.43	22.30	2.79	7.70	3.49	2094	3292	1969	100.45	13.91	65.37	20.72
215	2140	63.37	22.33	2.63	7.67	3.62	1954	3379	2323	100.38	13.12	65.34	21.55
216	2150	63.31	23.31	2.81	7.64	3.56	2114	3008	2138	101.37	14.01	64.86	21.13
217	2160	63.52	22.35	2.70	7.74	3.61	2458	2834	2416	100.69	13.36	65.33	21.31
218	2170	63.12	22.27	2.68	7.52	3.59	1601	2987	2628	99.91	13.55	64.82	21.63
219	2180	63.10	22.31	2.76	7.58	3.54	2472	3052	2192	100.07	13.88	64.92	21.20
220	2190	63.05	22.25	2.78	7.60	3.61	1851	3838	2564	100.11	13.86	64.68	21.46
221	2200	63.03	22.28	2.80	7.53	3.60	2161	3205	2220	100.00	14.03	64.43	21.54
222	2210	63.03	22.33	2.66	7.66	3.56	1960	4033	2532	100.10	13.33	65.42	21.25
223	2220	63.08	22.39	2.76	7.51	3.52	1874	2921	2416	99.99	13.98	64.78	21.24
224	2230	63.34	22.61	2.85	7.53	3.43	2175	4098	2876	100.66	14.39	64.97	20.64
225	2240	62.79	23.03	3.25	7.53	3.08	2098	3729	2434	100.50	16.45	65.00	18.55
226	2250	62.44	22.97	3.44	7.56	2.99	1970	2987	2854	100.19	17.30	64.79	17.91
227	2260	62.55	23.20	3.52	7.55	2.91	1956	3968	2397	100.56	17.70	64.83	17.47
228	2270	62.26	22.97	3.56	7.48	2.91	1782	3620	2242	99.94	18.00	64.50	17.50
229	2280	62.39	23.02	3.49	7.52	2.89	1935	3445	2871	100.14	17.68	64.91	17.41
230	2290	62.41	22.99	3.45	7.44	3.02	2485	3902	2942	100.24	17.49	64.30	18.21
231	2300	62.50	23.09	3.46	7.78	3.00	1612	3402	2763	100.61	17.05	65.34	17.61
232	2310	61.99	22.85	3.41	7.55	3.04	1930	3488	2690	99.65	17.11	64.71	18.17



**Table F.1.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
233	2320	62.46	22.64	3.36	7.52	3.03	1816	2900	2818	99.76	16.99	64.78	18.23
234	2330	62.83	22.83	3.11	7.67	3.12	2164	3336	2619	100.39	15.62	65.69	18.68
235	2340	62.53	22.84	3.02	7.63	3.24	2075	2878	2662	100.02	15.20	65.41	19.40
236	2350	62.89	22.57	2.92	7.71	3.25	2020	2899	2485	100.08	14.65	65.93	19.42
237	2360	62.65	22.57	2.92	7.70	3.26	2507	3901	2557	100.00	14.62	65.89	19.49
238	2370	62.99	22.68	2.94	7.61	3.35	1915	3619	2501	100.36	14.74	65.22	20.03
239	2380	62.48	22.96	3.37	7.54	3.06	2088	3118	3099	100.23	16.95	64.71	18.34
240	2390	62.66	23.89	3.30	7.49	3.07	2250	4315	2811	101.35	16.72	64.76	18.52
241	2400	62.38	22.70	3.16	7.63	3.14	2064	3728	2782	99.88	15.89	65.33	18.79
242	2410	62.93	23.71	3.21	7.54	3.10	3150	4161	3165	101.54	16.24	65.09	18.67
256	2550	62.36	23.16	3.55	7.52	2.82	3396	4860	3241	100.56	17.99	64.99	17.02
257	2560	62.48	23.19	3.39	7.64	2.80	2808	3662	3519	100.51	17.17	65.94	16.90
258	2570	62.41	23.07	3.42	7.68	2.88	2425	2878	2862	100.27	17.13	65.66	17.20
259	2580	62.33	22.88	3.42	7.65	2.98	2753	3772	3397	100.24	17.07	65.20	17.73
260	2590	62.62	23.02	3.39	7.67	3.00	2317	2856	2986	100.51	16.91	65.27	17.82
261	2600	62.51	23.00	3.49	7.55	2.92	2396	3510	2658	100.33	17.59	64.89	17.52
262	2610	62.45	23.00	3.34	7.53	3.01	2038	3598	2741	100.17	16.91	64.98	18.11
263	2620	62.56	22.76	3.40	7.52	2.96	1775	4296	3236	100.14	17.20	64.94	17.86
264	2630	62.64	22.97	3.13	7.58	3.03	2247	4013	2698	100.24	15.92	65.73	18.36
265	2640	62.68	22.84	3.09	7.57	3.21	2079	4208	2739	100.28	15.57	65.14	19.29
266	2650	62.76	22.71	3.17	7.66	3.20	2008	3664	2727	100.34	15.81	65.17	19.02
267	2660	62.93	22.64	3.04	7.65	3.23	1847	2857	2894	100.26	15.26	65.45	19.29
268	2670	62.87	23.91	3.24	7.63	3.13	1841	4142	3168	101.69	16.21	65.13	18.66
269	2680	62.68	22.66	3.16	7.52	3.18	1894	3401	3026	100.02	15.97	64.84	19.18
270	2690	62.71	22.36	2.94	7.60	3.38	1951	2944	2761	99.75	14.73	65.07	20.19
271	2700	62.52	22.63	3.06	7.62	3.28	2112	3292	2754	99.93	15.33	65.10	19.58
272	2710	62.68	22.75	3.14	7.63	3.22	2000	3598	2722	100.27	15.70	65.10	19.20
273	2720	62.65	22.74	3.24	7.51	3.14	2079	3794	2890	100.15	16.37	64.75	18.89
274	2730	62.72	22.75	3.26	7.60	3.11	1918	3686	3017	100.31	16.37	65.04	18.59
275	2740	62.49	22.99	3.17	7.60	3.12	2414	3009	2653	100.17	15.97	65.33	18.70
276	2750	63.26	22.16	2.56	7.75	3.60	1468	3837	2689	100.13	12.77	65.88	21.35
277	2760	63.21	22.23	2.79	7.50	3.57	2188	4055	2868	100.19	14.07	64.50	21.43
278	2770	63.51	22.29	2.71	7.60	3.56	1956	4382	2940	100.59	13.60	65.11	21.29
279	2780	63.27	22.34	2.63	7.60	3.59	2452	4403	2646	100.39	13.24	65.26	21.49
280	2790	62.46	22.73	3.20	7.59	3.17	1935	3991	2613	100.00	16.08	65.00	18.93
281	2800	62.98	22.57	2.95	7.65	3.35	2067	4143	2715	100.39	14.76	65.26	19.98
282	2810	62.73	22.32	2.77	7.58	3.53	1832	3293	2854	99.74	13.93	64.95	21.12
283	2820	63.17	22.27	2.86	7.75	3.53	2235	3881	2941	100.49	14.10	65.17	20.73
284	2830	63.09	22.36	2.84	7.59	3.49	2091	4012	2718	100.25	14.24	64.93	20.83
285	2840	62.93	22.64	2.97	7.67	3.35	2093	4404	3027	100.51	14.82	65.25	19.92
286	2850	62.00	22.98	3.37	7.57	3.01	1816	4972	2705	99.88	16.98	64.98	18.04
287	2860	62.24	23.02	3.47	7.49	2.91	1831	4188	3043	100.03	17.59	64.83	17.58
288	2870	62.43	23.01	3.53	7.67	2.94	2100	3860	3108	100.48	17.53	65.06	17.41
289	2880	62.21	23.16	3.59	7.44	2.90	1995	4405	3186	100.25	18.20	64.28	17.52
290	2890	61.86	23.44	3.94	7.40	2.73	2056	4166	3024	100.30	19.87	63.70	16.43
291	2900	62.04	23.37	3.78	7.47	2.85	1992	5299	3407	100.59	19.00	63.95	17.05
292	2910	62.25	23.40	3.84	7.54	2.76	2220	4100	2991	100.73	19.21	64.32	16.47
293	2920	61.90	23.26	3.73	7.54	2.81	2335	4492	2893	100.21	18.69	64.51	16.80
294	2930	61.56	23.48	3.86	7.50	2.74	2285	4275	3465	100.13	19.38	64.22	16.40
295	2940	61.66	23.50	3.85	7.43	2.64	2130	4383	3202	100.05	19.56	64.46	15.98
296	2950	61.64	23.42	3.74	7.53	2.78	2388	4078	3146	100.07	18.79	64.57	16.64
297	2960	61.54	23.28	3.93	7.49	2.74	2492	4667	3244	100.02	19.68	63.95	16.36

**Table F.1.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
298	2970	62.08	23.30	3.78	7.58	2.80	2345	3185	2700	100.37	18.85	64.50	16.65
299	2980	62.09	23.32	3.70	7.50	2.83	2648	3315	3253	100.37	18.61	64.41	16.98
300	2990	62.23	23.22	3.69	7.60	2.79	2593	4558	3040	100.56	18.45	64.89	16.65
301	3000	62.37	23.27	3.57	7.60	2.85	2486	3881	3159	100.60	17.93	65.04	17.03
302	3010	62.48	22.98	3.48	7.60	2.93	1930	4536	2933	100.40	17.46	65.06	17.49
303	3020	62.61	24.05	3.31	7.66	2.95	2535	3118	2957	101.43	16.63	65.72	17.65
304	3030	62.54	23.14	3.32	7.65	3.04	2170	3969	3093	100.62	16.62	65.25	18.12
305	3040	62.20	23.05	3.36	7.49	2.94	2186	2661	2747	99.80	17.12	65.03	17.85
306	3050	62.60	22.81	3.35	7.64	2.96	2177	3860	2778	100.24	16.80	65.48	17.71
307	3060	62.92	22.92	3.38	7.55	2.99	1873	3250	2684	100.55	17.06	65.00	17.94
308	3070	62.50	22.97	3.31	7.62	3.02	1861	3664	2872	100.26	16.65	65.28	18.07
309	3080	62.57	22.86	3.27	7.66	3.00	2312	3118	2773	100.18	16.42	65.66	17.92
310	3090	62.57	22.86	3.25	7.65	3.09	1501	3032	2860	100.15	16.26	65.31	18.43
311	3100	62.49	22.75	3.26	7.61	3.05	2349	2443	2815	99.91	16.40	65.30	18.30
312	3110	62.24	24.13	3.53	7.59	2.97	1977	4907	2910	101.44	17.66	64.67	17.67
313	3120	62.13	23.14	3.59	7.63	2.93	1875	4057	3296	100.33	17.86	64.78	17.36
314	3130	61.37	23.55	3.99	7.52	2.43	1663	3795	2634	99.66	20.24	65.09	14.66
315	3140	61.26	24.13	4.52	7.53	2.15	2425	3447	2902	100.47	22.70	64.47	12.83
316	3150	61.17	23.91	4.38	7.47	2.15	2187	2901	2609	99.85	22.24	64.77	12.99
317	3160	61.51	23.17	4.19	7.67	2.40	2231	3032	2970	99.76	20.83	64.98	14.19
318	3170	62.11	23.53	3.75	7.64	2.70	2159	4340	2939	100.69	18.74	65.16	16.10
319	3180	62.19	23.19	3.39	7.71	2.92	1775	3948	2679	100.24	16.92	65.70	17.37
320	3190	62.61	22.98	3.30	7.61	3.11	1486	3512	2555	100.35	16.52	64.96	18.52
321	3200	61.86	23.39	3.78	7.53	2.67	1737	2335	2422	99.87	19.07	64.87	16.06
322	3210	62.52	23.04	3.32	7.67	2.99	2143	3752	2841	100.42	16.64	65.50	17.86
323	3220	62.80	22.61	3.06	7.59	3.17	2526	3643	2776	100.13	15.49	65.41	19.10
324	3230	62.97	22.49	2.88	7.78	3.29	1739	4079	2344	100.22	14.33	66.16	19.51
325	3240	62.73	22.41	2.91	7.65	3.42	1867	3730	2606	99.94	14.53	65.12	20.35
326	3250	62.78	22.86	3.25	7.68	3.11	2235	3883	2658	100.56	16.20	65.30	18.50
327	3260	62.80	22.56	2.94	7.66	3.27	1987	3621	2798	100.07	14.75	65.67	19.57
328	3270	62.59	22.77	3.29	7.58	3.13	2251	3730	2822	100.25	16.51	64.83	18.66
329	3280	62.71	22.88	3.14	7.60	3.13	2137	3381	3030	100.33	15.84	65.35	18.81
330	3290	62.28	23.05	3.65	7.68	2.86	2016	3774	3077	100.41	18.11	64.97	16.92
331	3300	62.13	23.32	3.74	7.52	2.80	2069	3818	2602	100.36	18.81	64.41	16.78
332	3310	62.18	23.28	3.60	7.50	2.84	2322	3577	3280	100.31	18.20	64.70	17.10
333	3320	62.07	24.25	3.63	7.50	2.81	2106	3796	2664	101.12	18.38	64.68	16.94
334	3330	62.42	23.24	3.48	7.53	2.87	1720	3927	2837	100.39	17.62	65.09	17.29
335	3340	62.68	22.97	3.44	7.64	2.98	1798	4320	2878	100.62	17.19	65.09	17.71
336	3350	62.79	22.95	3.26	7.85	2.98	2242	4101	2869	100.75	16.16	66.27	17.58
337	3360	63.22	22.77	3.09	7.65	3.22	1901	3097	2699	100.71	15.46	65.35	19.19
338	3370	62.98	22.63	2.98	7.64	3.23	2178	2574	2874	100.22	15.02	65.63	19.34
339	3380	63.04	22.43	2.85	7.55	3.47	2267	4318	2921	100.30	14.34	64.84	20.82
340	3390	62.42	22.00	2.74	7.42	3.56	2368	4340	2717	99.07	13.95	64.46	21.59
341	3400	62.88	22.19	2.72	7.55	3.58	1932	4275	2832	99.83	13.68	64.85	21.47
342	3410	63.30	22.52	2.74	7.64	3.37	1865	4297	3042	100.49	13.86	65.84	20.29
343	3420	62.96	22.73	3.04	7.73	3.28	2448	3926	2766	100.65	15.08	65.50	19.43
344	3430	62.84	22.76	3.19	7.71	3.15	2229	3512	3166	100.53	15.85	65.49	18.65
345	3440	62.76	23.88	3.24	7.70	3.18	2656	4340	2819	101.75	16.08	65.11	18.81
346	3450	62.85	22.94	3.29	7.74	3.07	2449	3447	2845	100.76	16.32	65.51	18.17
347	3460	63.17	23.53	2.82	7.67	3.53	2202	4362	2902	101.66	14.01	65.08	20.91
348	3470	63.17	22.33	2.62	7.60	3.56	2151	4014	2686	100.18	13.22	65.38	21.40
349	3480	63.15	22.44	2.70	7.55	3.50	2139	4101	2551	100.22	13.67	65.19	21.14

**Table F.1.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
350	3490	62.77	22.85	3.16	7.64	3.23	2269	4297	2932	100.61	15.77	65.03	19.20
351	3500	62.74	22.63	2.98	7.62	3.24	2089	4079	3089	100.14	15.04	65.50	19.47
352	3510	62.91	23.81	3.29	7.56	3.15	2112	4058	2713	101.62	16.50	64.67	18.83
353	3520	62.36	22.89	3.22	7.57	3.18	1904	3273	3064	100.04	16.17	64.82	19.01
354	3530	62.74	22.81	3.12	7.69	3.36	2168	3600	2669	100.56	15.39	64.82	19.79
355	3540	62.67	22.58	3.11	7.74	3.22	2196	3992	2805	100.22	15.45	65.53	19.02
356	3550	62.65	23.12	3.34	7.60	3.02	2228	4385	3170	100.71	16.80	65.14	18.06
357	3560	62.30	23.11	3.42	7.48	3.03	1927	4843	3302	100.33	17.27	64.49	18.24
358	3570	62.17	23.22	3.62	7.60	2.87	2279	4102	3156	100.43	18.10	64.81	17.10
359	3580	61.91	23.46	3.77	7.59	2.74	2014	4015	3186	100.39	18.87	64.77	16.35
360	3590	62.27	23.30	3.63	7.51	2.84	2075	3993	3402	100.51	18.32	64.62	17.06
361	3600	62.14	23.23	3.64	7.64	2.78	1798	4604	2971	100.37	18.20	65.23	16.57
362	3610	61.94	23.29	3.75	7.55	2.73	1945	3775	3184	100.15	18.86	64.80	16.34
363	3620	61.80	23.41	3.72	7.64	2.76	1639	3862	3164	100.20	18.55	65.03	16.43
364	3630	61.91	23.34	3.86	7.53	2.83	1851	4757	3240	100.45	19.21	63.99	16.80
365	3640	61.59	23.29	3.78	7.56	2.78	2470	3818	3109	99.93	18.94	64.50	16.56
366	3650	62.18	23.20	3.62	7.59	2.85	1877	4256	3589	100.42	18.14	64.85	17.02
367	3660	62.35	23.09	3.58	7.51	2.85	2324	4822	3292	100.42	18.10	64.74	17.16
368	3670	62.37	23.15	3.46	7.70	2.91	1821	3556	2996	100.44	17.25	65.47	17.27
369	3680	62.39	23.13	3.49	7.59	2.90	1841	3687	3203	100.36	17.52	65.09	17.38
370	3690	62.13	23.23	3.67	7.46	2.77	2153	3796	3440	100.21	18.62	64.62	16.76
371	3700	61.95	23.36	3.83	7.42	2.80	1763	3776	3436	100.26	19.30	63.85	16.85
372	3710	62.06	23.26	3.67	7.52	2.80	2185	4298	3512	100.30	18.52	64.67	16.82
373	3720	62.13	23.48	3.76	7.55	2.80	1867	4712	3092	100.68	18.81	64.51	16.68
374	3730	62.44	23.17	3.47	7.57	2.82	2368	4167	3434	100.46	17.56	65.42	17.02
375	3740	62.08	23.45	3.69	7.58	2.74	1839	4887	3586	100.57	18.57	65.02	16.40
376	3750	61.98	23.27	3.80	7.45	2.78	1935	4692	3288	100.28	19.20	64.10	16.69
377	3760	61.88	23.52	4.02	7.48	2.67	1790	4103	3613	100.53	20.16	63.92	15.92
378	3770	61.92	23.41	3.86	7.45	2.76	2157	4953	3673	100.48	19.44	64.00	16.55
379	3780	62.15	23.38	3.67	7.39	2.77	1954	4888	3519	100.40	18.76	64.37	16.87
380	3790	61.92	22.99	3.53	7.56	2.84	1988	3688	3232	99.73	17.81	65.13	17.06
381	3800	62.05	23.21	3.62	7.63	2.77	1921	4124	3376	100.23	18.18	65.24	16.58
382	3810	62.05	23.04	3.47	7.49	2.86	1901	3754	3598	99.83	17.64	65.00	17.35
383	3820	61.88	23.37	3.88	7.49	2.70	2154	4081	3530	100.29	19.54	64.30	16.17
384	3830	61.60	23.43	3.71	7.45	2.76	2119	3906	3340	99.90	18.81	64.49	16.70
385	3840	61.73	23.30	3.77	7.50	2.76	1705	3776	3612	99.96	18.97	64.48	16.55
386	3850	62.14	23.32	3.68	7.51	2.81	2123	3470	3819	100.41	18.54	64.58	16.88
387	3860	61.89	23.29	3.76	7.57	2.73	1932	4191	3219	100.17	18.85	64.81	16.33
388	3870	61.48	23.62	4.06	7.50	2.56	2068	3863	3726	100.19	20.39	64.26	15.34
389	3880	61.86	23.64	3.95	7.41	2.58	2029	3885	3741	100.41	20.09	64.29	15.62
390	3890	61.77	23.38	3.98	7.48	2.64	2041	4125	3411	100.21	20.03	64.18	15.79
391	3900	62.14	23.36	3.72	7.49	2.79	1921	4277	3392	100.48	18.76	64.45	16.79
392	3910	62.36	23.09	3.30	7.53	3.02	2045	4169	3390	100.26	16.72	65.07	18.21
393	3920	62.28	22.98	3.35	7.50	3.01	1969	4233	3504	100.09	17.00	64.81	18.19
394	3930	61.90	23.26	3.65	7.39	2.77	1747	4954	3207	99.97	18.66	64.47	16.87
395	3940	61.85	23.21	3.73	7.62	2.77	1779	4342	3809	100.17	18.64	64.86	16.49
396	3950	61.45	23.10	3.59	7.44	2.77	1772	4212	3645	99.32	18.35	64.78	16.86
397	3960	61.62	23.13	3.75	7.48	2.72	1974	4365	3300	99.68	19.00	64.59	16.41
398	3970	61.69	23.27	3.75	7.39	2.76	2398	3557	3212	99.76	19.08	64.19	16.73
399	3980	61.32	23.62	3.86	7.47	2.58	1892	3906	3639	99.81	19.62	64.73	15.64
400	3990	61.59	23.69	4.04	7.54	2.55	1849	3274	3545	100.27	20.25	64.53	15.22
401	4000	61.57	23.60	4.06	7.46	2.51	2143	4038	3551	100.18	20.54	64.36	15.11

**Table F.1.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
402	4010	61.33	23.74	4.05	7.44	2.50	1688	4125	3876	100.03	20.54	64.39	15.07
403	4020	61.93	23.49	3.83	7.48	2.67	2047	3295	3416	100.28	19.38	64.54	16.08
404	4030	62.15	23.28	3.60	7.52	2.87	1636	4713	3589	100.41	18.15	64.64	17.21
405	4040	62.46	23.12	3.37	7.45	2.95	2136	4888	3407	100.38	17.21	64.86	17.93
406	4050	62.30	22.91	3.34	7.50	3.08	1903	4147	3022	100.05	16.88	64.60	18.52
407	4060	62.29	22.94	3.33	7.55	3.15	2304	3601	3382	100.19	16.68	64.51	18.81
408	4070	62.25	22.99	3.49	7.45	2.96	2153	4212	3449	100.13	17.71	64.44	17.85
409	4080	62.15	23.30	3.67	7.54	2.83	2036	4604	3546	100.51	18.45	64.64	16.91
410	4090	61.65	23.60	3.94	7.43	2.66	1871	4257	3507	100.25	19.94	64.05	16.01
411	4100	61.03	23.54	4.00	7.41	2.75	1929	3863	3293	99.64	20.06	63.49	16.45
412	4110	61.84	23.45	3.77	7.46	2.76	1720	4344	3927	100.28	19.06	64.32	16.62
413	4120	61.94	23.36	3.76	7.57	2.76	2190	4648	3581	100.43	18.84	64.69	16.48
414	4130	61.49	23.69	4.01	7.60	2.66	1918	4300	3432	100.41	19.92	64.36	15.72
415	4140	61.71	23.36	3.73	7.50	2.67	1795	3864	3154	99.85	18.94	64.92	16.13
416	4150	62.01	23.37	3.72	7.51	2.63	2131	3405	3098	100.10	18.91	65.18	15.91
417	4160	61.87	23.22	3.53	7.59	2.86	2001	4213	3477	100.04	17.76	65.11	17.13
421	4200	61.55	23.56	3.97	7.40	2.65	2240	4344	3447	100.14	20.10	63.90	16.00
422	4210	61.67	23.69	4.04	7.42	2.57	1561	3406	3468	100.23	20.46	64.05	15.49
423	4220	61.84	23.44	3.78	7.50	2.79	1863	3929	3521	100.28	18.98	64.30	16.72
424	4230	62.29	23.06	3.51	7.59	2.97	1616	3188	3078	100.21	17.56	64.78	17.67
425	4240	62.42	22.70	3.32	7.62	3.05	1610	2904	3042	99.87	16.63	65.15	18.22
426	4250	62.72	22.74	3.24	7.61	3.08	1524	3122	2921	100.15	16.30	65.23	18.46
427	4260	62.73	22.84	3.16	7.56	3.26	2295	3144	3085	100.41	15.85	64.66	19.49
428	4270	62.16	22.88	3.35	7.49	3.06	1954	3930	3630	99.89	16.95	64.63	18.42
429	4280	62.37	23.08	3.45	7.55	3.02	2225	3624	3269	100.38	17.33	64.63	18.04
430	4290	62.31	23.03	3.48	7.51	2.85	2168	3231	2553	99.96	17.67	65.08	17.25
431	4300	62.61	24.22	3.47	7.66	2.88	1949	4780	3417	101.86	17.38	65.43	17.19
432	4310	62.56	23.03	3.42	7.62	2.97	2153	3754	3493	100.55	17.15	65.13	17.73
433	4320	62.28	23.11	3.40	7.63	3.06	1890	3929	3074	100.37	16.96	64.85	18.19
434	4330	62.46	22.80	3.31	7.45	3.07	1832	3144	3501	99.93	16.82	64.60	18.58
435	4340	62.42	23.03	3.33	7.51	3.10	1905	2882	3285	100.20	16.80	64.59	18.61
436	4350	62.25	23.23	3.53	7.50	2.88	1672	4628	3053	100.33	17.88	64.77	17.34
437	4360	61.81	23.23	3.81	7.44	2.85	2052	4235	3519	100.13	19.16	63.76	17.08
441	4400	62.01	23.08	3.67	7.36	2.94	2276	4868	3178	100.09	18.59	63.67	17.74
442	4410	62.00	22.83	3.43	7.37	2.91	1982	3777	3695	99.48	17.62	64.59	17.79
443	4420	62.37	23.12	3.55	7.43	2.90	2020	4061	3363	100.32	18.02	64.41	17.57
444	4430	62.14	23.49	3.80	7.47	2.83	2029	4410	3400	100.70	19.08	64.00	16.92
445	4440	62.05	23.43	3.79	7.47	2.74	1556	4148	3230	100.37	19.13	64.38	16.49
446	4450	61.83	23.42	3.81	7.35	2.77	2281	4759	3510	100.23	19.41	63.82	16.78
447	4460	61.91	23.45	3.74	7.48	2.71	2114	3886	2913	100.19	18.93	64.68	16.38
448	4470	61.23	23.00	3.60	7.39	2.76	2179	3275	3152	98.84	18.47	64.63	16.90
449	4480	62.25	23.33	3.63	7.59	2.74	2043	3624	3854	100.50	18.28	65.25	16.47
450	4490	62.12	23.14	3.54	7.62	2.83	2045	3843	3437	100.18	17.77	65.29	16.94
451	4500	61.57	23.51	3.92	7.52	2.64	2016	5087	3684	100.25	19.72	64.46	15.82
452	4510	62.21	23.53	3.74	7.65	2.80	2078	3755	3571	100.86	18.57	64.84	16.59
453	4520	61.69	23.32	3.94	7.32	2.66	2245	4018	3405	99.90	20.11	63.70	16.19
454	4530	61.70	23.44	3.96	7.52	2.66	1856	4171	3391	100.23	19.82	64.28	15.90
455	4540	62.33	23.49	3.85	7.56	2.67	2006	3712	3499	100.82	19.31	64.70	15.98
456	4550	62.20	23.43	3.82	7.61	2.78	1772	3778	3390	100.74	19.00	64.55	16.45
457	4560	62.03	23.45	3.70	7.60	2.70	1833	3406	3703	100.38	18.61	65.23	16.16
458	4570	62.00	23.23	3.66	7.65	2.78	1942	3537	3433	100.21	18.28	65.20	16.52
459	4580	62.04	23.22	3.86	7.59	2.76	1848	4520	3230	100.43	19.22	64.44	16.34

**Table F.1.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
460	4590	62.17	23.48	3.71	7.57	2.77	1763	4345	3555	100.68	18.62	64.80	16.58
461	4600	61.77	23.23	3.74	7.58	2.82	1964	3646	3427	100.05	18.68	64.57	16.75
462	4610	61.80	23.19	3.73	7.47	2.74	1888	4498	3132	99.88	18.88	64.58	16.54
463	4620	62.20	23.18	3.67	7.60	2.76	2217	4148	3267	100.37	18.44	65.07	16.49
464	4630	62.35	23.15	3.55	7.71	2.80	1709	3909	3361	100.46	17.71	65.64	16.65
465	4640	61.58	23.60	4.05	7.39	2.66	1756	3320	3610	100.15	20.44	63.59	15.96
466	4650	61.32	23.65	4.14	7.33	2.55	2048	4498	3531	100.00	21.03	63.52	15.45
467	4660	61.95	23.51	3.94	7.45	2.66	1958	3625	3352	100.40	19.89	64.15	15.97
468	4670	61.84	23.51	3.87	7.49	2.60	2027	4345	3485	100.30	19.61	64.69	15.70
469	4680	61.87	23.58	3.98	7.47	2.66	2171	4957	3607	100.63	20.01	64.03	15.95
470	4690	61.83	23.43	3.76	7.47	2.68	2444	3908	3572	100.15	19.10	64.70	16.20
471	4700	61.69	23.53	3.81	7.53	2.68	1764	3493	3633	100.14	19.19	64.70	16.11
472	4710	62.34	22.82	3.69	7.54	2.82	2325	4302	3018	100.18	18.55	64.61	16.84
473	4720	61.70	23.36	3.86	7.46	2.73	1815	4127	3395	100.04	19.46	64.16	16.37
474	4730	61.66	23.56	3.83	7.42	2.69	2247	4061	3782	100.17	19.44	64.28	16.28
475	4740	61.68	23.16	3.93	7.54	2.77	2065	3952	3569	100.05	19.58	64.00	16.43
476	4750	61.90	23.17	3.77	7.51	2.84	2161	3560	3201	100.08	18.90	64.16	16.95
477	4760	62.04	23.29	3.69	7.56	2.76	2311	3668	3559	100.30	18.59	64.86	16.56
478	4770	62.32	23.18	3.58	7.56	2.93	2159	3275	3457	100.46	17.93	64.58	17.48
479	4780	62.50	23.22	3.55	7.59	2.80	1602	3145	3403	100.47	17.91	65.27	16.82
480	4790	62.29	23.26	3.54	7.58	2.89	1842	4084	3443	100.50	17.79	64.91	17.29
481	4800	62.12	23.11	3.50	7.55	2.87	2243	4149	3043	100.09	17.67	65.07	17.26
482	4810	61.25	23.65	4.08	7.29	2.53	1941	3997	3559	99.76	20.90	63.68	15.42
483	4820	61.68	23.80	4.05	7.49	2.67	1875	4586	3669	100.70	20.24	63.88	15.88
484	4830	61.94	23.26	3.70	7.48	2.77	1968	2949	3230	99.97	18.71	64.57	16.71
485	4840	62.21	23.34	3.74	7.63	2.76	1996	3407	3685	100.59	18.65	64.93	16.42
486	4850	62.47	23.16	3.45	7.56	2.99	2027	4214	3124	100.57	17.35	64.78	17.87
487	4860	62.41	23.03	3.39	7.50	2.98	2061	4455	3797	100.34	17.17	64.82	18.01
488	4870	62.50	23.17	3.23	7.57	2.99	2215	4454	3004	100.43	16.37	65.57	18.05
489	4880	62.62	23.05	3.33	7.64	3.02	2073	3014	3429	100.51	16.69	65.30	18.00
490	4890	62.61	22.81	3.06	7.69	3.22	2041	3014	3143	100.21	15.29	65.55	19.16
491	4900	62.23	23.34	3.54	7.60	2.91	1803	3865	3630	100.56	17.71	64.94	17.36
492	4910	61.74	23.47	3.79	7.55	2.75	1379	3932	3293	100.16	19.02	64.57	16.41
493	4920	62.03	23.40	3.82	7.49	2.67	2037	3036	3050	100.22	19.31	64.60	16.09
494	4930	61.89	23.53	3.83	7.36	2.67	1625	3474	3709	100.15	19.56	64.20	16.23
495	4940	62.15	23.57	3.68	7.57	2.80	1679	3626	3501	100.65	18.47	64.81	16.73
496	4950	61.97	23.40	3.97	7.47	2.65	2072	3844	3456	100.40	19.99	64.14	15.88
497	4960	61.99	24.55	3.81	7.71	2.68	1893	3996	3764	101.70	18.89	65.27	15.83
498	4970	62.03	23.41	3.81	7.61	2.66	1794	3953	3748	100.47	19.08	65.02	15.89
499	4980	61.65	23.50	3.78	7.54	2.66	2144	4084	3476	100.10	19.07	64.92	16.00
500	4990	61.63	24.38	3.96	7.54	2.65	1348	3146	3092	100.91	19.81	64.40	15.79
501	5000	61.93	23.61	3.88	7.40	2.65	2191	5022	3579	100.55	19.73	64.20	16.07
502	5010	61.89	23.53	3.85	7.51	2.74	2236	3953	3129	100.46	19.34	64.29	16.37
503	5020	61.92	23.48	3.79	7.54	2.71	1859	4390	3349	100.40	19.05	64.71	16.24
504	5030	61.84	23.57	3.97	7.44	2.62	2373	4630	3420	100.49	20.05	64.14	15.80
505	5040	61.81	23.42	3.95	7.41	2.68	2110	3517	3363	100.17	19.99	63.87	16.14
506	5050	61.98	24.35	3.87	7.44	2.68	2157	3996	3343	101.26	19.57	64.25	16.18
507	5060	61.62	23.51	3.85	7.52	2.74	2074	4215	3530	100.22	19.32	64.35	16.34
508	5070	62.09	23.30	3.70	7.54	2.80	1964	3626	3335	100.32	18.60	64.67	16.73
509	5080	62.26	23.10	3.49	7.61	2.88	1825	3757	3278	100.23	17.56	65.19	17.25
510	5090	62.75	23.09	3.36	7.58	2.99	1784	3298	2893	100.56	16.93	65.15	17.92
511	5100	61.89	23.26	3.79	7.48	2.78	1962	4412	3357	100.17	19.06	64.26	16.68

**Table F.1.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
512	5110	61.83	23.38	3.78	7.65	2.74	2011	3517	3161	100.25	18.82	64.94	16.23
513	5120	61.77	23.37	3.98	7.39	2.79	2183	2993	3247	100.15	20.00	63.31	16.70
514	5130	61.93	23.51	3.83	7.39	2.74	1987	4369	3474	100.39	19.45	63.98	16.57
515	5140	62.23	23.29	3.64	7.64	2.82	2156	3800	3302	100.55	18.20	65.06	16.75
516	5150	61.56	22.96	3.68	7.47	2.90	1761	3954	2933	99.43	18.54	64.11	17.35
517	5160	62.22	22.75	3.51	7.60	2.82	1944	4041	3156	99.83	17.70	65.35	16.95
518	5170	62.14	23.09	3.61	7.66	2.82	1779	3474	2939	100.15	18.03	65.20	16.76
519	5180	62.33	23.11	3.61	7.56	2.85	2220	3212	3207	100.31	18.14	64.80	17.07
520	5190	62.39	24.10	3.45	7.57	2.91	2193	3146	3028	101.26	17.41	65.10	17.49
521	5200	62.04	22.87	3.23	7.51	2.97	2022	3036	3123	99.44	16.50	65.46	18.05
522	5210	62.46	23.02	3.24	7.60	3.02	2120	3146	2970	100.16	16.35	65.47	18.18
523	5220	62.47	22.99	3.43	7.58	2.99	1581	2841	3342	100.23	17.20	64.90	17.90
524	5230	62.40	23.23	3.40	7.55	3.01	1941	4369	3345	100.55	17.11	64.83	18.06
525	5240	61.93	23.00	3.46	7.45	2.99	2112	3583	3015	99.70	17.55	64.42	18.03
526	5250	62.60	23.12	3.36	7.53	2.95	2349	4194	3087	100.53	17.04	65.14	17.81
527	5260	62.58	23.01	3.30	7.56	3.09	2100	4324	3052	100.49	16.58	64.89	18.53
528	5270	62.59	22.91	3.16	7.60	3.15	1886	4281	3172	100.33	15.88	65.25	18.86
529	5280	62.45	22.83	3.14	7.60	3.12	2180	4193	3079	100.07	15.85	65.40	18.75
530	5290	62.69	22.81	3.21	7.67	3.24	2286	3735	3017	100.50	15.93	64.93	19.14
531	5300	62.18	23.09	3.51	7.56	2.94	2439	3539	3426	100.22	17.66	64.78	17.57
532	5310	61.99	23.46	3.88	7.54	2.74	2073	3321	3336	100.49	19.38	64.29	16.34
533	5320	61.94	23.51	3.78	7.46	2.75	2135	3867	3332	100.37	19.12	64.34	16.54
534	5330	61.60	23.26	3.78	7.43	2.65	2191	3277	3100	99.57	19.28	64.63	16.08
535	5340	62.24	23.42	3.72	7.49	2.84	2212	3823	3149	100.64	18.72	64.26	17.01
536	5350	62.13	23.23	3.69	7.60	2.84	2122	3517	3231	100.38	18.42	64.68	16.90
537	5360	62.20	24.30	3.74	7.46	2.87	2051	3124	3446	101.44	18.82	63.99	17.19
538	5370	62.13	24.29	3.80	7.52	2.81	1927	4041	3151	101.45	19.02	64.24	16.75
539	5380	62.09	23.39	3.80	7.58	2.83	2202	4019	3446	100.65	18.90	64.31	16.78
540	5390	62.25	24.10	3.47	7.49	2.89	2054	3626	3500	101.12	17.62	64.89	17.49
541	5400	62.09	23.23	3.49	7.54	2.91	1808	4020	3149	100.16	17.62	64.88	17.50
542	5410	62.25	23.28	3.61	7.57	2.87	1383	4151	3181	100.45	18.11	64.75	17.14
543	5420	62.02	23.29	3.78	7.60	2.69	2252	3757	3835	100.37	18.94	65.02	16.04
544	5430	61.68	23.54	4.00	7.43	2.64	1942	3736	3278	100.19	20.17	63.95	15.88
545	5440	61.87	23.19	3.54	7.52	2.88	1665	4893	3204	99.98	17.89	64.80	17.31
546	5450	62.23	23.24	3.59	7.50	2.88	2057	4348	2995	100.38	18.12	64.57	17.31
547	5460	62.45	23.59	3.73	7.66	2.73	1828	4172	3716	101.13	18.60	65.18	16.21
548	5470	62.08	23.17	3.73	7.50	2.86	1613	4370	3181	100.26	18.72	64.18	17.10
549	5480	62.07	23.36	3.66	7.62	2.71	1918	3430	3315	100.29	18.40	65.37	16.23
550	5490	62.36	23.35	3.47	7.70	2.80	1971	4020	3425	100.62	17.39	65.90	16.71
551	5500	62.23	23.22	3.53	7.48	2.81	1927	4042	3226	100.19	17.97	64.96	17.07
552	5510	62.02	23.23	3.57	7.46	2.78	1981	3233	3505	99.94	18.19	64.91	16.90
553	5520	62.13	23.06	3.62	7.63	2.84	2080	4348	3308	100.26	18.07	65.04	16.89
554	5530	61.97	23.40	3.80	7.51	2.72	2078	4522	3272	100.40	19.15	64.51	16.33
555	5540	62.18	23.39	3.76	7.50	2.66	2358	4173	3036	100.45	19.08	64.84	16.08
556	5550	61.94	23.45	3.75	7.48	2.72	1836	4349	3300	100.28	18.97	64.64	16.39
557	5560	62.04	23.49	3.93	7.55	2.65	2190	3649	3568	100.60	19.69	64.53	15.79
558	5570	61.99	23.39	3.69	7.50	2.70	2016	4588	3300	100.26	18.75	64.93	16.32
559	5580	61.62	23.55	4.08	7.52	2.56	2195	3868	3390	100.28	20.42	64.30	15.28
560	5590	61.93	23.56	3.88	7.61	2.66	1798	3780	2900	100.49	19.38	64.78	15.84
561	5600	61.68	23.61	4.01	7.49	2.51	2251	3234	3175	100.16	20.27	64.58	15.14
562	5610	61.89	23.31	3.73	7.48	2.79	2239	4152	3216	100.15	18.81	64.43	16.76
563	5620	62.28	22.99	3.43	7.49	2.85	1989	3671	3031	99.92	17.52	65.14	17.35

**Table F.1.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
564	5630	62.77	24.11	3.37	7.70	3.00	1948	3408	3165	101.80	16.80	65.38	17.83
565	5640	62.73	22.87	3.16	7.69	3.05	2005	3037	2953	100.30	15.85	65.88	18.27
566	5650	62.13	22.93	3.36	7.50	3.01	1738	2797	2674	99.66	17.02	64.81	18.16
567	5660	62.26	23.28	3.57	7.61	2.93	2217	3343	2853	100.50	17.81	64.76	17.43
568	5670	62.02	23.11	3.51	7.48	2.89	1806	4130	3411	99.94	17.79	64.74	17.46
569	5680	62.46	23.94	3.46	7.69	2.94	1865	3212	3351	101.34	17.23	65.30	17.47
570	5690	62.72	22.84	3.20	7.60	3.16	2474	3408	3318	100.44	16.05	65.03	18.92
571	5700	63.14	23.82	3.15	7.58	3.15	1860	3693	2849	101.68	15.90	65.17	18.94
572	5710	62.84	22.98	3.18	7.69	3.17	1859	3758	3068	100.73	15.87	65.33	18.80
573	5720	62.42	22.68	3.50	7.66	2.97	2300	4064	3161	100.18	17.42	64.97	17.60
574	5730	59.02	21.57	3.64	7.32	2.78	2052	4021	3008	95.24	18.71	64.23	17.07
575	5740	62.16	23.05	3.47	7.60	2.95	2230	3824	3356	100.16	17.38	65.02	17.60
576	5750	62.31	22.65	3.41	7.54	2.96	2044	4632	3270	99.86	17.21	64.96	17.82
577	5760	62.40	23.09	3.40	7.65	2.97	1549	3671	3668	100.40	17.04	65.28	17.68
578	5770	62.41	23.09	3.29	7.58	2.96	1938	3431	3383	100.22	16.67	65.47	17.86
579	5780	62.37	22.91	3.52	7.67	2.98	1759	4043	2971	100.34	17.46	64.90	17.63
580	5790	62.56	23.09	3.34	7.54	3.00	1895	3016	3064	100.33	16.90	65.06	18.04
581	5800	62.55	23.01	3.35	7.52	2.93	1888	3846	3437	100.27	17.04	65.22	17.74
582	5810	62.52	24.13	3.41	7.63	2.94	1556	3933	2733	101.45	17.09	65.32	17.59
583	5820	62.46	23.02	3.35	7.59	2.92	2035	4173	3432	100.30	16.95	65.48	17.57
584	5830	62.13	23.15	3.43	7.59	2.98	2125	3431	3412	100.17	17.20	64.99	17.81
585	5840	62.64	23.08	3.40	7.61	3.09	1733	3541	3519	100.70	16.96	64.67	18.37
586	5850	62.47	23.95	3.43	7.54	3.06	1655	4042	3565	101.37	17.19	64.51	18.30
587	5860	62.61	23.06	3.33	7.62	2.94	1689	4108	3252	100.46	16.82	65.55	17.64
588	5870	61.97	23.43	3.64	7.52	2.87	2018	3628	3744	100.38	18.33	64.47	17.20
589	5880	61.25	23.04	3.69	7.35	2.83	1985	3847	3205	99.05	18.82	64.00	17.18
590	5890	62.13	23.32	3.74	7.64	2.86	2123	3322	3271	100.56	18.52	64.58	16.90
591	5900	62.27	23.22	3.59	7.52	2.93	2631	4021	3237	100.51	18.03	64.45	17.51
592	5910	61.91	22.88	3.37	7.45	2.93	2187	3497	3120	99.42	17.23	64.91	17.86
593	5920	62.00	23.11	3.57	7.70	2.86	1698	3475	3331	100.10	17.76	65.28	16.96
594	5930	62.14	23.30	3.47	7.55	2.88	1643	3256	3572	100.19	17.56	65.08	17.36
595	5940	62.48	23.18	3.56	7.79	2.91	1878	3802	3275	100.82	17.52	65.45	17.04
596	5950	62.20	23.02	3.43	7.52	2.90	1963	3977	3214	99.98	17.41	65.08	17.51
597	5960	62.24	24.13	3.48	7.63	2.85	1885	3759	2795	101.17	17.48	65.45	17.07
598	5970	62.15	23.27	3.54	7.75	2.84	2179	3846	3025	100.45	17.58	65.64	16.79
599	5980	62.31	23.34	3.66	7.64	2.86	1981	4371	3217	100.77	18.21	64.83	16.96
600	5990	62.05	24.06	3.64	7.68	2.84	2007	3999	3251	101.19	18.07	65.09	16.84
601	6000	62.46	24.11	3.62	7.68	2.84	1985	4064	3420	101.66	17.99	65.18	16.83
602	6010	62.48	23.21	3.53	7.73	2.83	1618	2776	3406	100.55	17.56	65.64	16.79
603	6020	62.26	22.96	3.33	7.64	2.99	1688	3519	2862	99.99	16.73	65.41	17.86
604	6030	62.12	23.16	3.54	7.60	2.90	1579	4240	3275	100.22	17.72	64.94	17.34
605	6040	61.95	23.25	3.56	7.56	2.87	1794	4939	3585	100.23	17.91	64.88	17.21
606	6050	61.93	23.48	3.95	7.42	2.75	2029	4393	3470	100.50	19.85	63.69	16.46
607	6060	61.86	23.47	4.00	7.46	2.63	2015	3825	3657	100.37	20.14	64.06	15.80
608	6070	62.08	23.77	3.81	7.52	2.63	2304	4523	3589	100.85	19.26	64.87	15.87
609	6080	62.31	23.43	3.77	7.67	2.76	1613	4263	3608	100.90	18.73	64.93	16.34
610	6090	62.40	23.23	3.50	7.66	2.76	1936	4175	3415	100.51	17.61	65.82	16.57
611	6100	62.17	23.26	3.49	7.60	2.79	1700	4043	3458	100.23	17.63	65.55	16.82
612	6110	61.37	23.75	4.14	7.51	2.54	1950	4481	3344	100.28	20.74	64.12	15.15
613	6120	61.49	23.58	3.98	7.51	2.60	1949	4503	3546	100.16	20.00	64.40	15.60
614	6130	61.97	23.51	3.84	7.50	2.75	2136	4131	3229	100.52	19.28	64.28	16.44
615	6140	61.80	23.44	3.67	7.60	2.76	1915	3978	3357	100.18	18.42	65.08	16.50

**Table F.1.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
616	6150	62.41	23.06	3.49	7.74	2.90	2087	3060	3143	100.44	17.33	65.53	17.14
617	6160	62.54	23.95	3.38	7.61	2.88	1795	3366	3298	101.21	17.08	65.57	17.36
618	6170	61.77	23.47	3.77	7.41	2.72	1777	4568	3795	100.15	19.21	64.29	16.50
619	6180	61.65	23.65	3.98	7.48	2.64	2050	4984	3469	100.45	20.04	64.16	15.80
620	6190	61.47	23.61	4.02	7.44	2.62	1845	4263	3337	100.11	20.29	63.96	15.75
621	6200	62.04	24.46	3.97	7.57	2.65	1991	4634	3662	101.72	19.82	64.41	15.77
622	6210	61.88	23.17	3.74	7.75	2.76	1827	3803	3728	100.24	18.48	65.27	16.25
623	6220	61.93	23.67	4.10	7.63	2.58	1848	3586	3693	100.82	20.31	64.49	15.20
624	6230	61.93	23.52	3.96	7.56	2.60	1917	3323	3213	100.41	19.86	64.63	15.51
625	6240	61.99	23.30	3.73	7.61	2.65	1815	3629	3344	100.17	18.79	65.31	15.91
626	6250	61.86	23.53	3.80	7.65	2.66	2324	4109	3962	100.55	18.97	65.19	15.85
627	6260	61.95	23.49	3.87	7.51	2.66	2085	3651	3559	100.41	19.48	64.55	15.97
628	6270	62.15	23.20	3.68	7.55	2.81	1723	4263	3293	100.31	18.51	64.70	16.79
629	6280	62.23	23.42	3.55	7.57	2.71	2159	3519	3311	100.38	18.04	65.59	16.37
630	6290	62.56	23.46	3.63	7.64	2.76	1793	2689	2970	100.78	18.18	65.33	16.48
631	6300	61.74	23.20	3.71	7.46	2.72	1732	2995	3271	99.63	18.88	64.65	16.48
632	6310	62.01	23.46	3.69	7.57	2.74	1662	3913	2961	100.33	18.58	64.99	16.43
633	6320	61.76	23.45	3.94	7.57	2.75	2195	4219	3313	100.45	19.57	64.16	16.27
634	6330	62.06	23.53	3.77	7.51	2.71	1970	3651	3833	100.53	19.03	64.66	16.31
635	6340	61.79	23.32	3.66	7.66	2.78	1497	4197	3411	100.12	18.24	65.22	16.55
636	6350	62.31	23.18	3.59	7.62	2.79	1746	4001	3545	100.41	18.03	65.26	16.71
637	6360	62.37	23.20	3.46	7.66	2.90	2097	2186	2710	100.29	17.33	65.38	17.29
638	6370	62.23	23.22	3.50	7.70	2.86	1615	3935	3606	100.42	17.46	65.53	17.01
639	6380	61.73	23.36	3.94	7.67	2.65	2202	3629	2791	100.21	19.54	64.83	15.63
640	6390	62.02	23.52	3.89	7.60	2.75	2158	4110	3121	100.72	19.32	64.41	16.27
641	6400	62.02	23.97	4.13	7.59	2.55	2089	3192	3168	101.10	20.52	64.40	15.08
642	6410	61.65	23.78	4.15	7.54	2.46	2125	3564	3349	100.48	20.80	64.50	14.70
643	6420	62.46	23.26	3.57	7.62	2.87	1512	4788	3145	100.72	17.89	65.01	17.10
644	6430	62.86	22.92	3.31	7.64	3.15	1675	4744	2966	100.81	16.46	64.85	18.68
645	6440	62.65	22.65	3.13	7.61	3.17	2011	3520	3166	100.09	15.73	65.26	19.01
646	6450	62.99	22.64	2.94	7.71	3.31	1820	4263	2695	100.47	14.69	65.63	19.68
647	6460	62.92	22.78	3.12	7.61	3.28	2250	4699	3150	100.71	15.60	64.85	19.55
648	6470	62.54	22.96	3.30	7.58	3.01	1779	3826	3164	100.27	16.66	65.27	18.07
649	6480	62.57	23.19	3.26	7.63	3.02	1889	3302	3122	100.50	16.41	65.49	18.11
650	6490	62.49	22.99	3.35	7.66	3.10	2087	3869	3553	100.53	16.65	64.97	18.38
651	6500	62.47	22.90	3.41	7.58	3.15	1766	3281	3273	100.34	16.98	64.35	18.67
652	6510	62.57	22.84	3.12	7.70	3.19	2053	4525	3252	100.40	15.56	65.50	18.94
653	6520	62.68	22.76	3.09	7.69	3.15	2207	4263	2917	100.31	15.50	65.69	18.81
654	6530	62.34	23.19	3.39	7.56	3.02	2454	4460	3151	100.51	17.04	64.85	18.11
655	6540	62.58	23.40	3.57	7.76	2.89	2249	4635	3093	101.21	17.63	65.36	17.01
656	6550	62.07	23.24	3.56	7.53	2.92	2228	3695	3030	100.21	17.89	64.64	17.47
657	6560	60.22	21.80	3.03	7.93	3.62	22157	3308	2586	99.42	14.53	64.81	20.66
658	6570	58.58	20.98	3.16	7.97	3.97	36720	2083	1747	98.71	14.72	63.27	22.01
659	6580	62.49	22.84	3.17	7.63	3.12	2181	4088	3290	100.20	15.91	65.41	18.68
660	6590	62.09	23.18	3.65	7.62	2.85	2270	3739	3124	100.30	18.20	64.86	16.93
661	6600	62.16	23.28	3.60	7.59	2.82	2261	3455	3009	100.32	18.10	65.01	16.90
662	6610	62.06	23.10	3.64	7.57	2.83	2009	3717	3496	100.13	18.28	64.80	16.92
663	6620	62.22	23.17	3.53	7.74	2.88	1951	4635	3059	100.51	17.51	65.45	17.04
664	6630	62.41	23.45	3.59	7.82	2.90	2235	3848	3587	101.14	17.63	65.40	16.97
665	6640	62.13	23.01	3.50	7.70	2.93	1894	4898	3146	100.28	17.41	65.27	17.32
666	6650	61.75	23.32	3.52	7.57	2.84	2011	4482	3088	99.95	17.75	65.18	17.07
667	6660	62.28	22.99	3.31	7.80	3.02	2206	4766	3014	100.39	16.36	65.87	17.78



**Table F.1.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	FeO	BaO	SrO	Total	Endmembers		
		(wt%)	(wt%)	(wt%)	(wt%)	(wt%)	(ppm)	(ppm)	(ppm)		An	Ab	Or
668	6670	62.25	22.87	3.35	7.56	3.05	2292	3848	3164	100.01	16.86	64.85	18.29
669	6680	62.19	22.85	3.43	7.67	2.90	2405	4110	3166	99.99	17.16	65.56	17.28
670	6690	62.10	23.12	3.52	7.66	2.88	5096	4654	2939	100.56	17.58	65.27	17.15
671	6700	62.43	23.15	3.52	7.69	2.95	2199	4547	3282	100.74	17.46	65.10	17.45
672	6710	62.79	22.96	3.39	7.62	3.12	2158	4832	3246	100.90	16.88	64.66	18.46
673	6720	62.52	22.80	3.25	7.72	3.12	2197	3695	3070	100.31	16.16	65.36	18.48
674	6730	61.94	22.89	3.37	7.74	3.01	1933	4373	3069	99.89	16.71	65.48	17.82
675	6740	62.63	22.97	3.37	7.66	2.98	1817	4264	3330	100.54	16.87	65.38	17.75
676	6750	61.99	23.48	3.77	7.53	2.77	2075	3849	3725	100.50	18.94	64.51	16.55
677	6760	62.20	23.25	3.49	7.38	2.93	2384	4876	3497	100.32	17.84	64.32	17.84
678	6770	62.85	22.69	3.04	7.62	3.30	2005	4897	3228	100.51	15.21	65.09	19.70
679	6780	62.95	22.48	2.85	7.66	3.34	2057	4636	2876	100.23	14.33	65.69	19.98
680	6790	62.65	22.75	2.90	7.73	3.34	2097	3302	3031	100.22	14.48	65.69	19.84
681	6800	62.36	22.90	3.26	7.74	3.16	2391	4766	3150	100.44	16.12	65.28	18.59
682	6810	62.86	22.70	2.96	7.68	3.32	1924	3630	2855	100.36	14.79	65.44	19.77
683	6820	62.90	22.60	2.93	7.79	3.37	2379	5181	3130	100.65	14.49	65.67	19.84
684	6830	62.84	22.36	2.88	7.69	3.41	2183	4833	2826	100.17	14.36	65.38	20.26
685	6840	62.74	21.98	2.86	7.63	3.45	2551	4788	3053	99.70	14.30	65.15	20.55
686	6850	62.93	22.58	2.86	7.76	3.50	2606	3695	2767	100.53	14.12	65.30	20.58
687	6860	61.66	22.34	3.13	7.65	3.27	13896	3948	2815	100.12	15.57	65.01	19.42
688	6870	62.69	22.81	3.27	7.73	3.17	2884	4219	3268	100.71	16.16	65.15	18.68
689	6880	61.59	22.60	3.61	7.51	2.93	5742	3475	2601	99.42	18.13	64.35	17.52
694	6930	62.37	22.56	3.22	7.60	3.20	3122	4634	3146	100.05	16.11	64.84	19.06
695	6940	62.54	22.75	3.18	7.61	3.13	3036	3914	2951	100.20	16.00	65.24	18.76
696	6950	62.34	23.01	3.21	7.58	3.01	2784	4963	3200	100.25	16.28	65.56	18.16
699	6980	62.60	22.80	3.31	7.71	3.00	2586	4679	3659	100.52	16.54	65.61	17.85
700	6990	61.33	22.23	3.18	7.46	3.15	2418	4592	3333	98.38	16.19	64.73	19.07
701	7000	62.63	22.69	3.08	7.63	3.20	1992	4439	3607	100.24	15.49	65.39	19.12
702	7010	62.54	22.86	2.94	7.80	3.21	2303	4482	3178	100.35	14.64	66.29	19.07
703	7020	62.44	22.84	3.03	7.65	3.15	2350	4854	3594	100.19	15.29	65.77	18.94
704	7030	63.00	22.89	3.11	7.79	3.29	2042	4788	3559	101.12	15.31	65.39	19.30
705	7040	62.79	23.88	2.97	7.69	3.27	1946	5423	3042	101.65	14.84	65.65	19.51
706	7050	62.76	22.79	3.14	7.64	3.26	2054	5402	3663	100.71	15.67	64.98	19.35
707	7060	62.59	22.72	3.23	7.70	3.29	2019	5007	3470	100.58	15.92	64.77	19.31
708	7070	62.60	22.54	2.99	7.58	3.43	2298	4112	3287	100.10	14.94	64.65	20.41
709	7080	63.35	22.59	2.86	7.74	3.56	2050	5642	3407	101.20	14.11	65.02	20.87
710	7090	63.90	22.68	2.80	7.97	3.51	1695	4309	3320	101.79	13.59	66.08	20.33

## Appendix F.2: LA-ICP-MS Transects of Anorthoclase

**Table F.2.1: Section eb05027a1 Rim to Rim Transect by LA-ICP-MS**

Step size: 11.94  $\mu\text{m}$

$n$  = La-ICP-MS analysis number

$n$	Distance ( $\mu\text{m}$ )	$\text{Mg}^{26}/\text{In}^{115}$ (int.)	$\text{Ca}^{43}/\text{In}^{115}$ (int.)	$\text{Ti}^{47}/\text{In}^{115}$ (int.)	$\text{Ti}^{49}/\text{In}^{115}$ (int.)	$\text{Rb}^{85}/\text{In}^{115}$ (int.)	$\text{Sr}^{88}/\text{In}^{115}$ (int.)	$\text{Ba}^{138}/\text{In}^{115}$ (int.)	$X_{\text{An}}$	SrO (ppm)	BaO (ppm)
29	334	0.0063	0.0709	0.0845	0.0600	0.0460	3.6483	3.8973	0.082	2333	2723
30	346	0.0051	0.0706	0.0745	0.0555	0.0312	4.2328	4.3552	0.081	2536	2886
31	358	0.0044	0.0690	0.0632	0.0563	0.0336	3.1176	5.7259	0.080	2149	3373
32	370	0.0074	0.0596	0.0833	0.0503	0.0372	4.1005	4.6305	0.071	2491	2983
33	382	0.0053	0.0590	0.0741	0.0622	0.0398	4.1703	6.6515	0.071	2515	3702
34	394	0.0049	0.0662	0.0852	0.0641	0.0395	3.9530	4.5316	0.077	2439	2948
35	406	0.0046	0.0690	0.0829	0.0707	0.0482	4.1882	6.2047	0.080	2521	3543
36	418	0.0063	0.0673	0.0797	0.0733	0.0400	4.0837	5.5461	0.078	2485	3309
37	430	0.0065	0.0746	0.0909	0.0759	0.0675	5.5643	5.8232	0.085	2999	3407
38	442	0.0069	0.0745	0.0986	0.0644	0.0469	4.2206	6.9472	0.085	2532	3807
39	454	0.0057	0.0685	0.0972	0.0563	0.0442	4.8420	7.0063	0.079	2748	3828
40	466	0.0058	0.0762	0.0781	0.0697	0.0425	4.4800	4.5685	0.087	2622	2961
41	478	0.0056	0.0765	0.0847	0.0666	0.0420	3.9457	6.2743	0.087	2437	3568
42	490	0.0059	0.0715	0.0748	0.0600	0.0411	3.9329	4.9279	0.082	2432	3089
43	501	0.0698	0.0763	0.1961	0.1819	0.1024	4.0712	6.4085	0.087	2480	3615
54	633	0.1239	0.0661	0.2083	0.1545	0.0792	4.1845	5.4371	0.077	2520	3270
55	645	0.0790	0.0765	0.1627	0.1203	0.0844	4.4422	7.2768	0.087	2609	3924
56	657	0.0516	0.0658	0.1403	0.0969	0.0700	4.3086	7.2019	0.077	2563	3897
57	669	0.0354	0.0801	0.1022	0.0877	0.0627	4.6323	7.2421	0.090	2675	3912
58	681	0.0217	0.0754	0.1100	0.0942	0.0557	4.8978	5.9928	0.086	2768	3468
59	693	0.0153	0.0867	0.1054	0.0749	0.0682	5.1219	6.4055	0.096	2846	3614
60	704	0.0125	0.0899	0.1048	0.0821	0.0525	5.2089	5.8974	0.099	2876	3434
61	716	0.0119	0.0853	0.1093	0.0825	0.0447	5.6334	7.6518	0.095	3023	4057
62	728	0.0103	0.0860	0.0984	0.0833	0.0502	5.4353	8.3576	0.096	2954	4308
63	740	0.0111	0.0893	0.3171	0.0960	0.0455	5.4390	6.5131	0.099	2956	3652
64	752	0.0363	0.1010	0.1514	0.1059	0.0562	5.5179	7.4983	0.109	2983	4003
65	764	0.0647	0.0885	0.1826	0.1208	0.0629	4.6983	5.5331	0.098	2698	3304
66	776	0.0587	0.0769	0.1307	0.1027	0.0730	4.9486	4.5704	0.087	2785	2962
67	788	0.0463	0.0672	0.1089	0.0797	0.0550	3.8860	4.4590	0.078	2416	2923
68	800	0.0316	0.0693	0.1134	0.0715	0.0580	4.5379	6.1963	0.080	2643	3540
69	812	0.0219	0.0700	0.0815	0.0720	0.0487	4.6527	4.6641	0.081	2682	2995
70	824	0.0156	0.0734	0.0984	0.0788	0.0335	3.6632	5.3144	0.084	2339	3227
71	836	0.0127	0.0800	0.0805	0.0792	0.0509	4.6254	7.1377	0.090	2673	3874
72	848	0.0094	0.0828	0.1061	0.0624	0.0505	4.7004	5.8243	0.093	2699	3408
73	860	0.0086	0.0825	0.1096	0.0728	0.0463	4.7331	6.2016	0.092	2710	3542
74	872	0.0097	0.0853	0.0958	0.0774	0.0483	4.9369	6.2886	0.095	2781	3573
75	884	0.0076	0.0882	0.1058	0.0695	0.0470	6.1691	6.6499	0.098	3209	3701
76	896	0.0070	0.0782	0.1315	0.0675	0.0500	5.0716	8.8721	0.088	2828	4491
77	907	0.0059	0.0958	0.0872	0.0806	0.0511	5.9620	7.7792	0.105	3138	4102
78	919	0.0067	0.0892	0.1118	0.0730	0.0390	6.0144	6.5058	0.099	3156	3650
79	931	0.0055	0.0824	0.0889	0.0776	0.0392	5.1468	6.6197	0.092	2854	3690
80	943	0.0049	0.0788	0.0978	0.0721	0.0369	6.2087	5.9461	0.089	3223	3451

**Table F.2.1 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
81	955	0.0045	0.0861	0.0810	0.0803	0.0378	5.3325	7.4145	0.096	2919	3973
82	967	0.0062	0.0821	0.0920	0.0781	0.0493	5.5441	5.7526	0.092	2992	3382
83	979	0.0060	0.0797	0.1131	0.0745	0.0572	4.7913	7.8594	0.090	2731	4131
84	991	0.0072	0.0838	0.1207	0.0966	0.0536	4.6019	8.9349	0.094	2665	4513
85	1003	0.0085	0.0992	0.1273	0.0712	0.0523	6.5478	6.5519	0.108	3341	3666
86	1015	0.0065	0.0919	0.1035	0.0766	0.0371	5.0527	6.8344	0.101	2821	3767
87	1027	0.0063	0.0876	0.1244	0.0752	0.0467	6.0610	6.7442	0.097	3172	3735
88	1039	0.0068	0.0860	0.1221	0.0884	0.0451	5.9471	7.4367	0.096	3132	3981
89	1051	0.0076	0.0888	0.1201	0.1081	0.0755	5.4908	8.1980	0.098	2974	4251
90	1063	0.0059	0.0981	0.1260	0.0747	0.0522	5.6211	7.8527	0.107	3019	4129
91	1075	0.0060	0.0840	0.1057	0.0841	0.0391	6.1222	7.6586	0.094	3193	4060
92	1087	0.0067	0.0902	0.0975	0.0759	0.0401	6.5885	6.6140	0.099	3355	3688
93	1098	0.0067	0.0853	0.1048	0.0836	0.0396	5.6086	8.0474	0.095	3015	4198
94	1110	0.0079	0.0948	0.0968	0.0797	0.0543	6.2399	7.4664	0.104	3234	3991
95	1122	0.0083	0.0878	0.1022	0.0939	0.0540	6.0695	7.1496	0.097	3175	3879
96	1134	0.0104	0.1011	0.1053	0.0942	0.0522	6.2300	10.3080	0.109	3231	5001
97	1146	0.0093	0.1058	0.1318	0.0812	0.0449	7.1285	9.1540	0.114	3543	4591
98	1158	0.0102	0.1061	0.1272	0.0935	0.0683	7.2625	8.6625	0.114	3590	4416
99	1170	0.0124	0.1099	0.0919	0.0871	0.0500	6.3396	7.5372	0.118	3269	4016
100	1182	0.0207	0.0936	0.1255	0.0940	0.0589	6.4777	7.2033	0.103	3317	3898
102	1206	0.0235	0.1010	0.1276	0.1036	0.0614	7.8867	8.7550	0.109	3806	4449
103	1218	0.0210	0.0926	0.1378	0.1117	0.0626	6.6179	8.1914	0.102	3366	4249
104	1230	0.0162	0.1067	0.1107	0.0942	0.0583	5.9723	8.9106	0.115	3141	4505
105	1242	0.0144	0.1077	0.1348	0.1036	0.0682	6.7018	7.8496	0.116	3395	4127
106	1254	0.0137	0.1161	0.1460	0.1029	0.0455	6.8613	8.9041	0.123	3450	4502
107	1266	0.0108	0.1098	0.1384	0.0948	0.0484	6.1568	7.2387	0.117	3205	3910
108	1278	0.0090	0.0948	0.1120	0.0840	0.0445	5.9732	7.8904	0.104	3141	4142
109	1290	0.0088	0.0836	0.1265	0.0837	0.0458	6.3800	7.0101	0.093	3283	3829
110	1301	0.0083	0.0955	0.1027	0.0734	0.0532	5.9192	7.1030	0.104	3123	3862
111	1313	0.0070	0.0997	0.1037	0.0739	0.0423	6.1705	8.5766	0.108	3210	4386
112	1325	0.0073	0.1094	0.1493	0.0978	0.0515	6.9989	8.2953	0.117	3498	4286
113	1337	0.0072	0.0950	0.1263	0.0867	0.0511	6.2754	7.5469	0.104	3246	4020
114	1349	0.0088	0.1066	0.1161	0.0842	0.0503	6.7956	7.3109	0.115	3427	3936
115	1361	0.0074	0.0938	0.1174	0.0897	0.0488	5.3328	7.6863	0.103	2919	4069
116	1373	0.0076	0.0847	0.0980	0.0881	0.0519	5.5319	7.8034	0.094	2988	4111
117	1385	0.0081	0.0949	0.1115	0.1046	0.0558	6.2827	8.1307	0.104	3249	4227
118	1397	0.0090	0.0932	0.1189	0.0943	0.0458	5.7911	8.5334	0.102	3078	4370
119	1409	0.0108	0.0985	0.1091	0.0797	0.0586	6.4348	7.4577	0.107	3302	3988
120	1421	0.0119	0.0981	0.1383	0.0839	0.0400	5.5492	7.4103	0.107	2994	3971
121	1433	0.0108	0.0974	0.1121	0.0856	0.0526	6.2671	7.4534	0.106	3244	3987
122	1445	0.0106	0.0926	0.1140	0.0780	0.0719	6.2213	7.0796	0.102	3228	3854
124	1469	0.0105	0.1095	0.1327	0.1036	0.0630	5.8652	9.9797	0.117	3104	4884
125	1481	0.0118	0.0925	0.1463	0.1163	0.0857	6.4136	7.2269	0.102	3294	3906
126	1493	0.0110	0.0808	0.1422	0.0866	0.0672	6.0820	9.3539	0.091	3179	4662
127	1504	0.0094	0.0957	0.1617	0.1004	0.0857	6.1990	11.2514	0.104	3220	5336

**Table F.2.1 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
128	1516	0.0079	0.1036	0.1453	0.0975	0.0625	8.2003	8.7663	0.112	3916	4453
129	1528	0.0092	0.0913	0.1488	0.0898	0.0520	6.3565	8.8788	0.100	3275	4493
130	1540	0.0180	0.0994	0.1647	0.1358	0.0854	5.4062	9.2120	0.108	2944	4612
140	1660	0.0597	0.0930	0.1805	0.1281	0.0820	6.0913	9.1790	0.102	3182	4600
141	1672	0.0391	0.0932	0.1563	0.1410	0.0650	6.6513	9.6568	0.102	3377	4770
142	1684	0.0265	0.0896	0.1591	0.1067	0.0556	6.9924	8.5858	0.099	3496	4389
144	1707	0.0154	0.1175	0.1332	0.0966	0.0650	6.2921	7.8810	0.125	3252	4139
145	1719	0.0108	0.1131	0.1213	0.0924	0.0469	6.1315	8.7549	0.121	3196	4449
146	1731	0.0107	0.1153	0.1214	0.0994	0.0434	6.7321	7.0861	0.123	3405	3856
147	1743	0.0085	0.1050	0.1527	0.0973	0.0590	6.3408	10.0419	0.113	3269	4907
148	1755	0.0100	0.1066	0.1252	0.0881	0.0458	6.4903	7.2151	0.114	3321	3902
149	1767	0.0093	0.1111	0.1432	0.0896	0.0578	6.1841	7.6936	0.119	3215	4072
150	1779	0.0089	0.1179	0.1127	0.0941	0.0552	7.4833	8.2239	0.125	3666	4260
151	1791	0.0087	0.1139	0.1204	0.1057	0.0513	6.9505	8.6915	0.121	3481	4427
152	1803	0.0095	0.1155	0.1135	0.0860	0.0494	6.8860	7.8231	0.123	3459	4118
153	1815	0.0091	0.1190	0.1335	0.0988	0.0556	6.7670	8.9427	0.126	3417	4516
154	1827	0.0111	0.1141	0.1049	0.0960	0.0609	6.3396	7.6629	0.121	3269	4061
155	1839	0.0162	0.1198	0.1301	0.1019	0.0457	6.5216	7.2380	0.127	3332	3910
156	1851	0.0155	0.1173	0.1535	0.0979	0.0491	6.7076	8.1197	0.124	3397	4223
157	1863	0.0145	0.0996	0.1227	0.0962	0.0530	5.7027	8.3487	0.108	3047	4305
158	1875	0.0115	0.1055	0.1146	0.0774	0.0433	6.4777	7.5056	0.113	3317	4005
159	1887	0.0111	0.1021	0.1211	0.0791	0.0450	7.4846	6.8354	0.110	3667	3767
160	1898	0.0098	0.0969	0.1079	0.0856	0.0433	6.6556	6.9817	0.106	3379	3819
161	1910	0.0082	0.0979	0.1221	0.0811	0.0720	6.2194	9.7837	0.107	3227	4815
162	1922	0.0182	0.1062	0.1321	0.0959	0.0609	6.1134	8.1724	0.114	3190	4242
163	1934	0.0427	0.1029	0.1747	0.1153	0.0635	6.4779	8.8556	0.111	3317	4485
164	1946	0.0475	0.1054	0.1647	0.1389	0.0785	6.8935	8.9411	0.113	3461	4515
165	1958	0.0423	0.1143	0.1819	0.1292	0.0757	6.4207	9.0822	0.122	3297	4566
166	1970	0.0366	0.1234	0.1500	0.1394	0.0663	7.1980	9.5837	0.130	3567	4744
167	1982	0.0276	0.1246	0.1478	0.1288	0.0506	7.2511	9.6327	0.131	3586	4761
168	1994	0.0173	0.1228	0.1520	0.0993	0.0586	7.7374	7.7914	0.129	3755	4107
169	2006	0.0152	0.1252	0.1317	0.1048	0.0673	7.3450	7.8181	0.132	3618	4116
170	2018	0.0129	0.1345	0.1394	0.1072	0.2411	7.5191	7.1234	0.140	3679	3869
171	2030	0.0109	0.1270	0.1381	0.1183	0.0586	7.0841	7.7732	0.133	3528	4100
172	2042	0.0115	0.1343	0.1540	0.1249	0.0460	8.4760	8.3619	0.140	4011	4310
173	2054	0.0098	0.1276	0.1583	0.1173	0.0622	7.5655	9.1287	0.134	3695	4582
174	2066	0.0103	0.1280	0.1127	0.0930	0.0658	8.5268	8.9849	0.134	4029	4531
175	2078	0.0114	0.1257	0.1473	0.1122	0.0718	6.7250	9.3169	0.132	3403	4649
176	2090	0.0126	0.1244	0.1575	0.3132	0.0486	8.3015	7.7023	0.131	3951	4075
178	2113	0.0134	0.1185	0.1294	0.0986	0.0565	7.2855	9.6094	0.125	3598	4753
179	2125	0.0107	0.1224	0.1377	0.1042	0.0547	7.2856	8.3782	0.129	3598	4315
180	2137	0.0103	0.1280	0.1301	0.0839	0.0550	7.2481	9.2068	0.134	3585	4610
181	2149	0.0103	0.1228	0.1200	0.0814	0.0648	7.3243	9.3877	0.129	3611	4674
182	2161	0.0098	0.1231	0.1286	0.0943	0.0567	7.2420	9.6665	0.130	3582	4773
183	2173	0.0098	0.1198	0.1264	0.0872	0.0533	7.6413	8.5394	0.127	3721	4373

**Table F.2.1 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
184	2185	0.0107	0.1255	0.1165	0.0895	0.0568	7.4022	9.1798	0.132	3638	4600
185	2197	0.0111	0.1209	0.1380	0.0974	0.0639	7.0349	9.3494	0.128	3510	4660
186	2209	0.0101	0.1327	0.1389	0.1017	0.0611	7.1943	9.8021	0.138	3566	4821
187	2221	0.0109	0.1113	0.1279	0.0847	0.0513	7.8729	7.8840	0.119	3802	4140
188	2233	0.0095	0.1120	0.1286	0.0885	0.0482	6.4978	8.6850	0.119	3324	4424
189	2245	0.0090	0.1061	0.1168	0.0892	0.0490	6.8336	8.8405	0.114	3440	4480
190	2257	0.0095	0.1185	0.1183	0.0906	0.0515	6.8808	9.6001	0.125	3457	4750
191	2269	0.0099	0.1247	0.1368	0.0894	0.0639	6.8351	9.4568	0.131	3441	4699
192	2281	0.0101	0.1283	0.1455	0.1028	0.0675	7.3788	10.0787	0.134	3630	4920
193	2292	0.0101	0.1191	0.1182	0.0931	0.0506	7.0588	9.0921	0.126	3519	4569
194	2304	0.0090	0.1227	0.1491	0.1112	0.0569	6.8355	8.0810	0.129	3441	4210
195	2316	0.0086	0.1205	0.1250	0.1160	0.0544	7.0419	8.6338	0.127	3513	4406
196	2328	0.0107	0.1267	0.1473	0.0898	0.0572	6.9398	9.4189	0.133	3477	4685
197	2340	0.0115	0.1302	0.1458	0.0913	0.0624	7.8073	9.6198	0.136	3779	4757
198	2352	0.0108	0.1319	0.1407	0.0887	0.0672	7.8402	8.1915	0.138	3790	4249
199	2364	0.0125	0.1385	0.1472	0.1063	0.0641	7.5562	10.3051	0.144	3692	5000
200	2376	0.0130	0.1418	0.1560	0.1007	0.0639	7.7788	10.3352	0.147	3769	5011
201	2388	0.0112	0.1373	0.1520	0.1149	0.0595	8.1457	11.5126	0.143	3897	5429
202	2400	0.0121	0.1434	0.1451	0.1046	0.0617	8.6682	9.9938	0.148	4078	4889
203	2412	0.0112	0.1333	0.1697	0.1059	0.3090	8.4181	10.8358	0.139	3991	5189
204	2424	0.0159	0.1480	0.1424	0.1178	0.0775	8.9147	9.9863	0.153	4164	4887
205	2436	0.0202	0.1369	0.1497	0.0988	0.0731	7.9609	9.6817	0.142	3832	4779
206	2448	0.0138	0.1242	0.1512	0.1101	0.0612	7.9132	12.2991	0.131	3816	5709
207	2460	0.0179	0.1337	0.1383	0.1085	0.0702	8.6564	13.2840	0.139	4074	6059
208	2472	0.0136	0.1316	0.1504	0.1113	0.0678	8.1970	9.4808	0.137	3914	4707
209	2484	0.0163	0.1337	0.1525	0.0970	0.0643	7.9725	9.7745	0.139	3836	4812
210	2495	0.0111	0.1276	0.1559	0.1028	0.0562	7.6062	8.8121	0.134	3709	4470
211	2507	0.0098	0.1133	0.1186	0.1080	0.0599	7.0234	8.6564	0.121	3506	4414
212	2519	0.0094	0.0939	0.1233	0.0921	0.0654	6.0640	9.8533	0.103	3173	4840
213	2531	0.0105	0.1014	0.1319	0.0927	0.0667	6.8058	8.2472	0.110	3431	4269
214	2543	0.0110	0.1036	0.1251	0.1005	0.0751	6.3088	9.8461	0.112	3258	4837
215	2555	0.0108	0.1005	0.1440	0.1119	0.0850	7.5574	8.9438	0.109	3692	4516
216	2567	0.0095	0.1162	0.1546	0.1059	0.1043	7.8828	10.3868	0.123	3805	5029
217	2579	0.0110	0.1124	0.1540	0.1121	0.0847	7.4075	10.6060	0.120	3640	5107
218	2591	0.2244	0.1154	0.1387	0.1017	0.0709	7.5482	10.9396	0.123	3689	5226
219	2603	0.0114	0.1199	0.1409	0.1072	0.0850	8.5370	10.6539	0.127	4033	5124
220	2615	0.0101	0.1144	0.1369	0.1089	0.0885	7.8235	10.7772	0.122	3785	5168
221	2627	0.0117	0.1151	0.1427	0.1060	0.0801	7.0251	11.0929	0.122	3507	5280
222	2639	0.0099	0.1163	0.1562	0.0996	0.0802	7.4646	10.4252	0.123	3660	5043
223	2651	0.0122	0.1098	0.1448	0.1071	0.0715	7.7808	10.5020	0.117	3770	5070
224	2663	0.0107	0.1326	0.1581	0.1073	0.0919	7.6087	10.4910	0.138	3710	5066
225	2675	0.0130	0.1290	0.1975	0.1218	0.0810	8.8262	11.0385	0.135	4133	5261
226	2687	0.0146	0.1429	0.3973	0.1239	0.0866	8.8724	11.4531	0.148	4149	5408
227	2698	0.0112	0.1469	0.1505	0.1099	0.0843	8.7986	11.5023	0.152	4123	5426
228	2710	0.0117	0.1277	0.1837	0.1102	0.0750	8.6458	10.5179	0.134	4070	5076

**Table F.2.1 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
229	2722	0.0112	0.1268	0.1458	0.1241	0.0718	8.3994	10.5582	0.133	3985	5090
230	2734	0.0099	0.1228	0.1679	0.1276	0.0741	8.3085	10.4487	0.129	3953	5051
231	2746	0.0104	0.1268	0.1666	0.1378	0.0770	7.8012	11.3743	0.133	3777	5380
232	2758	0.0129	0.1383	0.1529	0.1158	0.0758	8.1638	11.7204	0.144	3903	5503
233	2770	0.0117	0.1223	0.1629	0.1198	0.0754	8.3665	10.9797	0.129	3973	5240
234	2782	0.0150	0.1389	0.1634	0.1017	0.0620	7.6771	10.9174	0.144	3734	5218
235	2794	0.0100	0.1182	0.1429	0.1027	0.0586	7.3055	9.5801	0.125	3604	4742
236	2806	0.0091	0.1171	0.1435	0.1062	0.0608	7.7156	9.9646	0.124	3747	4879
237	2818	0.0115	0.1154	0.1715	0.0999	0.0671	7.6544	9.5112	0.123	3726	4718
238	2830	0.0101	0.1185	0.1516	0.1144	0.0667	7.6393	9.6283	0.125	3721	4760
239	2842	0.0092	0.1125	0.1532	0.0959	0.0650	8.0967	9.3618	0.120	3879	4665
240	2854	0.0099	0.1239	0.1537	0.1049	0.0694	8.2241	9.3231	0.130	3924	4651
241	2866	0.0085	0.1187	0.1521	0.1086	0.0623	6.5702	9.8228	0.126	3349	4829
242	2878	0.0085	0.1243	0.1532	0.1233	0.0817	8.0736	12.7523	0.131	3871	5870
243	2889	0.0095	0.1341	0.1635	0.1272	0.0855	7.6789	9.4162	0.140	3734	4684
244	2901	0.0112	0.1162	0.1683	0.1101	0.0741	7.8334	11.0787	0.123	3788	5275
245	2913	0.0100	0.1298	0.1507	0.1004	0.0873	7.3543	10.8227	0.136	3621	5184
246	2925	0.0089	0.1268	0.1558	0.1013	0.0709	7.6948	9.4870	0.133	3740	4709
249	2961	0.0093	0.1347	0.1594	0.1216	0.0690	8.1101	9.7501	0.140	3884	4803
250	2973	0.0100	0.1273	0.1350	0.1128	0.0681	7.4063	9.2674	0.134	3640	4631
251	2985	0.0116	0.1342	0.1478	0.0930	0.0577	7.2844	9.6379	0.140	3597	4763
252	2997	0.0101	0.1368	0.1275	0.1283	0.0941	7.2696	10.3085	0.142	3592	5001
253	3009	0.0109	0.1346	0.1453	0.1059	0.1026	7.7011	10.0640	0.140	3742	4914
254	3021	0.0109	0.1176	0.1717	0.1263	0.0987	8.0343	10.7360	0.125	3858	5153
255	3033	0.0109	0.1276	0.1316	0.1027	0.0675	7.6682	10.4926	0.134	3731	5067
256	3045	0.0101	0.1171	0.1523	0.1039	0.0682	7.4920	11.1482	0.124	3669	5300
257	3057	0.0113	0.1222	0.1895	0.1176	0.0814	8.6554	10.1011	0.129	4074	4928
258	3069	0.0141	0.1303	0.1639	0.1157	0.0877	7.5017	9.6927	0.136	3673	4782
259	3081	0.0129	0.1254	0.1522	0.1175	0.0949	8.0812	11.2455	0.132	3874	5334
260	3092	0.0116	0.1204	0.1456	0.1074	0.0830	8.3000	10.9823	0.127	3950	5241
261	3104	0.0128	0.1219	0.1622	0.1105	0.0911	7.4679	11.1961	0.129	3661	5317
262	3116	0.0113	0.1334	0.1450	0.1015	0.0606	7.0907	11.1616	0.139	3530	5305
263	3128	0.0111	0.1241	0.1345	0.0990	0.0702	6.9897	9.8567	0.131	3495	4841
264	3140	0.0109	0.1169	0.1394	0.1069	0.0511	6.8677	10.7061	0.124	3452	5143
265	3152	0.0105	0.1237	0.1242	0.1017	0.0519	7.8496	9.3759	0.130	3794	4670
266	3164	0.0092	0.1045	0.1407	0.0995	0.0609	6.9661	10.6316	0.113	3487	5116
267	3176	0.0093	0.1195	0.1658	0.0986	0.0593	7.9986	9.4786	0.126	3845	4706
268	3188	0.0096	0.1359	0.1406	0.0912	0.0663	7.3158	12.8024	0.141	3608	5888
269	3200	0.0082	0.1246	0.1436	0.1041	0.0684	8.0389	12.1391	0.131	3859	5652
270	3212	0.0102	0.1116	0.1539	0.1110	0.0670	7.2924	10.7210	0.119	3600	5148
271	3224	0.0088	0.1318	0.1608	0.1342	0.0703	8.0386	11.5852	0.138	3859	5455
272	3236	0.0119	0.1386	0.1504	0.1249	0.0664	7.5577	11.6262	0.144	3692	5470
273	3248	0.0099	0.1277	0.1536	0.0942	0.0666	7.3520	10.8692	0.134	3621	5201
274	3260	0.0120	0.1312	0.1328	0.1169	0.0629	7.6158	10.5024	0.137	3712	5070
275	3272	0.0101	0.1448	0.1481	0.1185	0.2712	9.3104	10.0116	0.150	4301	4896

**Table F.2.1 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
276	3284	0.0096	0.1394	0.1720	0.1399	0.0572	8.3649	10.9723	0.145	3973	5237
277	3295	0.0122	0.1506	0.3806	0.1088	0.0502	7.8458	11.5317	0.155	3792	5436
278	3307	0.0108	0.1361	0.1480	0.1059	0.0543	7.2621	9.2096	0.142	3589	4611
279	3319	0.0113	0.1294	0.1428	0.1174	0.0525	8.0127	7.5486	0.135	3850	4021
280	3331	0.0100	0.1245	0.1392	0.1083	0.0849	6.4600	9.3557	0.131	3311	4663
281	3343	0.0103	0.1299	0.1440	0.0976	0.0593	7.7986	9.4454	0.136	3776	4695
282	3355	0.0096	0.1247	0.1527	0.1036	0.0548	8.6707	10.6661	0.131	4079	5128
283	3367	0.0099	0.1307	0.1430	0.1126	0.0658	7.6166	9.1109	0.137	3713	4576
284	3379	0.0088	0.1203	0.1671	0.1025	0.0710	7.6650	9.4582	0.127	3729	4699
285	3391	0.0193	0.1201	0.1693	0.1116	0.0806	7.7186	8.6236	0.127	3748	4403
286	3403	0.0673	0.1105	0.2313	0.1570	0.0963	6.6105	9.0381	0.118	3363	4550
287	3415	0.1287	0.1241	0.2545	0.2045	0.1163	6.5401	8.5503	0.131	3338	4376
288	3427	0.1397	0.1223	0.2529	0.2044	0.1014	7.1493	8.9244	0.129	3550	4509
289	3439	0.1143	0.1235	0.2341	0.1768	0.0964	6.8457	8.5144	0.130	3445	4364
290	3451	0.0870	0.1319	0.2114	0.1599	0.0899	7.4162	8.1971	0.138	3643	4251
291	3463	0.0613	0.1190	0.2025	0.1244	0.0749	7.5059	9.4604	0.126	3674	4700
292	3475	0.0416	0.1285	0.1763	0.1249	0.0755	7.6587	8.9858	0.135	3727	4531
293	3486	0.0329	0.1266	0.1772	0.1341	0.0745	8.5277	10.5391	0.133	4029	5083
294	3498	0.0248	0.1356	0.1725	0.1372	0.0722	7.7387	10.8414	0.141	3755	5191
295	3510	0.0212	0.1384	0.1613	0.1128	0.0706	9.9499	10.8476	0.144	4524	5193
296	3522	0.0188	0.1346	0.1775	0.1169	0.0664	8.0061	11.3592	0.140	3848	5375
297	3534	0.0156	0.1407	0.1527	0.1122	0.0649	8.2236	9.6969	0.146	3924	4784
298	3546	0.0173	0.1376	0.1586	0.1167	0.2881	8.1216	10.8205	0.143	3888	5183
321	3821	0.0335	0.1362	0.2032	0.1214	0.0524	8.0624	8.7079	0.142	3868	4433
322	3833	0.0251	0.1408	0.1758	0.1146	0.0540	7.8921	9.1235	0.146	3808	4580
323	3845	0.0178	0.1515	0.1698	0.1208	0.0447	7.3089	8.5912	0.156	3606	4391
324	3857	0.0161	0.1465	0.1484	0.1205	0.0564	6.8560	8.8215	0.151	3448	4473
325	3869	0.0146	0.1347	0.1657	0.0996	0.0554	6.7792	8.1558	0.140	3422	4236
326	3881	0.0109	0.1205	0.1522	0.1082	0.0602	7.0441	9.5989	0.127	3514	4749
327	3892	0.0151	0.1213	0.1586	0.1264	0.0696	8.5074	10.0889	0.128	4022	4923
328	3904	0.0112	0.1179	0.1476	0.1076	0.0548	7.5534	10.4233	0.125	3691	5042
329	3916	0.0106	0.1322	0.1582	0.1196	0.0730	6.2556	9.3803	0.138	3240	4671
330	3928	0.0091	0.1293	0.1471	0.0967	0.0800	7.8023	8.7240	0.135	3777	4438
331	3940	0.0107	0.1214	0.1545	0.1168	0.0665	7.4706	9.2962	0.128	3662	4642
332	3952	0.0104	0.1162	0.1549	0.1114	0.0614	7.3666	10.0900	0.123	3626	4924
333	3964	0.0101	0.1306	0.1689	0.1258	0.0748	8.1124	8.3972	0.137	3885	4322
334	3976	0.0101	0.1309	0.1432	0.1087	0.0631	7.5199	12.3435	0.137	3679	5725
335	3988	0.0089	0.1237	0.1312	0.0972	0.0725	7.4134	9.0585	0.130	3642	4557
336	4000	0.0107	0.1278	0.1541	0.1063	0.0532	7.2807	8.8417	0.134	3596	4480
337	4012	0.0093	0.1212	0.1316	0.1012	0.0637	7.0079	9.2894	0.128	3501	4639
338	4024	0.0098	0.1290	0.1339	0.0984	0.0566	7.1387	11.8658	0.135	3547	5555
339	4036	0.0096	0.1121	0.1356	0.1073	0.0612	7.1825	8.4111	0.120	3562	4327
340	4048	0.0083	0.1313	0.1252	0.1045	0.0566	6.8642	8.2901	0.137	3451	4284
341	4060	0.0095	0.1286	0.1617	0.0999	0.0602	7.2151	9.5013	0.135	3573	4714
342	4072	0.0120	0.1218	0.1250	0.1175	0.0609	7.1722	8.6499	0.128	3558	4412

**Table F.2.1 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
343	4083	0.0096	0.1152	0.1356	0.1062	0.0597	7.2163	9.9695	0.122	3573	4881
344	4095	0.0101	0.1230	0.1410	0.0969	0.0648	7.3366	10.0642	0.130	3615	4915
345	4107	0.0101	0.1279	0.1258	0.0988	0.0536	6.7975	10.9207	0.134	3428	5219
346	4119	0.0083	0.1381	0.1538	0.1141	0.0635	7.1350	9.0009	0.143	3545	4537
347	4131	0.0103	0.1222	0.1543	0.1028	0.0567	7.7772	9.2628	0.129	3768	4630
348	4143	0.0087	0.1177	0.1420	0.1018	0.0760	6.6862	9.4772	0.125	3389	4706
349	4155	0.0101	0.1251	0.1496	0.1048	0.0624	7.1288	10.2750	0.132	3543	4989
350	4167	0.0102	0.1204	0.1548	0.0915	0.0548	7.2659	9.0602	0.127	3591	4558
351	4179	0.0091	0.1201	0.1430	0.1053	0.0612	7.8513	8.7576	0.127	3794	4450
352	4191	0.0096	0.1205	0.1315	0.1037	0.0535	6.6046	9.6653	0.127	3361	4773
353	4203	0.0110	0.1216	0.1192	0.0944	0.0574	6.3820	8.9550	0.128	3283	4520
367	4370	0.0622	0.1273	0.2263	0.1474	0.0941	7.4897	8.4422	0.134	3669	4338
368	4382	0.0432	0.1369	0.1805	0.1305	0.0762	8.5721	10.0150	0.142	4045	4897
369	4394	0.0306	0.1314	0.1671	0.1109	0.0721	7.8133	10.4063	0.137	3781	5036
370	4406	0.0256	0.1356	0.1529	0.1155	0.0617	7.8713	8.5155	0.141	3801	4364
374	4454	0.0676	0.1034	0.3770	0.1132	0.0559	5.8910	7.1255	0.112	3113	3870
393	4680	0.0401	0.1335	0.1861	0.1229	0.0676	7.9977	9.2595	0.139	3845	4629
394	4692	0.0262	0.1261	0.1534	0.1068	0.0594	7.4771	9.2770	0.132	3664	4635
395	4704	0.0210	0.1309	0.1397	0.1002	0.0520	8.2110	9.7854	0.137	3919	4815
396	4716	0.0197	0.1457	0.1424	0.1077	0.0630	8.6915	9.2379	0.150	4086	4621
397	4728	0.0166	0.1547	0.1404	0.0985	0.0466	9.4170	8.7625	0.159	4338	4452
398	4740	0.0149	0.1468	0.1427	0.0959	0.0433	8.9411	8.8361	0.151	4173	4478
399	4752	0.0144	0.1433	0.1340	0.0959	0.0427	8.1450	7.7663	0.148	3896	4098
400	4764	0.0120	0.1374	0.1154	0.0833	0.0324	6.8061	6.4745	0.143	3431	3639
401	4776	0.0108	0.1357	0.1230	0.0837	0.0305	6.9281	5.7063	0.141	3473	3366
402	4788	0.0140	0.1220	0.1200	0.0948	0.0326	6.4105	5.6977	0.129	3293	3363
403	4800	0.0480	0.1226	0.1804	0.1320	0.0658	6.6751	6.9782	0.129	3385	3818
404	4812	0.0933	0.1276	0.2085	0.1613	0.0789	6.2937	6.9255	0.134	3253	3799
405	4824	0.0950	0.1143	0.2024	0.1503	0.0798	6.0413	6.5789	0.122	3165	3676
406	4836	0.0763	0.1125	0.1727	0.1323	0.0606	5.5205	6.1255	0.120	2984	3515
407	4848	0.0557	0.1016	0.1393	0.0987	0.0518	6.2790	6.5349	0.110	3248	3660
408	4860	0.0384	0.0899	0.1414	0.0983	0.0466	6.3693	6.7993	0.099	3279	3754
409	4872	0.0267	0.0956	0.1169	0.0830	0.0483	6.1080	6.9371	0.104	3188	3803
410	4883	0.0212	0.1006	0.1195	0.0776	0.0424	5.7108	7.2500	0.109	3050	3914
411	4895	0.0166	0.0976	0.1083	0.0793	0.0437	6.7084	7.0318	0.106	3397	3837
412	4907	0.0121	0.1017	0.1193	0.0844	0.0459	6.4190	7.5597	0.110	3296	4024
413	4919	0.0108	0.1030	0.1110	0.0750	0.0440	6.6354	7.1001	0.111	3372	3861
414	4931	0.0112	0.1044	0.1009	0.0735	0.0398	5.9169	7.7479	0.112	3122	4091
415	4943	0.0099	0.0951	0.1062	0.0774	0.0459	6.4323	7.9970	0.104	3301	4180
416	4955	0.0109	0.1132	0.1359	0.0871	0.0513	7.4961	7.7637	0.121	3671	4097
417	4967	0.0094	0.1136	0.1159	0.0873	0.0488	6.9488	7.9385	0.121	3481	4159
418	4979	0.0097	0.1044	0.1182	0.0748	0.0461	6.9146	7.9808	0.112	3469	4174
419	4991	0.0104	0.1080	0.1210	0.0871	0.0528	6.5767	8.8237	0.116	3351	4474
420	5003	0.0091	0.1036	0.1225	0.0753	0.0449	6.3540	7.7936	0.112	3274	4108
421	5015	0.0083	0.0955	0.1090	0.0815	0.0481	5.9949	8.5796	0.104	3149	4387



**Table F.2.1 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
422	5027	0.0255	0.1021	0.1386	0.1016	0.0607	6.5197	8.2023	0.110	3331	4253
423	5039	0.0623	0.1009	0.1838	0.1299	0.0755	6.8098	8.5710	0.109	3432	4384
439	5230	0.0937	0.1383	0.1976	0.1511	0.0805	8.1301	8.8031	0.144	3891	4466
440	5242	0.0634	0.1163	0.1714	0.1232	0.0617	7.3266	9.1664	0.123	3612	4595
441	5254	0.0472	0.1183	0.1510	0.1075	0.0609	8.0228	9.3334	0.125	3854	4655
444	5289	0.0206	0.1283	0.1376	0.0948	0.0502	8.3510	9.2048	0.134	3968	4609
445	5301	0.0179	0.1279	0.1399	0.0997	0.0498	7.3150	8.9008	0.134	3608	4501
446	5313	0.0131	0.1221	0.1274	0.0999	0.0588	7.7365	9.9206	0.129	3754	4863
447	5325	0.0130	0.1336	0.1458	0.0941	0.0564	7.4001	10.3408	0.139	3637	5013
448	5337	0.0122	0.1168	0.1235	0.0879	0.0545	7.5549	10.2814	0.124	3691	4992
449	5349	0.0115	0.1088	0.1252	0.0949	0.0631	7.7281	9.2973	0.117	3751	4642
450	5361	0.0123	0.1095	0.1264	0.0870	0.0612	7.2143	9.1313	0.117	3573	4583
451	5373	0.0109	0.1130	0.1258	0.0888	0.0579	7.3029	10.0810	0.120	3604	4920
452	5385	0.0107	0.1125	0.1312	0.0991	0.0529	7.2552	9.0874	0.120	3587	4567
453	5397	0.0096	0.1180	0.1277	0.0936	0.0485	7.7627	9.3581	0.125	3763	4664
454	5409	0.0104	0.1267	0.1297	0.1005	0.0513	7.6732	9.0261	0.133	3732	4546
455	5421	0.0100	0.1158	0.1247	0.0896	0.0458	7.2730	8.0799	0.123	3593	4209
456	5433	0.0107	0.1199	0.1194	0.0890	0.0497	7.5935	9.2201	0.127	3705	4615
457	5445	0.0107	0.1219	0.1268	0.0891	0.0571	7.9980	9.3982	0.129	3845	4678
458	5457	0.0120	0.1236	0.1314	0.0965	0.0503	8.1154	8.9684	0.130	3886	4525
459	5469	0.0115	0.1228	0.1301	0.0991	0.0449	7.5027	8.7746	0.129	3673	4456
460	5480	0.0112	0.1272	0.1212	0.0972	0.0540	7.7028	9.0601	0.133	3743	4558
461	5492	0.0118	0.1245	0.1249	0.0951	0.0482	7.7721	7.9269	0.131	3767	4155
483	5755	0.0455	0.1455	0.1783	0.1196	0.0530	8.3328	9.3106	0.150	3962	4647
484	5767	0.0321	0.1620	0.1589	0.1179	0.0501	8.1981	9.0286	0.165	3915	4546
485	5779	0.0228	0.1494	0.1779	0.1194	0.0537	8.4268	9.5382	0.154	3994	4728
486	5791	0.0190	0.1476	0.1528	0.1064	0.0634	8.1155	8.6674	0.152	3886	4418
487	5803	0.0165	0.1337	0.1408	0.1148	0.0540	8.6622	9.1498	0.139	4076	4590
488	5815	0.0141	0.1357	0.1452	0.1033	0.0501	7.6819	9.2101	0.141	3735	4611
489	5827	0.0126	0.1413	0.1310	0.1065	0.0460	7.9505	9.9712	0.146	3829	4881
490	5839	0.0133	0.1339	0.1264	0.1000	0.0487	8.1883	9.9029	0.140	3911	4857
491	5851	0.0131	0.1313	0.1329	0.1031	0.0480	7.9747	9.6621	0.137	3837	4772
492	5863	0.0134	0.1381	0.1399	0.0959	0.0584	8.3018	9.3109	0.143	3951	4647
493	5874	0.0118	0.1419	0.1385	0.0956	0.0524	8.0493	8.7208	0.147	3863	4437
494	5886	0.0123	0.1220	0.1253	0.0909	0.0449	7.4604	9.0486	0.129	3658	4554
495	5898	0.0112	0.1269	0.1324	0.0843	0.0529	7.6673	8.7012	0.133	3730	4430
496	5910	0.0110	0.1223	0.1167	0.0830	0.0411	7.4481	7.5141	0.129	3654	4008
497	5922	0.0099	0.1179	0.1105	0.0834	0.0452	7.9570	8.2608	0.125	3831	4274
498	5934	0.0092	0.1044	0.1088	0.0757	0.0402	6.9014	7.2581	0.112	3464	3917
499	5946	0.0093	0.1112	0.1126	0.0742	0.0405	6.9040	7.5419	0.119	3465	4018
500	5958	0.0093	0.1159	0.1152	0.0829	0.0485	6.9164	8.5515	0.123	3469	4377
501	5970	0.0098	0.1168	0.1146	0.0815	0.0541	6.3045	7.2366	0.124	3257	3910
502	5982	0.0093	0.1076	0.1083	0.0802	0.0406	6.5444	7.0393	0.115	3340	3840
503	5994	0.0083	0.1098	0.1035	0.0802	0.0394	7.3168	8.5712	0.117	3608	4384
505	6018	0.0087	0.1161	0.1247	0.0808	0.0487	7.5586	8.8273	0.123	3692	4475

**Table F.2.1 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
506	6030	0.0110	0.1127	0.1187	0.0965	0.0497	7.0524	8.5378	0.120	3517	4372
507	6042	0.0097	0.1048	0.1120	0.0800	0.0474	7.0124	8.3456	0.113	3503	4304
508	6054	0.0088	0.1002	0.1108	0.0799	0.0520	7.0583	7.9520	0.109	3519	4164
523	6233	0.0371	0.1223	0.1467	0.1113	0.0558	6.9710	7.6254	0.129	3488	4048
524	6245	0.0257	0.1189	0.1379	0.0953	0.0462	7.5554	8.4016	0.126	3691	4324
525	6257	0.0196	0.1140	0.1263	0.0919	0.0479	7.3865	8.6969	0.121	3633	4429
526	6268	0.0152	0.1099	0.1238	0.0865	0.0501	6.6713	7.6979	0.118	3384	4074
527	6280	0.0124	0.1131	0.1276	0.0868	0.0475	7.0628	8.3832	0.121	3520	4317
528	6292	0.0111	0.1053	0.1093	0.0853	0.0421	6.6860	8.0727	0.113	3389	4207
529	6304	0.0099	0.0998	0.1062	0.0770	0.0426	6.9424	7.4783	0.108	3478	3996
530	6316	0.0103	0.0924	0.0984	0.0692	0.0355	5.8652	6.9482	0.101	3104	3807
531	6328	0.0077	0.0974	0.0965	0.0692	0.0355	5.9652	6.6362	0.106	3139	3696
532	6340	0.0091	0.0957	0.0997	0.0711	0.0374	5.8078	6.9340	0.104	3084	3802
533	6352	0.0082	0.0928	0.0963	0.0693	0.0328	5.8592	6.0883	0.102	3102	3502
534	6364	0.0072	0.0834	0.0878	0.0647	0.0293	5.3198	5.3598	0.093	2914	3243
535	6376	0.0068	0.0749	0.0786	0.0535	0.0250	4.9220	5.0462	0.085	2776	3131
536	6388	0.0062	0.0733	0.0731	0.0559	0.0289	4.8855	5.3376	0.084	2763	3235
537	6400	0.0077	0.0853	0.0904	0.0606	0.0343	5.4217	6.7237	0.095	2950	3727
538	6412	0.0092	0.0948	0.0907	0.0685	0.0337	6.1304	6.3718	0.104	3196	3602
539	6424	0.0086	0.0934	0.0940	0.0701	0.0400	6.1727	6.7064	0.102	3211	3721
540	6436	0.0086	0.0963	0.0953	0.0667	0.0347	6.1468	6.9188	0.105	3202	3797
541	6448	0.0068	0.0880	0.0888	0.0677	0.0403	5.5291	6.4504	0.097	2987	3630
542	6460	0.0070	0.0860	0.0902	0.0651	0.0395	5.8760	7.7915	0.096	3108	4107
543	6471	0.0085	0.0976	0.0937	0.0732	0.0413	6.4120	7.1079	0.106	3294	3864
544	6483	0.0093	0.1018	0.1024	0.0738	0.0490	6.7755	8.2807	0.110	3420	4281
545	6495	0.0086	0.1144	0.1133	0.0789	0.0470	7.4918	8.4196	0.122	3669	4330
546	6507	0.0088	0.1117	0.1206	0.0831	0.0423	6.8886	7.7604	0.119	3460	4096
547	6519	0.0088	0.1087	0.1175	0.0957	0.0487	7.8615	7.9817	0.116	3798	4174
548	6531	0.0092	0.1163	0.1241	0.0812	0.0422	7.0989	9.3121	0.123	3533	4647
549	6543	0.0089	0.1092	0.1153	0.0799	0.0459	6.8833	8.2855	0.117	3458	4282
550	6555	0.0089	0.1091	0.1210	0.0920	0.0444	6.5882	7.9430	0.117	3355	4161
551	6567	0.0083	0.1076	0.1220	0.0955	0.0469	7.8362	7.9190	0.115	3789	4152
552	6579	0.0098	0.1199	0.1175	0.0867	0.0419	6.9008	7.9300	0.127	3464	4156
553	6591	0.0090	0.1100	0.1098	0.0788	0.0431	6.8806	7.5921	0.118	3457	4036
554	6603	0.0096	0.1061	0.1052	0.0710	0.0335	6.2027	6.4360	0.114	3221	3625
555	6615	0.0076	0.0967	0.0929	0.0717	0.0379	6.0205	6.9682	0.105	3158	3814
556	6627	0.0088	0.0978	0.1098	0.0749	0.0367	5.8781	7.6316	0.106	3108	4050
557	6639	0.0090	0.0988	0.1040	0.0798	0.0376	6.6467	7.2141	0.107	3376	3902
558	6651	0.0094	0.1014	0.1047	0.0758	0.0384	6.4928	8.0282	0.110	3322	4191
559	6663	0.0085	0.0946	0.1184	0.0800	0.0445	6.6056	7.7236	0.103	3361	4083
560	6674	0.0091	0.1020	0.1199	0.0816	0.0477	6.7778	7.9036	0.110	3421	4147
561	6686	0.0081	0.1014	0.1134	0.0816	0.0465	7.0773	8.4382	0.110	3525	4337
562	6698	0.0085	0.1029	0.1159	0.0784	0.0474	6.7669	8.5782	0.111	3417	4386
563	6710	0.0089	0.0916	0.1170	0.0765	0.0509	6.4029	7.8117	0.101	3291	4114
564	6722	0.0083	0.0953	0.1039	0.0838	0.0511	6.3242	9.1831	0.104	3263	4601

**Table F.2.1 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
565	6734	0.0080	0.0884	0.1158	0.0762	0.0503	6.1795	7.4242	0.098	3213	3976
566	6746	0.0078	0.0855	0.1086	0.0773	0.0535	6.3238	8.6935	0.095	3263	4427
567	6758	0.0077	0.0832	0.1125	0.0724	0.0509	5.7412	7.4573	0.093	3061	3988
568	6770	0.0086	0.0834	0.0980	0.0728	0.0474	6.2171	7.3014	0.093	3226	3933
569	6782	0.0083	0.0845	0.1106	0.0743	0.0465	5.8033	7.7250	0.094	3082	4083
570	6794	0.0073	0.0864	0.0925	0.0656	0.0397	5.5770	7.3548	0.096	3004	3952
571	6806	0.0079	0.0922	0.1057	0.0772	0.0451	5.7967	7.7118	0.101	3080	4079
572	6818	0.0129	0.1038	0.1124	0.0839	0.0432	7.0395	7.5574	0.112	3512	4024
573	6830	0.0151	0.1119	0.1157	0.0800	0.0487	6.8331	7.4215	0.119	3440	3975
574	6842	0.0141	0.0963	0.1100	0.0846	0.0410	6.2483	6.9498	0.105	3237	3808
575	6854	0.0129	0.0972	0.1038	0.0766	0.0366	5.7245	5.8939	0.106	3055	3432
576	6865	0.0103	0.1004	0.1075	0.0631	0.0327	5.7281	6.6020	0.109	3056	3684
577	6877	0.0096	0.0937	0.1034	0.0693	0.0399	6.5833	7.3172	0.103	3353	3938
578	6889	0.0111	0.1014	0.1199	0.0774	0.0396	7.1427	7.9393	0.110	3548	4159
579	6901	0.0106	0.1109	0.1160	0.0870	0.0423	7.3463	8.2485	0.118	3619	4269
580	6913	0.0089	0.1025	0.0995	0.0776	0.0411	6.7386	7.8610	0.111	3407	4132
581	6925	0.0097	0.0994	0.0937	0.0718	0.0331	6.4375	7.3862	0.108	3303	3963
582	6937	0.0105	0.1020	0.1084	0.0728	0.0374	6.8581	7.3154	0.110	3449	3938
583	6949	0.0102	0.1146	0.1111	0.0843	0.0463	7.5440	8.8962	0.122	3687	4499
584	6961	0.0098	0.1214	0.1150	0.0887	0.0387	8.1912	9.2068	0.128	3912	4610
585	6973	0.0113	0.1154	0.1178	0.0914	0.0483	7.8571	9.5904	0.123	3796	4746
586	6985	0.0129	0.1213	0.1282	0.0883	0.0459	7.7313	8.2904	0.128	3752	4284
587	6997	0.0115	0.1207	0.1138	0.0915	0.0468	7.6351	8.4056	0.128	3719	4325
588	7009	0.0114	0.1238	0.1184	0.0809	0.0402	7.7179	9.0807	0.130	3748	4565
589	7021	0.0094	0.1179	0.1217	0.0805	0.0429	7.5145	7.2212	0.125	3677	3904
590	7033	0.0098	0.1235	0.1289	0.0745	0.0414	7.2894	8.2333	0.130	3599	4264
591	7045	0.0089	0.1109	0.1070	0.0856	0.0393	6.8876	7.7627	0.118	3459	4097
592	7057	0.0097	0.1066	0.1089	0.0691	0.0472	7.0953	8.3654	0.115	3531	4311
593	7068	0.0082	0.1080	0.1234	0.0859	0.0398	7.2812	8.4859	0.116	3596	4354
594	7080	0.0079	0.1115	0.1092	0.0839	0.0405	6.7045	8.1307	0.119	3396	4227
595	7092	0.0086	0.1066	0.1072	0.0822	0.0384	6.8392	7.2908	0.115	3442	3929
596	7104	0.0077	0.1082	0.1012	0.0833	0.0463	7.4389	8.6142	0.116	3651	4399
607	7236	0.0228	0.1147	0.1171	0.0884	0.0466	6.4654	6.8126	0.122	3313	3759
608	7248	0.0196	0.1214	0.1131	0.0811	0.0348	7.2765	6.8974	0.128	3594	3789
609	7260	0.0159	0.1199	0.1308	0.0989	0.0388	7.0520	8.5167	0.127	3516	4365
610	7271	0.0158	0.1261	0.1256	0.0973	0.0433	7.8707	9.5053	0.132	3801	4716
611	7283	0.0145	0.1226	0.1349	0.0978	0.0458	8.9586	10.2298	0.129	4179	4973
612	7295	0.0131	0.1302	0.1409	0.1041	0.0507	8.6817	10.2891	0.136	4083	4994
613	7307	0.0222	0.1297	0.1557	0.1059	0.0511	9.6034	10.4503	0.136	4403	5052
614	7319	0.0119	0.1342	0.1320	0.0940	0.0496	8.5537	10.1759	0.140	4038	4954
615	7331	0.0115	0.1341	0.1349	0.0912	0.0472	8.4373	10.0040	0.140	3998	4893
616	7343	0.0109	0.1274	0.1362	0.0922	0.0465	8.6563	10.1674	0.134	4074	4951
617	7355	0.0126	0.1359	0.1280	0.0991	0.0459	8.8811	9.9924	0.141	4152	4889
618	7367	0.0114	0.1273	0.1338	0.0953	0.0454	8.3230	9.6649	0.134	3958	4773
619	7379	0.0122	0.1236	0.1230	0.0907	0.0466	8.1762	9.8816	0.130	3907	4850

**Table F.2.1 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
637	7594	0.0899	0.1014	0.1770	0.1235	0.0578	6.0244	6.2315	0.110	3159	3552
638	7606	0.0579	0.0975	0.1370	0.0992	0.0425	5.9008	5.7079	0.106	3116	3366
639	7618	0.0348	0.0811	0.1052	0.0746	0.0342	5.2470	5.2668	0.091	2889	3210
640	7630	0.0253	0.0847	0.0950	0.0682	0.0321	5.5372	5.5378	0.094	2990	3306
641	7642	0.0154	0.0854	0.0978	0.0697	0.0304	5.9418	5.5130	0.095	3130	3297
642	7654	0.0137	0.0846	0.0876	0.0654	0.0287	5.6621	6.2733	0.094	3033	3567
643	7665	0.0105	0.0896	0.0942	0.0631	0.0260	5.4137	5.2456	0.099	2947	3202
644	7677	0.0097	0.0881	0.0870	0.0598	0.0269	5.7397	6.3073	0.098	3060	3579
645	7689	0.0083	0.0858	0.0781	0.0562	0.0239	6.0535	5.5336	0.095	3169	3304
646	7701	0.0061	0.0808	0.0759	0.0545	0.0218	5.3546	5.0701	0.091	2926	3140
647	7713	0.0079	0.0918	0.0721	0.0483	0.0229	4.9389	5.1861	0.101	2782	3181
657	7833	0.2317	0.1453	0.1125	0.0822	0.0507	7.1497	8.3429	0.150	3550	4303
658	7845	0.0108	0.1370	0.1280	0.0813	0.0435	6.7635	9.3829	0.142	3416	4672
659	7857	0.0113	0.1205	0.1278	0.0946	0.0426	7.5389	9.4603	0.127	3686	4700
660	7868	0.0114	0.1312	0.1301	0.0928	0.0501	7.7519	10.9709	0.137	3760	5237
661	7880	0.0127	0.1353	0.1542	0.1086	0.0530	8.1800	11.5058	0.141	3908	5427
662	7892	0.0114	0.1253	0.1467	0.0975	0.0605	7.5450	10.8418	0.132	3688	5191
663	7904	0.0098	0.1276	0.1385	0.1056	0.0591	7.3588	12.1404	0.134	3623	5652
664	7916	0.0111	0.1220	0.1431	0.1036	0.0679	7.0765	12.5060	0.129	3525	5782
665	7928	0.0097	0.1204	0.1438	0.1058	0.0733	7.1873	12.6237	0.127	3563	5824
666	7940	0.0109	0.1068	0.1505	0.1079	0.0751	7.1824	12.2413	0.115	3562	5688
667	7952	0.0106	0.1070	0.1606	0.1153	0.0912	7.0862	12.5505	0.115	3528	5798
668	7964	0.0115	0.1116	0.1770	0.1187	0.0899	7.2272	13.1248	0.119	3577	6002
669	7976	0.0113	0.1106	0.1732	0.1143	0.1066	7.8731	13.4586	0.118	3802	6121
670	7988	0.0120	0.1130	0.1692	0.1198	0.1366	7.4821	12.7318	0.120	3666	5863
671	8000	0.0128	0.1148	0.1710	0.1265	0.1152	7.7066	13.8437	0.122	3744	6258
672	8012	0.0178	0.1222	0.1950	0.1277	0.1357	7.7957	13.1539	0.129	3775	6013
673	8024	0.0219	0.1198	0.1791	0.1605	0.1205	7.1974	12.5515	0.127	3567	5798
674	8036	0.0172	0.0986	0.1628	0.1200	0.1104	6.6513	12.3311	0.107	3377	5720
675	8048	0.0281	0.1076	0.1820	0.1276	0.1188	6.9157	12.7327	0.115	3469	5863
676	8059	0.0299	0.1062	0.1761	0.1263	0.1098	6.5754	11.6320	0.114	3351	5472

\* Analyses that were below background levels are left blank.

**Table F.2.2: Section eb05027a2 Rim to Rim Transect by LA-ICP-MS**Step size: 11.94  $\mu\text{m}$  $n$  = La-ICP-MS analysis number

$n$	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
6	60		0.0422	0.1757	0.1362	0.1527	7.0837	11.7326	0.055	3527	5507
7	72		0.0473	0.1459	0.1296	0.1359	6.7458	13.5731	0.060	3410	6162
8	84		0.0395	0.1218	0.1182	0.1456	8.3901	10.2487	0.053	3981	4980
9	96		0.0571	0.1748	0.1312	0.1762	7.6453	13.9076	0.069	3723	6280
10	107		0.0273	0.1103	0.0981	0.1415	6.5358	9.7536	0.042	3337	4804
11	119		0.0389	0.1329	0.1327	0.1533	7.2014	10.8548	0.052	3568	5195
12	131		0.0421	0.1668	0.1254	0.2188	7.5816	8.7787	0.055	3700	4458
13	143		0.0415	0.1574	0.1278	0.1874	8.1040	13.1575	0.055	3882	6014
14	155		0.0352	0.1565	0.1038	0.1306	7.5286	14.4747	0.049	3682	6482
15	167		0.0443	0.1424	0.1303	0.1421	6.6808	16.2740	0.057	3387	7121
16	179		0.0411	0.1533	0.1003	0.1359	7.5065	15.5416	0.054	3674	6861
17	191		0.0448	0.1308	0.1169	0.1196	9.8676	11.7171	0.058	4495	5502
18	203		0.0564	0.1500	0.1255	0.1339	8.2935	19.9594	0.068	3948	8431
19	215		0.0671	0.1473	0.1270	0.1180	8.4035	15.7650	0.078	3986	6940
20	227		0.0666	0.1549	0.1185	0.1239	7.8306	17.6407	0.078	3787	7607
21	239		0.0934	0.1714	0.1006	0.0997	8.3045	14.8317	0.102	3952	6609
22	251		0.0853	0.1752	0.1298	0.0968	9.2001	16.6291	0.095	4263	7248
23	263		0.0933	0.1620	0.1429	0.0843	9.5110	19.4257	0.102	4371	8241
24	275		0.0975	0.1624	0.1571	0.1081	11.4415	19.1381	0.106	5042	8139
25	287		0.0867	0.1391	0.1134	0.0825	11.4204	19.3503	0.096	5035	8215
26	299		0.1048	0.1618	0.1239	0.1237	6.1243	18.3699	0.113	3194	7866
27	310		0.1082	0.1547	0.1286	0.0912	9.1917	18.4185	0.116	4260	7883
28	322		0.1079	0.1645	0.1279	0.0935	8.4626	15.9769	0.116	4007	7016
29	334	0.0045	0.1193	0.1612	0.1348	0.0811	9.4893	18.4625	0.126	4364	7899
30	346		0.1021	0.1574	0.1399	0.1051	11.1251	19.1770	0.110	4932	8153
31	358	0.0017	0.1067	0.2261	0.1433	0.0812	10.0452	19.8328	0.115	4557	8386
32	370		0.1214	0.1636	0.1378	0.0790	11.0106	16.8886	0.128	4892	7340
33	382	0.0038	0.1325	0.1874	0.1105	0.0838	10.9160	16.9274	0.138	4859	7354
37	430	0.0149	0.1129	0.1777	0.1223	0.0822	10.2920	13.6592	0.120	4643	6192
38	442	0.0141	0.1085	0.1677	0.1299	0.0829	10.4363	15.0538	0.116	4693	6688
39	454	0.0299	0.1111	0.1901	0.1451	0.1048	9.9844	14.6458	0.119	4536	6543
40	466	0.0813	0.1080	0.2845	0.2246	0.1222	9.1707	15.2465	0.116	4253	6756
41	478	0.1493	0.1232	0.3668	0.2891	0.1397	10.4098	15.3179	0.130	4683	6782
42	490	0.1667	0.1157	0.3547	0.2728	0.1344	11.9149	13.8564	0.123	5207	6262
44	513	0.1210	0.1243	0.3097	0.2743	0.1126	12.5092	15.1703	0.131	5413	6729
45	525	0.1039	0.1493	0.2924	0.2142	0.1011	11.2445	15.9995	0.154	4974	7024
46	537	0.0882	0.1503	0.2626	0.2086	0.0986	12.5007	16.2806	0.155	5410	7124
47	549	0.0634	0.1495	0.2255	0.1692	0.0769	11.3093	14.3892	0.154	4996	6452
48	561	0.0471	0.1504	0.2094	0.1556	0.0758	12.7569	14.1757	0.155	5499	6376
49	573	0.0362	0.1280	0.1729	0.1241	0.0664	9.7287	10.9302	0.134	4447	5222
50	585	0.0308	0.1199	0.1685	0.1224	0.0659	9.5148	10.6091	0.127	4372	5108
51	597	0.0251	0.1193	0.1311	0.1071	0.0512	9.0941	10.4473	0.126	4226	5051

**Table F.2.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
52	609	0.0259	0.1189	0.1348	0.1081	0.0578	8.6443	9.8439	0.126	4070	4836
53	621	0.0243	0.1162	0.1579	0.1032	0.0550	8.8249	10.9384	0.123	4133	5225
54	633	0.0262	0.1249	0.1395	0.1043	0.0545	8.6408	9.6038	0.131	4069	4751
55	645	0.0221	0.0992	0.1445	0.1033	0.0504	9.4009	11.8751	0.108	4333	5558
56	657	0.0281	0.1159	0.1565	0.1281	0.0487	8.8852	9.7463	0.123	4154	4802
57	669	0.0253	0.1198	0.1551	0.1207	0.0597	10.0287	12.9101	0.127	4551	5926
58	681	0.0295	0.1378	0.1699	0.1266	0.0716	10.6575	11.6806	0.143	4770	5489
59	693	0.0304	0.1427	0.1773	0.1363	0.0662	11.2762	12.7427	0.148	4985	5866
60	704	0.0297	0.1601	0.1833	0.1356	0.0684	11.9705	10.6470	0.164	5226	5122
61	716	0.0296	0.1544	0.1885	0.1406	0.0673	10.4507	11.3204	0.158	4698	5361
62	728	0.0301	0.1500	0.1787	0.1459	0.0698	11.1914	12.1995	0.154	4955	5673
63	740	0.0286	0.1508	0.1620	0.1447	0.0630	10.0413	11.5599	0.155	4555	5446
64	752	0.0330	0.1615	0.2003	0.1456	0.0766	10.7735	11.6081	0.165	4810	5463
65	764	0.0312	0.1625	0.1875	0.1354	0.0788	10.6188	12.7457	0.166	4756	5867
66	776	0.0319	0.1685	0.2021	0.1299	0.0655	10.9813	13.5344	0.171	4882	6148
67	788	0.0309	0.1862	0.1956	0.1353	0.0691	10.5632	12.4066	0.188	4737	5747
68	800	0.0323	0.1599	0.2256	0.1616	0.0785	11.2026	12.5913	0.163	4959	5813
69	812	0.0349	0.1713	0.2177	0.1665	0.0786	11.1444	11.1878	0.174	4939	5314
86	1015	0.0973	0.1596	0.2841	0.1795	0.0895	8.9038	12.0449	0.163	4160	5618
87	1027	0.0679	0.1598	0.2428	0.1763	0.0930	9.2206	11.6400	0.163	4270	5475
88	1039	0.0513	0.1585	0.2225	0.1563	0.1007	10.1787	13.9851	0.162	4603	6308
89	1051	0.0429	0.1547	0.2182	0.1548	0.1047	10.6713	14.2102	0.159	4774	6388
90	1063	0.0390	0.1487	0.2151	0.1709	0.1094	11.0052	15.4598	0.153	4890	6832
91	1075	0.0364	0.1522	0.2540	0.1787	0.1181	10.1068	14.2654	0.156	4578	6408
92	1087	0.0318	0.1535	0.2290	0.1715	0.1133	11.1753	14.8739	0.158	4950	6624
93	1098	0.0314	0.1687	0.2354	0.1655	0.1155	11.1739	14.5236	0.172	4949	6499
94	1110	0.0328	0.1661	0.2539	0.1730	0.1126	10.9915	17.5176	0.169	4886	7563
95	1122	0.0303	0.1600	0.2251	0.1795	0.1088	10.4342	14.5940	0.164	4692	6524
96	1134	0.0265	0.1657	0.2368	0.1626	0.1007	10.4381	14.6657	0.169	4693	6550
97	1146	0.0272	0.1660	0.2404	0.1665	0.1117	10.9240	13.9135	0.169	4862	6283
98	1158	0.0288	0.1878	0.2321	0.1695	0.1088	11.0802	15.8895	0.189	4916	6985
99	1170	0.0266	0.1864	0.2251	0.1680	0.1005	12.4369	14.8248	0.188	5388	6606
100	1182	0.0283	0.1842	0.2530	0.1632	0.1098	11.5219	18.2010	0.186	5070	7806
101	1194	0.0263	0.1760	0.2578	0.1888	0.1134	11.5488	14.8897	0.178	5079	6629
102	1206	0.0250	0.1741	0.2576	0.1740	0.0989	10.9175	17.3958	0.177	4860	7520
103	1218	0.0248	0.1819	0.2256	0.1911	0.1084	11.6154	16.0507	0.184	5102	7042
104	1230	0.0293	0.1892	0.2429	0.1807	0.1054	12.4722	15.2001	0.190	5400	6740
105	1242	0.0247	0.1851	0.2462	0.1967	0.1038	11.5507	15.9910	0.187	5080	7021
106	1254	0.0273	0.1886	0.2332	0.1720	0.1137	12.7028	16.4797	0.190	5480	7194
107	1266	0.0275	0.1759	0.2847	0.1832	0.1046	10.9770	16.0552	0.178	4881	7044
108	1278	0.0234	0.1720	0.2249	0.1637	0.0981	10.8407	16.6974	0.175	4833	7272
109	1290	0.0229	0.1726	0.2274	0.1664	0.0902	10.4767	16.2914	0.175	4707	7128
110	1301	0.0229	0.1599	0.2082	0.1410	0.0864	9.7501	13.9078	0.164	4454	6280
111	1313	0.0216	0.1401	0.1974	0.1335	0.0788	8.7201	13.5072	0.145	4096	6138
112	1325	0.0200	0.1430	0.1695	0.1344	0.0718	8.9163	12.6559	0.148	4164	5836

**Table F.2.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
113	1337	0.0201	0.1219	0.1710	0.1027	0.0737	7.9622	12.8058	0.129	3833	5889
114	1349	0.0197	0.1213	0.1589	0.1179	0.0652	7.6196	9.9057	0.128	3714	4858
115	1361	0.0196	0.1255	0.1592	0.1148	0.0704	7.8323	9.5524	0.132	3788	4733
116	1373	0.0162	0.1253	0.1525	0.1163	0.0650	7.4402	10.8007	0.132	3651	5176
117	1385	0.0173	0.1146	0.1598	0.1216	0.0801	6.8015	9.4087	0.122	3429	4682
118	1397	0.0167	0.1016	0.1497	0.1071	0.0865	7.8931	11.1747	0.110	3809	5309
119	1409	0.0167	0.1077	0.1307	0.1078	0.0659	6.6500	9.0492	0.116	3377	4554
120	1421	0.0156	0.1151	0.1405	0.1244	0.0709	7.2704	9.8466	0.122	3592	4837
122	1445	0.0141	0.1119	0.1418	0.0938	0.0757	7.6942	9.6465	0.119	3740	4766
123	1457	0.0165	0.1129	0.1258	0.1085	0.0900	7.1389	8.6488	0.120	3547	4412
124	1469	0.0146	0.1212	0.1631	0.1188	0.0772	7.4751	10.9133	0.128	3663	5216
125	1481	0.0154	0.1163	0.1341	0.1038	0.0841	7.0834	9.7027	0.123	3527	4786
126	1493	0.0162	0.1340	0.1494	0.0948	0.0715	7.8304	9.6673	0.140	3787	4773
127	1504	0.0153	0.1312	0.1636	0.1004	0.0764	8.3210	9.7905	0.137	3957	4817
128	1516	0.0165	0.1390	0.1355	0.1140	0.0583	8.7659	9.6506	0.144	4112	4768
129	1528	0.0164	0.1281	0.1580	0.1011	0.0688	8.4470	10.7521	0.134	4001	5159
130	1540	0.0157	0.1090	0.1431	0.1054	0.0691	7.8495	10.3831	0.117	3794	5028
131	1552	0.0304	0.1266	0.1436	0.0981	0.0854	8.1191	11.6660	0.133	3887	5484
132	1564	0.0159	0.1388	0.1326	0.1143	0.0602	8.4315	9.6927	0.144	3996	4782
133	1576	0.0141	0.1218	0.1625	0.1068	0.0808	7.6920	9.8596	0.128	3739	4842
134	1588	0.0133	0.1184	0.1715	0.1067	0.0706	7.6318	9.6430	0.125	3718	4765
135	1600	0.0161	0.1216	0.1850	0.1060	0.0744	8.5270	10.7570	0.128	4029	5161
136	1612	0.0163	0.1188	0.3684	0.1226	0.0643	7.5958	10.5202	0.126	3705	5077
137	1624	0.0146	0.1198	0.1360	0.1165	0.0776	9.2975	10.3802	0.127	4297	5027
138	1636	0.0123	0.1164	0.1509	0.1067	0.0760	7.3180	8.9486	0.124	3609	4518
139	1648	0.0131	0.1071	0.1240	0.1018	0.0610	7.3379	10.2195	0.115	3616	4970
140	1660	0.0126	0.1077	0.1499	0.0987	0.0780	8.1153	9.6184	0.115	3886	4756
147	1743	0.1931	0.0865	0.2939	0.2189	0.1032	6.4145	6.5966	0.096	3295	3682
148	1755	0.1253	0.0924	0.2591	0.1706	0.1070	5.9027	9.2814	0.101	3117	4636
149	1767	0.0824	0.1121	0.1834	0.1423	0.2926	6.7994	8.4397	0.120	3429	4337
150	1779	0.0545	0.0969	0.1797	0.1245	0.0893	7.1899	9.5895	0.106	3564	4746
151	1791	0.0399	0.1017	0.1637	0.1254	0.0630	7.7351	8.5733	0.110	3754	4385
152	1803	0.0280	0.1207	0.1483	0.1071	0.0830	7.5476	10.9756	0.128	3689	5238
153	1815	0.0239	0.1138	0.1257	0.1051	0.0487	7.4843	7.8256	0.121	3667	4119
154	1827	0.0468	0.1139	0.1534	0.1404	0.0837	6.5610	8.6262	0.121	3346	4403
155	1839	0.1527	0.1032	0.2617	0.2081	0.1440	6.2079	8.6636	0.111	3223	4417
156	1851	0.1764	0.1074	0.2825	0.2074	0.1207	6.0324	7.1694	0.115	3162	3886
157	1863	0.1320	0.1058	0.2189	0.1671	0.0855	5.6698	6.5055	0.114	3036	3650
158	1875	0.0920	0.1117	0.1710	0.1291	0.0627	5.4977	5.6336	0.119	2976	3340
159	1887	0.0592	0.0876	0.1445	0.1121	0.0577	4.9035	6.5019	0.097	2770	3649
170	2018	0.0893	0.0789	0.1793	0.1435	0.0678	5.0649	7.6838	0.089	2826	4069
171	2030	0.0578	0.1017	0.1598	0.1144	0.0557	5.6668	6.4656	0.110	3035	3636
172	2042	0.0421	0.0930	0.1373	0.0945	0.0617	5.9348	6.9230	0.102	3128	3798
173	2054	0.0272	0.0925	0.1316	0.0952	0.0526	6.0234	6.2292	0.102	3159	3552
174	2066	0.0187	0.0776	0.1113	0.1036	0.0569	6.3855	7.1028	0.088	3285	3862

**Table F.2.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
175	2078	0.0160	0.0867	0.1275	0.0802	0.0566	5.8030	7.9936	0.096	3082	4179
176	2090	0.0143	0.0990	0.1357	0.0767	0.0710	7.3592	7.8869	0.108	3623	4141
177	2101	0.0120	0.0923	0.1283	0.0903	0.0508	5.2735	6.5205	0.101	2898	3655
178	2113	0.0100	0.0861	0.1106	0.0736	0.0445	5.3511	6.7126	0.096	2925	3723
179	2125	0.0109	0.0858	0.1058	0.0902	0.0735	4.9601	8.6405	0.095	2789	4409
180	2137	0.0107	0.0850	0.1042	0.0805	0.0418	6.3575	6.9759	0.095	3275	3817
181	2149	0.0099	0.0842	0.0920	0.0675	0.0377	5.4867	6.2806	0.094	2972	3570
182	2161	0.0100	0.0796	0.0860	0.0645	0.0524	5.1417	6.5886	0.090	2852	3679
183	2173	0.0099	0.0840	0.1064	0.0740	0.0486	6.4418	7.3496	0.094	3304	3950
184	2185	0.0086	0.0743	0.1105	0.0891	0.0633	5.1724	5.8824	0.085	2863	3428
185	2197	0.0078	0.0750	0.1119	0.0768	0.0452	4.3361	6.6583	0.085	2572	3704
186	2209	0.0079	0.0830	0.1169	0.0672	0.0805	5.6426	6.4964	0.093	3027	3647
187	2221	0.0078	0.0780	0.0963	0.0886	0.0409	5.3535	7.4908	0.088	2926	4000
189	2245	0.0118	0.0804	0.1098	0.0741	0.0582	5.5704	8.1733	0.090	3001	4242
190	2257	0.0073	0.0768	0.1156	0.1082	0.0494	5.5792	6.7704	0.087	3004	3744
191	2269	0.0084	0.0810	0.1127	0.0858	0.0501	5.3867	7.8256	0.091	2938	4119
192	2281	0.0087	0.0749	0.1208	0.0858	0.0985	5.8411	8.2630	0.085	3096	4274
193	2292	0.0099	0.0721	0.1247	0.0795	0.0610	5.6680	7.3749	0.083	3035	3959
194	2304	0.0085	0.0728	0.1175	0.0620	0.0628	4.2026	6.8167	0.083	2526	3760
195	2316	0.0080	0.0704	0.0981	0.0628	0.0521	4.1372	6.1264	0.081	2503	3515
196	2328	0.0074	0.0674	0.0970	0.0653	0.0570	5.2956	5.5214	0.078	2906	3300
203	2412	0.1359	0.0766	0.2454	0.1488	0.0910	4.9322	7.4432	0.087	2780	3983
204	2424	0.0754	0.0862	0.1903	0.1215	0.0867	4.9514	6.1617	0.096	2786	3528
205	2436	0.0542	0.0835	0.1835	0.1067	0.0689	5.1940	6.4043	0.093	2871	3614
206	2448	0.0337	0.0828	0.1475	0.1063	0.0751	4.9379	7.2970	0.093	2782	3931
215	2555	0.0957	0.0799	0.2104	0.1661	0.0880	5.3743	7.2873	0.090	2933	3928
216	2567	0.0630	0.0837	0.1895	0.0973	0.0683	5.6823	6.1560	0.093	3040	3526
217	2579	0.0443	0.0780	0.1508	0.1134	0.0783	4.9763	6.3281	0.088	2795	3587
218	2591	0.0342	0.0930	0.1252	0.1100	0.0737	4.3790	7.7459	0.102	2587	4091
219	2603	0.0264	0.0832	0.1592	0.0995	0.0690	4.7499	7.8564	0.093	2716	4130
220	2615	0.0218	0.0906	0.1092	0.0855	0.0576	5.2613	8.3387	0.100	2894	4301
223	2651	0.0121	0.0939	0.1044	0.0837	0.0555	5.6551	7.4886	0.103	3031	3999
224	2663	0.0092	0.0835	0.1217	0.0747	0.0506	5.1887	7.2569	0.093	2869	3917
225	2675	0.0092	0.0888	0.1279	0.0887	0.0539	5.5044	8.4631	0.098	2978	4345
226	2687	0.0094	0.0821	0.1173	0.0695	0.0812	5.4337	8.0881	0.092	2954	4212
227	2698	0.0088	0.0843	0.1319	0.1020	0.0609	6.0612	9.6360	0.094	3172	4762
228	2710	0.0099	0.0868	0.1289	0.0867	0.0655	5.6592	8.2099	0.096	3032	4256
229	2722	0.0091	0.0846	0.1077	0.0865	0.0551	6.1207	7.4805	0.094	3193	3996
234	2782	0.0095	0.1007	0.1379	0.1188	0.0587	6.4060	6.9325	0.109	3292	3802
235	2794	0.0206	0.1016	0.1189	0.0958	0.0747	5.7710	7.6559	0.110	3071	4059
236	2806	0.0178	0.0947	0.1278	0.1122	0.0458	6.3475	7.3360	0.104	3272	3945
237	2818	0.0174	0.0799	0.1024	0.0841	0.0441	4.5254	6.1535	0.090	2638	3525
238	2830	0.0124	0.0714	0.1050	0.0818	0.0519	5.4314	4.4802	0.082	2953	2930
239	2842	0.0099	0.0773	0.1017	0.0826	0.0618	4.4753	6.7378	0.088	2621	3732
240	2854	0.0094	0.0750	0.1152	0.0779	0.0643	5.0778	6.2786	0.085	2830	3569



**Table F.2.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
241	2866	0.0082	0.0820	0.1261	0.0717	0.2559	4.6428	6.1826	0.092	2679	3535
242	2878	0.0085	0.0758	0.0960	0.0830	0.0740	4.6970	7.1082	0.086	2698	3864
243	2889	0.0098	0.0720	0.1081	0.0831	0.0729	5.3973	8.2066	0.083	2941	4254
244	2901	0.0084	0.0819	0.1588	0.0900	0.0576	5.7137	7.8140	0.092	3051	4115
245	2913	0.0100	0.0766	0.1555	0.1017	0.0624	4.9948	7.2748	0.087	2801	3923
246	2925	0.0082	0.0835	0.1456	0.0974	0.0662	4.6836	8.0190	0.093	2693	4188
247	2937	0.0090	0.0815	0.1090	0.0946	0.0731	4.8801	7.5854	0.091	2761	4034
248	2949	0.0128	0.0698	0.1302	0.0877	0.0570	5.1457	8.6245	0.081	2854	4403
249	2961	0.0337	0.0851	0.1209	0.1097	0.0777	4.6706	8.3817	0.095	2689	4317
250	2973	0.0186	0.0744	0.1289	0.0889	0.0746	4.7245	7.6699	0.085	2707	4064
251	2985	0.0167	0.0768	0.1182	0.0885	0.0658	4.6633	7.5781	0.087	2686	4031
252	2997	0.0148	0.0825	0.1368	0.0856	0.0975	5.3336	7.3310	0.092	2919	3943
253	3009	0.0130	0.0770	0.1374	0.1027	0.0652	4.9604	7.9111	0.087	2789	4149
254	3021	0.0099	0.0781	0.1318	0.1046	0.0627	4.6768	6.8855	0.088	2691	3785
255	3033	0.0135	0.0753	0.1333	0.0978	0.1018	3.8472	7.0467	0.086	2402	3842
256	3045	0.0625	0.0752	0.1653	0.1204	0.0822	3.5601	5.9489	0.086	2303	3452
257	3057	0.0966	0.0693	0.1906	0.1417	0.0882	4.1113	5.2517	0.080	2494	3204
258	3069	0.0852	0.0634	0.1627	0.1378	0.0900	3.8567	4.5824	0.075	2406	2966
259	3081	0.0533	0.0632	0.1494	0.1097	0.0758	4.1051	7.0781	0.075	2492	3853
260	3092	0.0364	0.0652	0.1568	0.1096	0.0609	3.9946	5.4201	0.076	2454	3264
261	3104	0.0253	0.0674	0.3356	0.1073	0.0616	4.8978	6.7954	0.078	2768	3753
262	3116	0.0206	0.0800	0.1434	0.1005	0.0847	4.8895	7.2159	0.090	2765	3902
263	3128	0.0144	0.0929	0.1069	0.0871	0.0638	4.8871	7.9648	0.102	2764	4168
264	3140	0.0114	0.0770	0.1260	0.0881	0.0603	4.7426	7.4694	0.087	2714	3992
265	3152	0.0105	0.0667	0.1332	0.1118	0.2865	4.7724	6.4450	0.078	2724	3628
266	3164	0.0096	0.0648	0.1191	0.0782	0.0626	4.9384	8.6275	0.076	2782	4404
267	3176	0.0093	0.0744	0.1128	0.0766	0.0811	4.0829	6.4735	0.085	2484	3638
268	3188	0.0081	0.0807	0.1344	0.0976	0.0838	4.7609	7.7303	0.091	2720	4085
269	3200	0.0083	0.0829	0.1421	0.1019	0.0678	5.7309	8.5788	0.093	3057	4387
270	3212	0.0101	0.0822	0.3415	0.1035	0.0634	5.3682	7.4818	0.092	2931	3997
271	3224	0.0084	0.0772	0.1312	0.1093	0.0769	5.2810	8.0258	0.087	2901	4190
272	3236	0.0108	0.0867	0.1487	0.1083	0.0693	5.0426	7.2965	0.096	2818	3931
273	3248	0.0098	0.0722	0.1299	0.1034	0.0656	5.3922	7.4263	0.083	2939	3977
274	3260	0.0092	0.0806	0.1310	0.0825	0.0587	4.3966	7.3355	0.091	2593	3945
275	3272	0.0078	0.0735	0.1163	0.0895	0.0641	4.4490	7.5748	0.084	2612	4030
276	3284	0.0112	0.0812	0.1309	0.0809	0.0718	5.2673	10.0760	0.091	2896	4919
277	3295	0.0092	0.0884	0.1138	0.0804	0.0594	5.6803	7.7829	0.098	3040	4104
278	3307	0.0092	0.1103	0.1535	0.0987	0.0738	6.0131	8.3579	0.118	3155	4308
279	3319	0.0106	0.0958	0.1424	0.0880	0.0914	5.6357	8.0752	0.105	3024	4208
280	3331	0.0114	0.1067	0.1336	0.0941	0.0680	5.2120	7.1112	0.115	2877	3865
281	3343	0.0107	0.1221	0.1055	0.0931	0.0751	6.2453	8.6256	0.129	3236	4403
282	3355	0.0108	0.1069	0.1133	0.0998	0.0591	6.2369	9.3655	0.115	3233	4666
283	3367	0.0073	0.0976	0.1220	0.0814	0.0440	5.9099	7.6454	0.106	3119	4055
284	3379	0.0084	0.0926	0.1229	0.0897	0.0515	5.7970	8.6104	0.102	3080	4398
285	3391	0.0091	0.1022	0.1153	0.0927	0.0553	6.2631	8.2075	0.110	3242	4255

**Table F.2.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
286	3403	0.0100	0.1064	0.1136	0.0883	0.0565	6.5137	8.3897	0.114	3329	4319
287	3415	0.0089	0.1097	0.1232	0.0962	0.0427	7.1571	11.6951	0.117	3553	5494
288	3427	0.0118	0.1287	0.1246	0.0792	0.0488	6.7507	9.2757	0.135	3412	4634
289	3439	0.0083	0.1147	0.1093	0.1042	0.0556	7.7587	10.1758	0.122	3762	4954
290	3451	0.0081	0.1139	0.1313	0.0942	0.0482	7.1189	8.3031	0.121	3540	4289
291	3463	0.0093	0.1088	0.1084	0.0794	0.0482	6.3188	8.9280	0.116	3262	4511
292	3475	0.0086	0.1103	0.1342	0.0869	0.0588	6.7260	8.0746	0.118	3403	4207
293	3486	0.0105	0.1178	0.1109	0.0824	0.0378	7.7399	8.2645	0.125	3755	4275
294	3498	0.0109	0.1206	0.1337	0.0847	0.0428	7.9350	7.5101	0.127	3823	4007
295	3510	0.0105	0.1093	0.1190	0.0837	0.0461	7.0296	7.6550	0.117	3509	4058
296	3522	0.0110	0.1215	0.1413	0.0778	0.0333	7.9332	7.3161	0.128	3823	3938
297	3534	0.2241	0.1243	0.1301	0.0991	0.0479	7.1768	6.4150	0.131	3560	3618
298	3546	0.0099	0.1194	0.1346	0.0836	0.0473	6.9931	7.7394	0.126	3496	4088
299	3558	0.0103	0.1113	0.1212	0.1017	0.0364	7.8601	7.3845	0.119	3797	3962
300	3570	0.0136	0.1080	0.1388	0.3117	0.0566	7.7939	7.9546	0.116	3774	4165
301	3582	0.0115	0.1304	0.1232	0.0850	0.0438	8.5295	7.9210	0.136	4030	4153
302	3594	0.0119	0.1249	0.1457	0.0950	0.0413	7.2609	7.8483	0.131	3589	4127
303	3606	0.0089	0.1025	0.1250	0.0833	0.0481	6.9226	7.8506	0.111	3471	4128
304	3618	0.0100	0.1059	0.3101	0.0891	0.0472	6.5585	7.4022	0.114	3345	3968
305	3630	0.0085	0.0944	0.1170	0.0840	0.0321	5.5690	7.2648	0.103	3001	3920
306	3642	0.0091	0.1066	0.1306	0.0714	0.0431	6.0890	6.4651	0.114	3182	3635
307	3654	0.0087	0.1157	0.0993	0.0741	0.0469	6.3480	5.9647	0.123	3272	3458
308	3666	0.0092	0.1003	0.1264	0.0925	0.0471	6.9968	6.5281	0.109	3497	3658
309	3678	0.0091	0.1169	0.1266	0.0959	0.0446	7.5844	7.3937	0.124	3701	3965
310	3689	0.0099	0.1144	0.1172	0.0813	0.0426	7.4453	7.7209	0.122	3653	4082
311	3701	0.0100	0.1083	0.3150	0.0867	0.0427	6.3539	6.5210	0.116	3274	3655
312	3713	0.0109	0.1143	0.3267	0.0875	0.0477	6.2195	6.3595	0.122	3227	3598
313	3725	0.0109	0.0986	0.0988	0.0838	0.0530	6.5545	6.1983	0.107	3343	3541
314	3737	0.0079	0.0929	0.1323	0.0866	0.0489	6.2799	7.0690	0.102	3248	3850
315	3749	0.0095	0.0921	0.1126	0.0848	0.0542	6.0064	6.5197	0.101	3153	3655
316	3761	0.0094	0.1059	0.1204	0.0893	0.0401	6.0044	7.9163	0.114	3152	4151
317	3773	0.0104	0.1048	0.1389	0.0922	0.0543	7.0937	6.5448	0.113	3531	3664
318	3785	0.0079	0.1083	0.1313	0.0795	0.0487	6.3495	6.8788	0.116	3272	3782
319	3797	0.0089	0.1003	0.1266	0.0884	0.0578	6.2250	7.4307	0.109	3229	3979
320	3809	0.0087	0.1023	0.1151	0.0937	0.0468	6.1890	6.8006	0.111	3216	3755
321	3821	0.0102	0.1006	0.1315	0.0922	0.0583	6.1609	5.8873	0.109	3207	3430
322	3833	0.0115	0.0951	0.1341	0.0847	0.0433	6.2525	7.8533	0.104	3238	4129
323	3845	0.0088	0.1126	0.1160	0.0874	0.0416	6.0388	7.4669	0.120	3164	3991
324	3857	0.0112	0.1084	0.1247	0.1005	0.0826	7.1761	9.0487	0.116	3560	4554
325	3869	0.0115	0.1182	0.1474	0.0771	0.0613	6.1084	10.3896	0.125	3188	5030
326	3881	0.0086	0.1133	0.1260	0.0877	0.0506	7.2412	7.9940	0.121	3582	4179
327	3892	0.0095	0.1217	0.1523	0.1057	0.0575	8.0991	9.7053	0.128	3880	4787
328	3904	0.0110	0.1336	0.1367	0.0986	0.0479	8.1500	9.0029	0.139	3898	4537
329	3916	0.0094	0.1298	0.1357	0.1038	0.0516	7.2776	8.1650	0.136	3595	4240
330	3928	0.0107	0.1144	0.1317	0.0902	0.0574	7.8222	8.2320	0.122	3784	4263

**Table F.2.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
331	3940	0.0108	0.1100	0.1201	0.1023	0.0435	7.2470	7.3174	0.118	3584	3938
332	3952	0.0097	0.1210	0.1314	0.0830	0.0398	6.6469	8.0026	0.128	3376	4182
333	3964	0.0088	0.1156	0.1306	0.0822	0.0367	6.1474	8.2782	0.123	3202	4280
334	3976	0.0100	0.1046	0.1239	0.0837	0.0336	7.0607	6.6685	0.113	3519	3708
335	3988	0.0085	0.1133	0.1215	0.0974	0.0424	6.7455	8.1801	0.121	3410	4245
336	4000	0.0100	0.1101	0.1107	0.0917	0.0337	6.0531	7.5472	0.118	3169	4020
337	4012	0.0097	0.1092	0.1545	0.0916	0.0503	6.9290	7.8246	0.117	3474	4119
338	4024	0.0103	0.1252	0.1540	0.1061	0.0391	7.4468	9.5751	0.132	3654	4741
339	4036	0.0106	0.1275	0.1401	0.1132	0.0555	6.7831	8.7920	0.134	3423	4462
340	4048	0.0075	0.1337	0.1390	0.0809	0.0437	6.9739	10.1290	0.139	3489	4938
341	4060	0.0097	0.1329	0.1345	0.0977	0.0517	7.1945	8.2210	0.139	3566	4259
342	4072	0.0085	0.1162	0.1146	0.0909	0.0457	7.1392	6.9853	0.123	3547	3820
343	4083	0.0092	0.1214	0.1284	0.0948	0.0399	6.2830	8.8834	0.128	3249	4495
344	4095	0.0101	0.1136	0.1145	0.0930	0.0441	7.5217	8.7410	0.121	3680	4444
345	4107	0.0084	0.1237	0.1293	0.0825	0.0423	7.2612	9.0638	0.130	3589	4559
346	4119	0.0087	0.1092	0.1123	0.0919	0.0343	5.8760	7.4683	0.117	3108	3992
347	4131	0.0096	0.1220	0.1221	0.0903	0.0470	6.2011	8.2237	0.129	3221	4260
348	4143	0.0080	0.1114	0.1243	0.0878	0.0388	7.4152	8.6554	0.119	3643	4414
349	4155	0.0099	0.1193	0.1396	0.0943	0.0613	7.5102	8.4372	0.126	3676	4336
350	4167	0.0099	0.1218	0.1139	0.0998	0.0453	7.5249	9.0740	0.129	3681	4563
351	4179	0.0094	0.1120	0.1401	0.0909	0.0413	6.8463	8.8745	0.119	3445	4492
352	4191	0.0095	0.1182	0.1314	0.1092	0.0433	6.9200	9.0636	0.125	3471	4559
353	4203	0.0103	0.1191	0.1424	0.1129	0.0658	6.6502	8.3618	0.126	3377	4309
354	4215	0.0111	0.1144	0.1404	0.1112	0.0698	6.7008	9.7843	0.122	3394	4815
355	4227	0.0083	0.1041	0.1416	0.1040	0.0602	6.7251	9.3214	0.112	3403	4651
356	4239	0.0099	0.0988	0.1448	0.0922	0.0644	7.3154	10.2243	0.107	3608	4971
357	4251	0.0110	0.1025	0.1368	0.0974	0.0610	6.1018	8.9327	0.111	3186	4512
358	4263	0.0091	0.1139	0.1426	0.1041	0.0578	6.4888	10.3103	0.121	3321	5002
359	4275	0.0083	0.0900	0.1451	0.0962	0.0710	5.4254	7.4671	0.099	2951	3992
360	4286	0.0081	0.0903	0.1198	0.0806	0.0622	5.3686	7.4193	0.100	2931	3975
361	4298	0.0095	0.0860	0.1235	0.0780	0.0501	5.2456	7.5684	0.096	2889	4028
362	4310	0.0105	0.0895	0.1236	0.0895	0.0644	5.1863	8.3442	0.099	2868	4303
363	4322	0.0080	0.1019	0.1253	0.0988	0.0538	6.0571	6.8567	0.110	3171	3775
393	4680	0.0127	0.1045	0.1587	0.1034	0.0490	6.1350	7.3410	0.113	3198	3947
394	4692	0.0104	0.1167	0.1314	0.3268	0.0413	7.0553	7.4250	0.124	3518	3977
395	4704	0.0116	0.1122	0.1386	0.1002	0.0359	6.1406	7.8263	0.120	3200	4119
396	4716	0.0093	0.1097	0.1386	0.0854	0.0409	7.2384	7.6904	0.117	3581	4071
397	4728	0.0093	0.1338	0.1346	0.0931	0.2479	6.8434	8.1985	0.139	3444	4251
398	4740	0.0100	0.1162	0.1495	0.0916	0.0481	6.7379	7.9931	0.123	3407	4178
399	4752	0.0079	0.1109	0.1156	0.1066	0.0480	7.1124	8.5696	0.118	3537	4383
400	4764	0.0093	0.1111	0.1011	0.0922	0.0453	6.5968	8.2848	0.119	3358	4282
401	4776	0.0081	0.1150	0.1350	0.0963	0.0509	6.9215	7.7355	0.122	3471	4087
402	4788	0.0090	0.1107	0.1371	0.0876	0.0516	7.5064	8.1191	0.118	3674	4223
403	4800	0.0082	0.1098	0.1222	0.1160	0.0527	6.3449	9.8414	0.117	3271	4835
404	4812	0.0086	0.1166	0.1276	0.0878	0.0429	6.4097	9.2996	0.124	3293	4643

**Table F.2.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
405	4824	0.0092	0.1060	0.1373	0.0850	0.2712	7.6754	8.5464	0.114	3733	4375
406	4836	0.0086	0.1157	0.1216	0.0813	0.0423	6.5514	8.9126	0.123	3342	4505
407	4848	0.0087	0.1134	0.1292	0.0974	0.0556	6.9801	9.1539	0.121	3491	4591
408	4860	0.0088	0.1140	0.1386	0.1046	0.0447	7.5573	8.3694	0.121	3692	4312
409	4872	0.0085	0.1111	0.1244	0.0885	0.0516	7.2472	7.8853	0.119	3584	4140
410	4883	0.0103	0.1272	0.1023	0.0900	0.0445	6.8780	8.0971	0.133	3456	4215
411	4895	0.0079	0.1295	0.1483	0.1021	0.0435	7.6110	8.3507	0.136	3711	4306
412	4907	0.0091	0.1267	0.1136	0.0912	0.0471	7.2890	8.6318	0.133	3599	4405
413	4919	0.0098	0.1106	0.1325	0.0849	0.0406	6.6913	7.5613	0.118	3391	4025
414	4931	0.0088	0.1025	0.1380	0.0820	0.0452	6.4693	7.9488	0.111	3314	4163
415	4943	0.0075	0.1046	0.1407	0.0930	0.0558	5.8420	7.2930	0.113	3096	3930
416	4955	0.0079	0.1021	0.1168	0.0840	0.0390	6.1192	7.9487	0.110	3192	4163
417	4967	0.0079	0.1016	0.1323	0.0757	0.0553	7.0538	7.2491	0.110	3517	3914
418	4979	0.0083	0.1157	0.1046	0.0832	0.0555	7.2124	7.3228	0.123	3572	3940
419	4991	0.0107	0.1082	0.1169	0.0857	0.0761	6.2808	7.2505	0.116	3248	3915
420	5003	0.0092	0.1022	0.1455	0.1016	0.0573	6.7295	6.8069	0.110	3404	3757
421	5015	0.0103	0.1161	0.1354	0.0829	0.0580	5.9364	9.3433	0.123	3129	4658
422	5027	0.0082	0.0978	0.1601	0.1073	0.0525	6.7671	8.6436	0.106	3417	4410
423	5039	0.0083	0.1154	0.1130	0.0942	0.0556	6.3485	9.8121	0.123	3272	4825
424	5051	0.0085	0.1108	0.3357	0.1188	0.0555	5.7711	7.3767	0.118	3071	3959
425	5063	0.0067	0.1002	0.1356	0.0854	0.0549	6.6184	7.7977	0.109	3366	4109
426	5074	0.0107	0.0930	0.1358	0.0939	0.0585	6.7658	6.8504	0.102	3417	3772
427	5086	0.0084	0.0977	0.1786	0.0915	0.0459	6.9455	8.2036	0.106	3479	4253
428	5098	0.0119	0.1187	0.1237	0.0866	0.0476	6.8203	10.5486	0.126	3436	5087
429	5110	0.0103	0.0983	0.1133	0.0764	0.0484	6.4271	6.8619	0.107	3299	3776
430	5122	0.0089	0.1002	0.1121	0.0924	0.0672	7.0759	7.1208	0.109	3525	3868
431	5134	0.0087	0.1062	0.1321	0.1037	0.0684	7.4832	7.3679	0.114	3666	3956
432	5146	0.0090	0.1136	0.1379	0.1178	0.0724	7.4483	7.6983	0.121	3654	4074
433	5158	0.0084	0.1100	0.1275	0.0927	0.0451	6.2541	7.1802	0.118	3239	3890
434	5170	0.0089	0.1022	0.1567	0.0973	0.0410	5.8073	7.2987	0.110	3084	3932
435	5182	0.0066	0.0895	0.1108	0.0959	0.0586	6.2976	7.6677	0.099	3254	4063
436	5194	0.0068	0.0890	0.1213	0.0966	0.0530	6.1926	7.6771	0.098	3218	4066
437	5206	0.0068	0.0950	0.0997	0.0795	0.0512	5.2872	6.3772	0.104	2903	3604
438	5218	0.0067	0.0993	0.1065	0.0707	0.0481	6.3192	6.1224	0.108	3262	3514
439	5230	0.0078	0.0875	0.1205	0.0834	0.0443	6.2051	6.7978	0.097	3222	3754
440	5242	0.0088	0.0962	0.1319	0.0985	0.0508	6.1800	7.7884	0.105	3213	4106
441	5254	0.0073	0.1011	0.1062	0.0879	0.0502	6.1223	6.8800	0.109	3193	3783
442	5266	0.0083	0.1118	0.1112	0.0993	0.0517	6.5913	8.3094	0.119	3356	4291
443	5277	0.0075	0.0890	0.0921	0.0921	0.0621	5.8407	6.4556	0.098	3095	3632
444	5289	0.0083	0.0845	0.1104	0.0884	0.0636	5.8284	8.1994	0.094	3091	4252
445	5301	0.0078	0.0975	0.1413	0.0783	0.0527	7.0695	8.1878	0.106	3522	4248
446	5313	0.0078	0.0957	0.1270	0.0858	0.0506	6.1738	8.0723	0.104	3211	4207
447	5325	0.0083	0.1082	0.1034	0.0861	0.0566	6.5784	8.3387	0.116	3352	4301
448	5337	0.0082	0.1028	0.1160	0.0811	0.0394	5.3005	8.3273	0.111	2908	4297
449	5349	0.0094	0.1025	0.0931	0.0907	0.0644	6.2448	7.1540	0.111	3236	3880

**Table F.2.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
450	5361	0.0092	0.0945	0.1108	0.0966	0.0441	5.7438	6.5525	0.103	3062	3667
451	5373	0.0072	0.1083	0.1035	0.0804	0.0394	6.4197	7.6507	0.116	3297	4057
452	5385	0.0075	0.1043	0.1260	0.0944	0.0354	5.8051	6.9627	0.112	3083	3812
453	5397	0.0091	0.1022	0.1066	0.0837	0.0607	6.3164	6.4840	0.110	3261	3642
454	5409	0.0084	0.1025	0.1103	0.0932	0.0487	7.0106	7.6736	0.111	3502	4065
455	5421	0.0092	0.1003	0.1129	0.0766	0.0360	6.0149	9.3787	0.109	3156	4671
456	5433	0.0073	0.1099	0.1197	0.0720	0.0448	6.0492	7.3172	0.118	3168	3938
457	5445	0.0076	0.0955	0.1078	0.0790	0.0324	5.2370	5.4435	0.104	2886	3272
458	5457	0.0058	0.0932	0.1284	0.0822	0.0330	5.4922	6.6623	0.102	2974	3706
459	5469	0.0072	0.0831	0.1004	0.0790	0.0810	5.8266	6.5270	0.093	3090	3657
460	5480	0.0057	0.0837	0.0895	0.0701	0.0434	4.8008	10.2472	0.093	2734	4980
461	5492	0.0078	0.0760	0.1198	0.0857	0.0598	5.1541	7.2471	0.086	2857	3913
472	5624	0.0967	0.0646	0.1725	0.1252	0.0603	4.0353	6.0515	0.076	2468	3488
473	5636	0.0659	0.0737	0.1434	0.1013	0.0502	4.5370	5.0612	0.084	2642	3137
474	5648	0.0451	0.0775	0.1223	0.0937	0.0418	4.1440	4.9708	0.088	2506	3104
475	5660	0.0281	0.0753	0.1252	0.0809	0.0476	4.8346	5.1701	0.086	2746	3175
476	5671	0.0225	0.0646	0.0983	0.0625	0.0528	3.9310	6.5191	0.076	2432	3655
477	5683	0.0126	0.0829	0.1039	0.0666	0.0553	5.0307	5.1642	0.093	2814	3173
478	5695	0.0118	0.0798	0.1018	0.0790	0.0367	5.0935	6.6749	0.090	2836	3710
479	5707	0.0107	0.0813	0.1068	0.0627	0.0372	5.6113	6.7865	0.091	3016	3750
480	5719	0.0118	0.0768	0.0930	0.0814	0.0477	5.2312	6.4432	0.087	2884	3628
481	5731	0.0084	0.0797	0.1007	0.0649	0.0519	5.0389	6.3586	0.090	2817	3598
482	5743	0.0067	0.0684	0.0940	0.0603	0.0472	5.0615	5.8039	0.079	2825	3400
483	5755	0.0062	0.0731	0.1041	0.0744	0.0449	5.7527	9.2366	0.084	3065	4620
484	5767	0.0070	0.0755	0.1004	0.0781	0.0734	5.3938	6.6685	0.086	2940	3708
485	5779	0.0066	0.0782	0.1080	0.0773	0.0592	5.2016	6.5635	0.088	2873	3670
486	5791	0.0070	0.0834	0.1060	0.0906	0.0602	6.0599	6.7683	0.093	3172	3743
487	5803	0.0102	0.0817	0.1129	0.0789	0.0608	5.4367	8.0504	0.092	2955	4199
488	5815	0.0076	0.0837	0.1094	0.0757	0.0703	5.4103	7.7025	0.093	2946	4075
489	5827	0.0068	0.0810	0.1011	0.0870	0.0606	5.6750	7.2007	0.091	3038	3897
490	5839	0.0063	0.0876	0.0976	0.0674	0.0492	5.3555	6.1800	0.097	2927	3534
491	5851	0.0098	0.0830	0.1232	0.0711	0.0685	6.8481	6.9914	0.093	3446	3822
492	5863	0.0079	0.0909	0.1039	0.0726	0.0529	6.1471	6.2641	0.100	3202	3564
493	5874	0.0074	0.0912	0.1278	0.0704	0.0431	5.8466	5.9645	0.100	3097	3458
494	5886	0.0082	0.0902	0.1102	0.0819	0.0480	5.6292	7.8857	0.099	3022	4140
495	5898	0.0109	0.0994	0.0999	0.0959	0.0504	5.7649	7.8168	0.108	3069	4116
496	5910	0.0096	0.0939	0.0978	0.0785	0.0449	5.5709	6.6748	0.103	3002	3710
497	5922	0.0065	0.0938	0.1324	0.0754	0.0579	7.0881	6.2055	0.103	3529	3543
498	5934	0.0081	0.1010	0.1122	0.0803	0.0409	5.8807	7.6138	0.109	3109	4044
499	5946	0.0081	0.0910	0.1113	0.0733	0.0437	6.2782	8.2284	0.100	3247	4262
500	5958	0.0082	0.0901	0.1226	0.0730	0.0427	7.3972	8.8788	0.099	3636	4493
501	5970	0.0081	0.0906	0.1118	0.0833	0.0474	6.0653	7.2627	0.100	3173	3919
502	5982	0.0091	0.1048	0.1224	0.0892	0.0520	6.7397	7.8986	0.113	3408	4145
503	5994	0.0076	0.1052	0.1030	0.0828	0.0497	6.2121	7.2438	0.113	3224	3912
504	6006	0.0077	0.1035	0.1086	0.0840	0.0433	6.8556	7.2908	0.112	3448	3929

**Table F.2.2 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
505	6018	0.0091	0.0938	0.1076	0.0906	0.0485	6.2026	6.3166	0.103	3221	3583
506	6030	0.0065	0.0948	0.1249	0.0907	0.0468	6.4418	6.8482	0.104	3304	3772
507	6042	0.0093	0.0947	0.0915	0.0690	0.0406	5.2595	7.6299	0.104	2893	4049
508	6054	0.0089	0.0891	0.0966	0.0619	0.0460	5.9250	7.1391	0.098	3125	3875
531	6328	0.0339	0.0880	0.0943	0.0775	0.0406	5.3587	7.9955	0.097	2928	4179
532	6340	0.0254	0.0920	0.1048	0.0809	0.0504	5.3537	6.1073	0.101	2926	3508
533	6352	0.0146	0.0914	0.0926	0.0851	0.0340	5.5937	7.1828	0.100	3010	3891
534	6364	0.0177	0.1042	0.1064	0.0726	0.0400	5.6626	6.4197	0.112	3033	3619
535	6376	0.0133	0.0983	0.0988	0.0795	0.0617	7.1488	7.7987	0.107	3550	4109
536	6388	0.0109	0.0814	0.1114	0.0726	0.0485	4.8988	6.8394	0.091	2768	3768
537	6400	0.0097	0.0851	0.0818	0.0649	0.0499	5.0262	7.7690	0.095	2812	4099
538	6412	0.0075	0.0653	0.0824	0.0589	0.0488	4.7147	5.9730	0.077	2704	3461
539	6424	0.0051	0.0688	0.1068	0.0633	0.0487	3.8125	7.2373	0.080	2390	3910
540	6436	0.0084	0.0897	0.1022	0.0742	0.0580	4.2761	6.1083	0.099	2552	3509
541	6448	0.0134	0.1672	0.1192	0.0828	0.0638	5.1779	7.7994	0.170	2865	4110
542	6460	0.0204	0.1436	0.1134	0.0783	0.0702	4.2757	9.4035	0.148	2551	4680
543	6471	0.0204	0.1227	0.1081	0.0759	0.0852	3.7391	6.9922	0.129	2365	3823
557	6639	0.0097	0.0560	0.1476	0.1317	0.2892	3.0648	7.7892	0.068	2131	4106
558	6651	0.0091	0.0541	0.1423	0.0930	0.0966	3.4403	7.4967	0.066	2261	4002
559	6663	0.0081	0.0514	0.1381	0.0883	0.0870	4.0236	7.2939	0.064	2464	3930
560	6674	0.0074	0.0616	0.1297	0.0918	0.0988	3.9781	7.3543	0.073	2448	3951
561	6686	0.0080	0.0639	0.1155	0.0948	0.2877	4.0070	6.7861	0.075	2458	3750
562	6698	0.0070	0.0602	0.1311	0.0823	0.3143	3.7396	6.0517	0.072	2365	3489
563	6710	0.0062	0.0603	0.1077	0.0731	0.0796	3.5879	7.8718	0.072	2312	4135

\* Analyses that were below background levels are left blank.

**Table F.2.3: Section eb05027a3 Rim to Rim Transect by LA-ICP-MS**Step size: 11.94  $\mu\text{m}$  $n$  = La-ICP-MS analysis number

$n$	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
4	36	0.0066	0.0351	0.0275	0.0218	0.0144	1.7109	2.0169	0.049	1660	2055
7	72	0.0055	0.0478	0.0541	0.0304	0.0163	2.6215	3.0515	0.060	1976	2422
8	84	0.0087	0.0530	0.0673	0.0417	0.0198	2.9112	3.0904	0.065	2077	2436
9	96	0.0045	0.0613	0.0659	0.0538	0.0219	2.0619	4.1184	0.073	1782	2801
10	107	0.0047	0.0509	0.0528	0.0395	0.0216	3.5546	2.8632	0.063	2301	2355
11	119	0.0054	0.0443	0.0517	0.0328	0.0176	1.0083	1.5770	0.057	1416	1898
12	131	0.0050	0.0478	0.0576	0.0365	0.0201	2.7322	2.6951	0.060	2015	2296
13	143	0.0056	0.0535	0.0520	0.0472	0.0173	3.8359	3.9089	0.066	2399	2727
14	155	0.0047	0.0624	0.0534	0.0515	0.0240	3.9745	5.2350	0.074	2447	3198
15	167	0.0059	0.0678	0.0756	0.0518	0.0331	4.9006	5.5652	0.079	2769	3316
16	179	0.0071	0.0700	0.0859	0.0573	0.0306	4.2631	4.6887	0.081	2547	3004
17	191	0.0053	0.0655	0.0696	0.0527	0.0251	4.5009	4.7887	0.077	2630	3040
18	203	0.0048	0.0568	0.0638	0.0385	0.0242	3.4294	2.9727	0.069	2257	2394
19	215	0.0046	0.0534	0.0589	0.0365	0.0193	3.6014	3.7357	0.066	2317	2665
20	227	0.0040	0.0626	0.0591	0.0435	0.0167	3.2666	3.4054	0.074	2201	2548
21	239	0.0041	0.0586	0.0581	0.0498	0.0192	3.5811	3.1694	0.070	2310	2464
22	251	0.0045	0.0583	0.0624	0.0468	0.0211	3.1310	4.1759	0.070	2154	2822
23	263	0.0040	0.0607	0.0610	0.0485	0.0258	3.6553	4.5032	0.072	2336	2938
24	275	0.0052	0.0603	0.0629	0.0563	0.0274	4.2381	4.6438	0.072	2538	2988
25	287	0.0042	0.0671	0.0696	0.0472	0.0290	4.5307	5.2697	0.078	2640	3211
26	299	0.0051	0.0651	0.0664	0.0470	0.0262	3.8039	5.1042	0.076	2387	3152
27	310	0.0051	0.0580	0.0580	0.0425	0.0247	3.4485	5.4596	0.070	2264	3278
28	322	0.0045	0.0591	0.0594	0.0468	0.0275	3.7079	4.4687	0.071	2354	2926
29	334	0.0046	0.0590	0.0633	0.0364	0.0274	3.5360	3.9931	0.071	2294	2757
30	346	0.0045	0.0525	0.0529	0.0381	0.0228	2.8055	4.0243	0.065	2040	2768
31	358	0.0057	0.0540	0.0555	0.0411	0.0264	3.6722	4.7326	0.066	2342	3020
32	370	0.0046	0.0549	0.0527	0.0385	0.0199	3.0751	4.7118	0.067	2134	3012
33	382	0.0053	0.0511	0.0597	0.0457	0.0216	3.8558	4.8861	0.063	2405	3074
34	394	0.0046	0.0535	0.0672	0.0431	0.0284	3.5858	4.0955	0.066	2312	2793
35	406	0.0068	0.0638	0.0792	0.0535	0.0322	5.2215	5.8897	0.075	2880	3431
36	418	0.0216	0.0726	0.1288	0.0815	0.0430	4.7377	5.5284	0.083	2712	3303
37	430	0.0401	0.0728	0.1266	0.1012	0.0503	4.5831	6.0226	0.083	2658	3478
38	442	0.0490	0.0788	0.1409	0.1036	0.0464	4.5722	4.4711	0.089	2654	2927
39	454	0.0460	0.0689	0.1129	0.0871	0.0437	4.4998	5.0679	0.080	2629	3139
40	466	0.0365	0.0565	0.1019	0.0758	0.0396	3.3262	5.1672	0.068	2221	3174
41	478	0.0287	0.0660	0.1042	0.0703	0.0328	4.5159	5.1097	0.077	2635	3154
42	490	0.0223	0.0698	0.0964	0.0753	0.0361	4.2317	5.2874	0.081	2536	3217
43	501	0.0179	0.0714	0.0894	0.0612	0.0285	3.9410	4.4445	0.082	2435	2917
44	513	0.0111	0.0575	0.0760	0.0497	0.0260	2.9787	3.5126	0.069	2101	2586
45	525	0.0100	0.0523	0.0616	0.0473	0.0235	4.2275	4.2137	0.065	2535	2835
46	537	0.0082	0.0636	0.0708	0.0479	0.0325	4.7790	5.7610	0.075	2726	3385
47	549	0.0156	0.0816	0.1105	0.0823	0.0459	4.8394	6.7409	0.091	2747	3733

**Table F.2.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
55	645	0.0563	0.0597	0.1132	0.0926	0.0473	3.2769	3.4052	0.071	2204	2548
56	657	0.0374	0.0521	0.0902	0.0627	0.0300	1.9391	2.0488	0.064	1739	2066
57	669	0.0275	0.0421	0.0565	0.0474	0.0250	2.0160	2.2440	0.055	1766	2135
58	681	0.0189	0.0327	0.0517	0.0404	0.0194	1.9686	1.9633	0.047	1750	2036
59	693	0.0131	0.0314	0.0511	0.0318	0.0179	1.7022	2.2542	0.045	1657	2139
60	704	0.0102	0.0435	0.0598	0.0400	0.0197	1.7468	3.1434	0.056	1672	2455
61	716	0.0069	0.0561	0.0690	0.0448	0.0262	3.7383	6.2981	0.068	2365	3576
62	728	0.0072	0.0581	0.0802	0.0483	0.0305	3.5736	5.6641	0.070	2307	3351
63	740	0.0061	0.0619	0.0746	0.0527	0.0393	3.2808	5.6860	0.073	2206	3359
64	752	0.0057	0.0649	0.0811	0.0539	0.0431	5.6672	6.2406	0.076	3035	3556
65	764	0.0076	0.0610	0.0899	0.0663	0.0437	4.5614	7.3520	0.073	2651	3951
66	776	0.0063	0.0748	0.0894	0.0612	0.0436	5.1465	8.1668	0.085	2854	4240
67	788	0.0070	0.0730	0.0907	0.0636	0.0414	5.5446	7.4124	0.084	2992	3972
68	800	0.0050	0.0666	0.0991	0.0583	0.0393	4.0697	6.5434	0.078	2480	3663
69	812	0.0057	0.0674	0.0911	0.0700	0.0521	5.2546	7.0600	0.078	2892	3847
70	824	0.0068	0.0932	0.0997	0.0713	0.0533	6.2004	8.0184	0.102	3220	4187
71	836	0.0083	0.1016	0.1392	0.0858	0.0571	5.8213	10.8166	0.110	3089	5182
72	848	0.0108	0.1050	0.1238	0.0890	0.0719	6.7497	10.9730	0.113	3411	5237
73	860	0.0088	0.0989	0.1227	0.0918	0.0605	6.6586	9.6668	0.107	3380	4773
74	872	0.0085	0.0964	0.1489	0.0829	0.0482	5.9166	9.2173	0.105	3122	4614
75	884	0.0097	0.1015	0.0984	0.0835	0.0519	6.3851	7.6615	0.110	3285	4061
76	896	0.0083	0.0980	0.1032	0.0793	0.0432	5.8027	7.5849	0.107	3082	4033
77	907	0.0070	0.0858	0.0933	0.0634	0.0551	5.9143	6.3919	0.095	3121	3609
78	919	0.0067	0.0790	0.0906	0.0614	0.0396	5.8784	6.5769	0.089	3108	3675
79	931	0.0075	0.0879	0.0967	0.0758	0.0383	5.8800	8.0855	0.097	3109	4211
80	943	0.0101	0.0948	0.1054	0.0798	0.0387	5.9401	8.0023	0.104	3130	4182
81	955	0.0078	0.0928	0.1023	0.0784	0.0388	6.6177	8.1506	0.102	3365	4234
82	967	0.0073	0.0935	0.1109	0.0816	0.0377	5.9195	7.5239	0.102	3123	4012
83	979	0.0085	0.0945	0.1075	0.0826	0.0436	6.5159	9.7305	0.103	3330	4796
84	991	0.0104	0.1025	0.1102	0.0735	0.0471	6.2733	10.4767	0.111	3246	5061
85	1003	0.0110	0.1069	0.1335	0.0973	0.0525	6.7955	9.0089	0.115	3427	4539
86	1015	0.0120	0.1118	0.1235	0.0956	0.0569	7.3883	12.1325	0.119	3633	5650
87	1027	0.0111	0.1106	0.1355	0.0902	0.0491	7.2940	8.9500	0.118	3600	4519
88	1039	0.0111	0.1109	0.1239	0.0861	0.0618	6.3839	7.8302	0.118	3284	4121
89	1051	0.0099	0.0996	0.1016	0.0848	0.0495	6.2993	8.5562	0.108	3255	4379
90	1063	0.0093	0.0949	0.1122	0.0732	0.0490	6.5728	8.6944	0.104	3350	4428
91	1075	0.0100	0.0954	0.1138	0.0728	0.0531	6.0141	9.1930	0.104	3156	4605
92	1087	0.0090	0.1053	0.0988	0.0736	0.0613	6.9427	8.6548	0.113	3478	4414
93	1098	0.0102	0.1036	0.1124	0.0884	0.0614	7.3173	9.8968	0.112	3609	4855
94	1110	0.0099	0.1129	0.1553	0.1054	0.0849	7.6420	11.5099	0.120	3721	5428
95	1122	0.0118	0.1271	0.1733	0.1014	0.0795	8.5538	13.0021	0.133	4038	5959
96	1134	0.0120	0.1203	0.1435	0.1152	0.0945	8.2026	12.2027	0.127	3916	5674
97	1146	0.0116	0.1188	0.1626	0.1205	0.0797	8.1374	12.7131	0.126	3894	5856
98	1158	0.0134	0.1180	0.1489	0.1025	0.0614	7.9495	11.8197	0.125	3828	5538
99	1170	0.0116	0.1170	0.1250	0.0893	0.0587	7.0567	11.0747	0.124	3518	5274



**Table F.2.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
100	1182	0.0107	0.1062	0.1214	0.0945	0.0566	6.8536	9.6711	0.114	3447	4775
101	1194	0.0077	0.1057	0.1208	0.0756	0.0526	6.2392	9.5682	0.114	3234	4738
102	1206	0.0078	0.0891	0.1112	0.0727	0.0474	5.8278	8.5628	0.098	3091	4381
103	1218	0.0062	0.0851	0.1017	0.0764	0.0549	5.3950	9.5492	0.095	2940	4731
104	1230	0.0188	0.0924	0.1021	0.0712	0.0471	6.8458	9.8689	0.101	3445	4845
105	1242	0.0094	0.0870	0.1094	0.0825	0.0569	6.3934	8.9093	0.096	3287	4504
106	1254	0.0109	0.0937	0.1076	0.0907	0.0620	6.5304	11.0139	0.103	3335	5252
107	1266	0.0090	0.0857	0.1197	0.0954	0.0652	5.5781	11.8642	0.095	3004	5554
108	1278	0.0101	0.0891	0.1451	0.0948	0.0770	6.5356	9.6631	0.098	3337	4772
109	1290	0.0098	0.0976	0.1343	0.0950	0.0862	7.8309	10.2391	0.106	3787	4977
110	1301	0.0091	0.1040	0.1541	0.1099	0.0965	7.6155	12.9879	0.112	3712	5954
111	1313	0.2208	0.1196	0.1571	0.1192	0.0840	8.0034	11.2114	0.126	3847	5322
112	1325	0.0105	0.1096	0.1506	0.0933	0.0782	6.9453	9.9635	0.117	3479	4879
113	1337	0.0089	0.0997	0.1272	0.0992	0.0635	6.5835	8.5816	0.108	3354	4388
114	1349	0.0080	0.1017	0.1259	0.0887	0.0543	7.4346	8.9817	0.110	3649	4530
115	1361	0.0080	0.1057	0.1144	0.0760	0.0470	6.2032	8.4676	0.114	3221	4347
116	1373	0.0069	0.0957	0.0952	0.0706	0.0457	5.1751	7.0756	0.105	2864	3852
117	1385	0.0069	0.0769	0.0913	0.0589	0.0332	4.7846	6.2111	0.087	2728	3545
118	1397	0.0061	0.0851	0.0799	0.0720	0.0365	4.6549	6.3906	0.095	2683	3609
119	1409	0.0064	0.0754	0.0748	0.0601	0.0399	4.7771	7.1092	0.086	2726	3864
120	1421	0.0069	0.0689	0.0806	0.0548	0.0299	4.2490	6.4160	0.080	2542	3618
121	1433	0.0057	0.0724	0.0754	0.0572	0.0342	4.8205	6.6685	0.083	2741	3708
122	1445	0.0052	0.0757	0.0899	0.0607	0.0350	5.4656	6.9336	0.086	2965	3802
123	1457	0.0070	0.0782	0.0886	0.0576	0.0496	5.5075	7.3978	0.088	2980	3967
124	1469	0.0069	0.0828	0.0924	0.0739	0.0501	5.8971	8.5696	0.093	3115	4383
125	1481	0.0073	0.0956	0.1109	0.0791	0.0493	6.1201	9.4316	0.104	3192	4690
126	1493	0.0080	0.0999	0.1132	0.0870	0.0672	6.3271	8.6117	0.108	3264	4398
127	1504	0.0083	0.1063	0.1116	0.0903	0.0564	6.9510	10.1274	0.114	3481	4937
128	1516	0.0083	0.1049	0.1191	0.0831	0.0507	6.9609	10.0766	0.113	3485	4919
129	1528	0.0087	0.0965	0.1369	0.0960	0.0558	6.7404	10.2401	0.105	3408	4977
130	1540	0.0081	0.1047	0.1080	0.0837	0.0553	6.1031	10.0242	0.113	3187	4900
131	1552	0.0090	0.0959	0.1237	0.0885	0.0637	6.8167	9.9930	0.105	3435	4889
132	1564	0.0083	0.1058	0.1179	0.0943	0.0621	7.0168	9.9636	0.114	3504	4879
133	1576	0.0085	0.1144	0.1445	0.0965	0.0598	8.2755	11.9561	0.122	3942	5587
134	1588	0.0096	0.1224	0.1373	0.1122	0.0666	8.1226	12.2648	0.129	3888	5697
135	1600	0.0114	0.1237	0.1633	0.1181	0.0795	7.8153	12.5357	0.130	3782	5793
136	1612	0.0104	0.1250	0.1650	0.1100	0.0887	8.1859	12.8182	0.131	3910	5893
137	1624	0.0115	0.1184	0.1629	0.1233	0.0842	8.8068	11.3408	0.125	4126	5368
138	1636	0.0095	0.1325	0.1535	0.1218	0.0862	8.1043	13.4783	0.138	3882	6128
139	1648	0.0105	0.1265	0.1484	0.1086	0.0748	8.3562	11.5510	0.133	3970	5443
140	1660	0.0092	0.1221	0.1561	0.1009	0.0798	8.0333	10.0748	0.129	3857	4918
141	1672	0.0093	0.1121	0.1516	0.0993	0.0718	7.1728	10.9840	0.120	3558	5241
142	1684	0.0111	0.1186	0.1207	0.1043	0.0682	7.0890	11.3270	0.126	3529	5363
143	1695	0.0100	0.1082	0.1366	0.0942	0.0667	6.7482	9.9042	0.116	3411	4858
144	1707	0.0079	0.1035	0.1287	0.0859	0.0616	7.2997	10.2934	0.112	3602	4996

**Table F.2.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
145	1719	0.0080	0.1084	0.1315	0.0895	0.0607	6.8987	10.3640	0.116	3463	5021
146	1731	0.0096	0.1195	0.1385	0.0977	0.0819	8.0007	11.9765	0.126	3846	5594
147	1743	0.0130	0.1263	0.1534	0.1281	0.0879	9.5029	12.1190	0.133	4368	5645
148	1755	0.0124	0.1305	0.1847	0.1204	0.1084	10.2472	13.1445	0.136	4627	6009
149	1767	0.0140	0.1403	0.1697	0.1196	0.0916	9.0778	12.2801	0.145	4220	5702
150	1779	0.0173	0.1367	0.1546	0.1228	0.1008	9.0493	13.6954	0.142	4211	6205
151	1791	0.0136	0.1397	0.1579	0.1289	0.0898	8.6327	11.9433	0.145	4066	5582
152	1803	0.0131	0.1334	0.1685	0.1149	0.0962	9.5953	13.3383	0.139	4400	6078
153	1815	0.0136	0.1248	0.1605	0.1234	0.1067	8.9530	11.8928	0.131	4177	5564
154	1827	0.0114	0.1244	0.1786	0.1109	0.1102	8.3358	12.6824	0.131	3963	5845
155	1839	0.0124	0.1150	0.1692	0.1085	0.0963	8.3616	13.2863	0.122	3972	6060
156	1851	0.0102	0.1127	0.1513	0.1082	0.0968	8.1600	12.2772	0.120	3901	5701
157	1863	0.0116	0.1031	0.1666	0.1038	0.1315	7.5483	12.2421	0.111	3689	5688
158	1875	0.0110	0.1141	0.1400	0.1171	0.0943	7.7669	11.9828	0.121	3765	5596
159	1887	0.0103	0.1046	0.1677	0.1044	0.0917	8.1627	11.8860	0.113	3902	5562
160	1898	0.0100	0.1051	0.1541	0.1088	0.0795	7.6617	13.3461	0.113	3728	6081
161	1910	0.0103	0.1179	0.1714	0.1131	0.0836	7.8179	12.0387	0.125	3783	5616
162	1922	0.0105	0.1261	0.1420	0.1094	0.0787	8.3164	13.1899	0.132	3956	6025
163	1934	0.0112	0.1222	0.1496	0.1045	0.0901	8.0447	11.8265	0.129	3861	5541
164	1946	0.0114	0.1157	0.1556	0.1167	0.0946	7.8151	10.3625	0.123	3782	5021
165	1958	0.0106	0.1077	0.1577	0.1168	0.0973	7.8147	12.9365	0.116	3781	5935
166	1970	0.0120	0.1206	0.1465	0.1018	0.0843	8.4179	11.3334	0.127	3991	5366
167	1982	0.0120	0.1214	0.1353	0.1085	0.0857	7.8833	12.3461	0.128	3805	5725
168	1994	0.0123	0.1301	0.1452	0.1169	0.0942	7.5691	11.7935	0.136	3696	5529
169	2006	0.0096	0.1249	0.1651	0.1029	0.0944	7.5952	11.3413	0.131	3705	5368
170	2018	0.0110	0.1125	0.1493	0.1114	0.0863	8.0167	10.3707	0.120	3852	5023
171	2030	0.0095	0.1085	0.1573	0.1032	0.0887	8.2530	12.7929	0.116	3934	5884
172	2042	0.0101	0.1228	0.1535	0.1182	0.0863	7.5540	11.5789	0.129	3691	5453
173	2054	0.0106	0.1193	0.1843	0.1158	0.0986	8.6632	14.0509	0.126	4076	6331
174	2066	0.0131	0.1197	0.1879	0.1258	0.0873	8.8401	13.9759	0.127	4138	6305
175	2078	0.0107	0.1266	0.1730	0.1294	0.0817	9.2627	12.0431	0.133	4285	5618
176	2090	0.0113	0.1286	0.1652	0.1167	0.0839	8.7916	12.8841	0.135	4121	5917
177	2101	0.0111	0.1294	0.1666	0.1069	0.0886	8.3034	12.1970	0.135	3951	5672
178	2113	0.0118	0.1378	0.1585	0.1251	0.0822	8.7815	11.9599	0.143	4117	5588
179	2125	0.0130	0.1321	0.1845	0.1181	0.0909	9.2046	13.0622	0.138	4265	5980
180	2137	0.0123	0.1376	0.1787	0.1248	0.0772	8.9537	13.8523	0.143	4177	6261
206	2448	0.0392	0.1108	0.1582	0.1191	0.1123	6.7502	10.5117	0.118	3411	5074
207	2460	0.0286	0.1108	0.1612	0.1349	0.0984	6.9921	9.4027	0.118	3496	4679
208	2472	0.0208	0.1131	0.1591	0.1230	0.0894	6.8524	10.4979	0.120	3447	5069
209	2484	0.0200	0.1118	0.1734	0.1242	0.0782	6.6052	9.9303	0.119	3361	4867
210	2495	0.0237	0.1067	0.1681	0.1345	0.0970	6.5279	9.6719	0.115	3334	4775
211	2507	0.0361	0.1055	0.1888	0.1310	0.0852	6.9108	10.0084	0.113	3467	4895
212	2519	0.0437	0.1046	0.2000	0.1446	0.0951	7.8681	9.7968	0.113	3800	4819
213	2531	0.0382	0.1095	0.1757	0.1215	0.1011	7.3132	10.9155	0.117	3607	5217
214	2543	0.0334	0.1033	0.1716	0.1283	0.0894	6.6616	9.9984	0.111	3381	4891

**Table F.2.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
215	2555	0.0266	0.1058	0.1603	0.1254	0.0820	6.7671	10.1354	0.114	3417	4940
216	2567	0.0199	0.1015	0.1585	0.0992	0.0713	6.6059	9.9737	0.110	3361	4882
217	2579	0.0174	0.1005	0.1699	0.1113	0.0729	7.3150	10.6093	0.109	3608	5108
218	2591	0.0137	0.1093	0.1279	0.1049	0.0709	6.9617	9.6513	0.117	3485	4768
219	2603	0.0288	0.0995	0.1476	0.1258	0.0827	6.7488	9.0623	0.108	3411	4558
249	2961	0.0522	0.1127	0.1999	0.1387	0.1027	7.7798	12.4591	0.120	3769	5766
250	2973	0.0361	0.1087	0.1863	0.1112	0.1216	6.7051	10.6201	0.116	3396	5112
251	2985	0.0264	0.1094	0.1508	0.1202	0.1044	8.0875	12.0668	0.117	3876	5626
252	2997	0.0197	0.1154	0.1536	0.1202	0.0790	7.8876	12.8267	0.123	3807	5896
253	3009	0.0167	0.1129	0.1537	0.1134	0.0771	7.4722	10.3304	0.120	3662	5009
254	3021	0.0141	0.1106	0.1301	0.1014	0.0790	6.7372	10.0137	0.118	3407	4897
255	3033	0.0115	0.1026	0.1574	0.1155	0.0750	7.5720	10.8332	0.111	3697	5188
256	3045	0.0127	0.1215	0.1579	0.1120	0.0737	6.9874	10.6966	0.128	3494	5139
257	3057	0.0099	0.1125	0.1729	0.1207	0.0868	7.4768	12.3299	0.120	3664	5720
258	3069	0.0103	0.1158	0.1508	0.1077	0.0742	7.6527	10.5570	0.123	3725	5090
259	3081	0.0117	0.1134	0.1555	0.1151	0.0844	7.4748	11.2806	0.121	3663	5347
260	3092	0.0130	0.1202	0.1562	0.1215	0.0818	7.1885	11.3818	0.127	3564	5383
261	3104	0.0117	0.1146	0.1852	0.1140	0.0918	7.7678	12.8064	0.122	3765	5889
262	3116	0.0115	0.1229	0.1797	0.1279	0.0889	8.2552	12.3337	0.130	3935	5721
263	3128	0.0115	0.1262	0.1632	0.1486	0.1008	8.0302	11.6759	0.132	3856	5487
264	3140	0.0136	0.1225	0.1727	0.1202	0.0754	8.3863	10.6037	0.129	3980	5106
265	3152	0.0093	0.1272	0.1710	0.1153	0.0908	7.2506	11.3988	0.133	3585	5389
266	3164	0.0110	0.1202	0.1536	0.1134	0.0753	7.7544	10.9001	0.127	3761	5212
267	3176	0.0112	0.1164	0.1580	0.1197	0.0883	7.4771	10.4238	0.124	3664	5042
268	3188	0.0104	0.1193	0.1659	0.1276	0.0884	7.5658	10.4992	0.126	3695	5069
269	3200	0.0103	0.1240	0.1482	0.1318	0.1159	6.6540	11.4859	0.131	3378	5420
270	3212	0.0111	0.1139	0.1618	0.1311	0.0810	7.5407	11.9043	0.121	3686	5568
271	3224	0.0107	0.1231	0.1636	0.1097	0.0950	8.3151	11.0464	0.130	3955	5264
272	3236	0.0101	0.1242	0.1467	0.1013	0.0905	6.9766	10.4594	0.131	3490	5055
273	3248	0.0107	0.1183	0.1571	0.1068	0.0692	8.1105	10.4407	0.125	3884	5048
274	3260	0.0112	0.1338	0.1712	0.1026	0.0601	6.8989	10.6379	0.140	3463	5118
275	3272	0.0184	0.1311	0.1758	0.1426	0.1070	7.7074	9.5222	0.137	3744	4722
285	3391	0.0449	0.1092	0.1826	0.1380	0.0940	7.5905	10.1627	0.117	3704	4950
286	3403	0.0300	0.1225	0.1643	0.1068	0.0828	8.0430	10.3528	0.129	3861	5017
287	3415	0.0232	0.1260	0.2030	0.1215	0.0895	8.8478	11.1192	0.132	4141	5289
288	3427	0.0208	0.1155	0.1856	0.1390	0.0909	7.9920	11.3080	0.123	3843	5357
289	3439	0.0167	0.1179	0.1741	0.1170	0.0791	7.3707	10.9482	0.125	3627	5229
290	3451	0.0139	0.1145	0.1682	0.1160	0.0739	7.8917	11.5732	0.122	3808	5451
291	3463	0.0128	0.1069	0.1705	0.1337	0.0893	7.0993	11.6768	0.115	3533	5488
292	3475	0.0114	0.1140	0.1517	0.1333	0.0852	7.3215	9.9437	0.121	3610	4872
293	3486	0.0108	0.1087	0.1692	0.1098	0.0641	6.7931	11.3033	0.116	3426	5355
294	3498	0.0098	0.1132	0.1819	0.1151	0.0792	7.3206	10.2915	0.121	3610	4995
295	3510	0.0106	0.1228	0.1747	0.0984	0.0803	6.9757	9.9157	0.129	3490	4862
296	3522	0.0113	0.1223	0.3709	0.1230	0.0807	7.5024	10.1432	0.129	3673	4943
297	3534	0.0089	0.1172	0.1705	0.1357	0.0806	7.5768	10.5703	0.124	3699	5094

**Table F.2.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
298	3546	0.0113	0.1148	0.1523	0.1073	0.0632	6.6931	8.4930	0.122	3392	4356
299	3558	0.0112	0.1282	0.1567	0.1253	0.0642	7.8818	12.4181	0.134	3805	5751
300	3570	0.0110	0.1249	0.1795	0.1152	0.1077	7.9809	11.1268	0.131	3839	5292
301	3582	0.0115	0.1234	0.1601	0.1069	0.0812	7.9808	10.3618	0.130	3839	5020
302	3594	0.0114	0.1228	0.1725	0.1198	0.0631	7.5912	11.1782	0.129	3704	5310
303	3606	0.0101	0.1250	0.1642	0.1146	0.0699	7.4459	10.3123	0.131	3653	5003
304	3618	0.0124	0.1289	0.1392	0.1162	0.0748	8.1013	10.8672	0.135	3881	5200
305	3630	0.0100	0.1102	0.1427	0.1026	0.0715	8.2807	10.4044	0.118	3943	5035
306	3642	0.0094	0.1156	0.1535	0.1142	0.0685	7.0680	9.4952	0.123	3522	4712
307	3654	0.0115	0.1103	0.1409	0.1041	0.0795	6.4361	8.9975	0.118	3302	4535
308	3666	0.0103	0.1273	0.1586	0.1120	0.0812	7.3446	11.8759	0.134	3618	5558
309	3678	0.0119	0.1153	0.1467	0.1254	0.0782	7.6198	8.6512	0.123	3714	4412
310	3689	0.0098	0.1119	0.1643	0.1096	0.0763	6.3482	10.0594	0.119	3272	4913
311	3701	0.0126	0.1107	0.1746	0.1302	0.0852	7.0901	12.4040	0.118	3530	5746
312	3713	0.0162	0.1150	0.1542	0.1254	0.0753	8.0831	10.0492	0.122	3875	4909
313	3725	0.0141	0.1256	0.1460	0.1264	0.0790	7.7362	10.8823	0.132	3754	5205
314	3737	0.0138	0.1196	0.1728	0.1285	0.0820	7.2681	9.7802	0.126	3591	4814
315	3749	0.0153	0.1266	0.1665	0.1334	0.0732	7.7163	10.1371	0.133	3747	4940
316	3761	0.0166	0.1122	0.1669	0.1240	0.0590	7.2766	10.6395	0.120	3594	5119
317	3773	0.0144	0.1184	0.1683	0.1396	0.0587	7.7324	10.9631	0.125	3753	5234
318	3785	0.0153	0.1277	0.1621	0.0967	0.0594	7.2500	9.3863	0.134	3585	4674
319	3797	0.0117	0.1156	0.1453	0.0895	0.0871	7.4998	9.3549	0.123	3672	4662
321	3821	0.0123	0.1273	0.1691	0.1295	0.0747	7.4443	10.8743	0.134	3653	5202
322	3833	0.0188	0.1125	0.1454	0.1285	0.0728	7.1646	9.9688	0.120	3555	4881
323	3845	0.0160	0.1268	0.1758	0.1306	0.0686	8.3411	10.1592	0.133	3964	4948
324	3857	0.0185	0.1357	0.1641	0.1313	0.0775	6.7888	9.2952	0.141	3425	4641
325	3869	0.0169	0.1366	0.1692	0.1317	0.0795	8.3094	12.1126	0.142	3953	5642
326	3881	0.0150	0.1278	0.1705	0.1428	0.0716	7.9288	11.9901	0.134	3821	5599
327	3892	0.0154	0.1265	0.1718	0.1367	0.0727	7.9633	13.7807	0.133	3833	6235
328	3904	0.0127	0.1296	0.2046	0.1292	0.0805	7.9328	11.8168	0.136	3823	5537
329	3916	0.0120	0.1306	0.1903	0.1320	0.0969	8.2312	11.7771	0.137	3926	5523
330	3928	0.0151	0.1269	0.1797	0.1393	0.0945	8.1862	11.2701	0.133	3911	5343
331	3940	0.0114	0.1478	0.1696	0.1320	0.1002	8.7974	11.2743	0.152	4123	5345
332	3952	0.0117	0.1285	0.1758	0.1283	0.0902	8.2128	12.8393	0.135	3920	5901
333	3964	0.0122	0.1368	0.1727	0.1313	0.0950	7.8873	12.8228	0.142	3807	5895
334	3976	0.0127	0.1277	0.1853	0.1365	0.0830	8.3384	12.0925	0.134	3963	5635
335	3988	0.0112	0.1288	0.1867	0.1212	0.0885	8.4989	12.7727	0.135	4019	5877
336	4000	0.0129	0.1313	0.1708	0.1374	0.0849	8.0749	11.4557	0.137	3872	5409
337	4012	0.0143	0.1461	0.1880	0.1466	0.0983	9.1724	14.5931	0.151	4253	6524
344	4095	0.0168	0.1601	0.1762	0.1411	0.0973	10.1017	13.1557	0.164	4576	6013
345	4107	0.0147	0.1478	0.1739	0.1304	0.0938	8.8441	12.3367	0.152	4139	5722
346	4119	0.0143	0.1185	0.1487	0.1043	0.0735	7.1172	11.4062	0.125	3539	5391
347	4131	0.0128	0.1061	0.1354	0.0933	0.0890	6.2391	9.9222	0.114	3234	4864
348	4143	0.0152	0.0978	0.1460	0.1007	0.0818	6.5983	9.2017	0.106	3359	4608
349	4155	0.0393	0.1059	0.1670	0.1204	0.0847	6.9932	9.7865	0.114	3496	4816

**Table F.2.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
350	4167	0.1091	0.0981	0.2417	0.1876	0.1060	6.3720	10.1284	0.107	3280	4937
351	4179	0.1282	0.1124	0.2405	0.1799	0.1074	6.1994	10.2732	0.120	3220	4989
354	4215	0.0589	0.1265	0.1778	0.1523	0.1068	8.0668	8.7845	0.133	3869	4460
355	4227	0.0436	0.1217	0.2000	0.1362	0.0818	7.5718	10.4371	0.128	3697	5047
356	4239	0.0325	0.1326	0.1751	0.1285	0.0845	7.8772	10.6289	0.138	3803	5115
357	4251	0.0224	0.1501	0.1982	0.1376	0.0739	8.2398	11.3249	0.155	3929	5363
358	4263	0.0210	0.1484	0.1688	0.1154	0.0804	8.4568	10.0790	0.153	4005	4920
359	4275	0.0162	0.1541	0.1700	0.1282	0.0660	8.9203	9.6889	0.158	4166	4781
360	4286	0.0148	0.1440	0.1511	0.1257	0.0670	7.7658	9.7355	0.149	3764	4798
361	4298	0.0133	0.1450	0.1849	0.1204	0.0676	8.9665	10.5180	0.150	4182	5076
362	4310	0.0128	0.1459	0.1755	0.1117	0.0708	9.2640	10.4118	0.151	4285	5038
363	4322	0.0271	0.1428	0.1749	0.1338	0.0771	8.6428	11.8612	0.148	4069	5553
364	4334	0.0144	0.1566	0.1771	0.1494	0.0801	8.6814	13.2899	0.161	4083	6061
365	4346	0.0141	0.1492	0.2146	0.1345	0.0817	9.5101	12.1529	0.154	4371	5657
366	4358	0.0123	0.1453	0.2049	0.1472	0.0991	9.7779	12.2306	0.150	4464	5684
367	4370	0.0116	0.1444	0.1606	0.1269	0.0948	8.8053	12.7629	0.149	4126	5874
368	4382	0.0116	0.1436	0.1750	0.1196	0.1042	8.4833	12.3593	0.149	4014	5730
369	4394	0.0130	0.1463	0.2064	0.1421	0.0848	9.7159	12.3059	0.151	4442	5711
370	4406	0.0138	0.1544	0.1805	0.1384	0.0844	9.7236	12.8364	0.158	4445	5900
371	4418	0.0125	0.1468	0.1811	0.1259	0.0806	9.4972	11.9350	0.151	4366	5579
372	4430	0.0133	0.1471	0.1822	0.1295	0.0765	9.1111	12.3491	0.152	4232	5727
373	4442	0.0135	0.1511	0.1793	0.1326	0.0741	10.8265	11.4102	0.155	4828	5393
374	4454	0.0128	0.1532	0.1622	0.1142	0.0684	10.3560	11.1408	0.157	4665	5297
375	4466	0.0126	0.1441	0.1704	0.1282	0.0655	9.2698	11.4107	0.149	4287	5393
376	4478	0.0135	0.1495	0.1579	0.1226	0.0797	10.0505	13.0743	0.154	4559	5984
377	4489	0.0165	0.1612	0.1821	0.1304	0.0811	10.8862	13.1074	0.165	4849	5996
378	4501	0.0191	0.1489	0.1723	0.1311	0.0877	10.6364	12.6935	0.153	4762	5849
379	4513	0.0198	0.1621	0.1700	0.1210	0.0687	9.8722	11.6740	0.166	4497	5487
380	4525	0.0168	0.1498	0.1593	0.1131	0.0663	8.7840	10.1259	0.154	4118	4936
381	4537	0.0153	0.1231	0.1431	0.0974	0.0581	7.5329	7.9665	0.130	3684	4169
383	4561	0.2337	0.1205	0.1467	0.0928	0.0548	6.9676	9.6739	0.127	3487	4776
384	4573	0.0121	0.1155	0.1367	0.0911	0.0626	7.1753	9.0415	0.123	3559	4551
385	4585	0.0118	0.1189	0.1275	0.1010	0.0665	7.1792	8.1359	0.126	3561	4229
386	4597	0.0112	0.1282	0.1421	0.0985	0.0622	7.6728	9.4914	0.134	3732	4711
387	4609	0.0108	0.1211	0.1435	0.1117	0.0772	7.9348	10.0259	0.128	3823	4901
388	4621	0.0127	0.1272	0.1569	0.1168	0.0563	8.2783	9.7739	0.133	3943	4811
389	4633	0.0125	0.1320	0.1725	0.1102	0.0630	8.8915	11.0142	0.138	4156	5252
390	4645	0.0128	0.1397	0.1536	0.1326	0.0594	8.7329	10.5379	0.145	4101	5083
391	4657	0.0202	0.1465	0.1706	0.1274	0.0781	8.4730	10.0458	0.151	4010	4908
392	4669	0.0959	0.1347	0.2785	0.2354	0.1368	7.7885	9.6732	0.140	3772	4776
401	4776	0.0664	0.1050	0.1780	0.1267	0.0802	6.6600	8.4944	0.113	3380	4357
402	4788	0.0487	0.1085	0.1404	0.1100	0.0675	6.9584	8.1859	0.116	3484	4247
403	4800	0.0296	0.1190	0.1613	0.1076	0.0611	7.6724	9.5338	0.126	3732	4726
404	4812	0.0248	0.1251	0.1456	0.1121	0.0607	7.8751	9.1809	0.131	3802	4601
405	4824	0.0172	0.1224	0.1401	0.0931	0.0489	8.0663	8.4850	0.129	3869	4353

**Table F.2.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
406	4836	0.0149	0.1060	0.1243	0.0940	0.0465	6.8085	8.0117	0.114	3432	4185
407	4848	0.0113	0.1119	0.1412	0.0896	0.0443	7.4407	8.4257	0.119	3651	4332
408	4860	0.0117	0.1134	0.1333	0.1035	0.0587	7.3939	8.8649	0.121	3635	4488
409	4872	0.0117	0.1186	0.1440	0.1021	0.0546	7.4501	9.3804	0.126	3655	4671
410	4883	0.0103	0.1266	0.1367	0.0917	0.0516	7.1242	8.4658	0.133	3541	4346
411	4895	0.0104	0.1189	0.1378	0.0880	0.0515	7.2135	10.3475	0.126	3573	5015
412	4907	0.0096	0.1262	0.1376	0.1070	0.0541	7.7640	9.8296	0.133	3764	4831
413	4919	0.0105	0.1253	0.1283	0.0998	0.0636	8.2695	8.9657	0.132	3940	4524
414	4931	0.0111	0.1167	0.1258	0.0944	0.0585	7.4725	9.9637	0.124	3663	4879
415	4943	0.0098	0.1153	0.1393	0.0997	0.0668	7.9979	10.1109	0.122	3845	4931
416	4955	0.0117	0.1285	0.1477	0.1168	0.0703	9.8651	10.5531	0.135	4494	5088
417	4967	0.0115	0.1344	0.1487	0.0977	0.0729	8.3603	10.7103	0.140	3971	5144
418	4979	0.0121	0.1331	0.1400	0.1099	0.0588	8.7892	11.5823	0.139	4120	5454
419	4991	0.0143	0.1327	0.1543	0.0972	0.0667	8.3133	11.0973	0.138	3955	5282
420	5003	0.0118	0.1252	0.1414	0.1030	0.0692	8.7922	11.7931	0.132	4121	5529
421	5015	0.0112	0.1294	0.1367	0.1032	0.0624	8.6779	10.0175	0.135	4081	4898
422	5027	0.0113	0.1341	0.1445	0.1070	0.0537	8.2921	11.1406	0.140	3947	5297
423	5039	0.0113	0.1277	0.1386	0.1008	0.0533	7.9557	10.6751	0.134	3830	5132
424	5051	0.0111	0.1164	0.1450	0.0964	0.0502	7.5380	11.1865	0.123	3685	5313
425	5063	0.0121	0.1191	0.1388	0.1106	0.0587	7.9753	9.9936	0.126	3837	4889
426	5074	0.0111	0.1349	0.1562	0.1133	0.0708	8.5448	11.7611	0.141	4035	5518
427	5086	0.0124	0.1419	0.1599	0.1103	0.0720	9.2542	11.0443	0.147	4282	5263
428	5098	0.0120	0.1354	0.1459	0.1074	0.0618	8.9140	11.3661	0.141	4164	5377
429	5110	0.0111	0.1369	0.1367	0.0999	0.0604	8.0511	10.1152	0.142	3864	4933
430	5122	0.0107	0.1272	0.1468	0.0954	0.0636	7.7120	10.1723	0.133	3746	4953
431	5134	0.0101	0.1269	0.1262	0.0914	0.0504	7.8767	8.4486	0.133	3803	4340
432	5146	0.0095	0.1132	0.1171	0.0923	0.0623	6.6137	7.9595	0.121	3364	4167
433	5158	0.0287	0.1108	0.1298	0.1027	0.0530	6.6901	7.7079	0.118	3391	4077
434	5170	0.0401	0.1091	0.1472	0.1025	0.0630	5.7631	7.6104	0.117	3068	4042
435	5182	0.0361	0.0950	0.1244	0.0880	0.0446	6.4274	7.2299	0.104	3299	3907
436	5194	0.0286	0.0987	0.1173	0.0898	0.0466	6.0098	7.1445	0.107	3154	3877
437	5206	0.2340	0.0885	0.1124	0.0761	0.0406	5.4889	7.0952	0.098	2973	3859
438	5218	0.0162	0.0906	0.0967	0.0750	0.0427	5.5594	7.8047	0.100	2998	4112
439	5230	0.0144	0.0975	0.1086	0.0784	0.0452	6.3543	7.5274	0.106	3274	4013
440	5242	0.0121	0.1060	0.1118	0.0831	0.0460	6.7624	8.1388	0.114	3416	4230
441	5254	0.0111	0.0978	0.1010	0.0746	0.0426	6.2967	7.2654	0.106	3254	3920
442	5266	0.0097	0.0900	0.0939	0.0598	0.0355	5.0960	5.9220	0.099	2837	3442
443	5277	0.0079	0.0929	0.0890	0.0652	0.0317	5.1257	5.6741	0.102	2847	3354
444	5289	0.0077	0.0880	0.0809	0.0646	0.0327	4.9468	5.8480	0.097	2785	3416
445	5301	0.0073	0.0753	0.0845	0.0614	0.0355	5.2401	5.7114	0.086	2887	3368
446	5313	0.0070	0.0714	0.0766	0.0601	0.0307	4.7566	5.4492	0.082	2719	3274
447	5325	0.0062	0.0675	0.0632	0.0494	0.0337	3.9666	4.7753	0.079	2444	3035
448	5337	0.0060	0.0683	0.0705	0.0442	0.0274	4.1299	4.5006	0.079	2501	2937
449	5349	0.0061	0.0545	0.0576	0.0425	0.0250	2.9956	3.8382	0.067	2106	2702
450	5361	0.0043	0.0574	0.0563	0.0359	0.0178	2.2944	3.2252	0.069	1863	2484

**Table F.2.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
451	5373	0.0049	0.0545	0.0504	0.0415	0.0225	3.3576	4.0420	0.067	2232	2774
452	5385	0.0054	0.0645	0.0668	0.0485	0.0310	3.5818	4.3473	0.076	2310	2883
453	5397	0.0073	0.0604	0.0575	0.0476	0.0288	4.4838	5.4166	0.072	2624	3263
454	5409	0.0064	0.0666	0.0677	0.0570	0.0299	3.9312	5.1025	0.078	2432	3151
455	5421	0.0078	0.0791	0.0860	0.0565	0.0333	4.9191	5.9006	0.089	2775	3435
456	5433	0.0077	0.0914	0.0985	0.0656	0.0448	6.4501	6.5303	0.100	3307	3659
457	5445	0.0084	0.0875	0.0932	0.0683	0.0385	6.0733	7.9336	0.097	3176	4157
458	5457	0.0091	0.1024	0.1079	0.0838	0.0480	6.0275	7.3132	0.111	3160	3937
459	5469	0.0083	0.1133	0.1193	0.0782	0.0487	6.1107	9.4658	0.121	3189	4702
460	5480	0.0088	0.1060	0.1137	0.0855	0.0455	7.7201	8.7953	0.114	3749	4464
461	5492	0.0097	0.1143	0.1183	0.0935	0.0513	7.5433	8.5206	0.122	3687	4366
462	5504	0.0093	0.1161	0.1110	0.0982	0.0471	6.9953	8.8868	0.123	3497	4496
463	5516	0.0081	0.1129	0.1067	0.0856	0.0460	6.8917	8.1617	0.120	3461	4238
464	5528	0.0087	0.1027	0.0931	0.0750	0.0337	6.5123	6.9011	0.111	3329	3790
465	5540	0.0067	0.1003	0.0943	0.0672	0.0310	5.4975	5.6305	0.109	2976	3339
466	5552	0.0073	0.0930	0.0829	0.0577	0.0349	5.7305	5.6573	0.102	3057	3348
467	5564	0.0063	0.0928	0.0789	0.0556	0.0251	4.4820	4.7919	0.102	2623	3041
468	5576	0.0057	0.0827	0.0756	0.0435	0.0230	5.0637	4.4970	0.093	2825	2936
469	5588	0.0069	0.0706	0.0693	0.0532	0.0250	4.4109	4.1913	0.081	2598	2827
470	5600	0.0050	0.0756	0.0619	0.0433	0.0217	3.6694	3.7619	0.086	2341	2675
471	5612	0.0069	0.0707	0.0561	0.0431	0.0209	3.6600	3.8573	0.081	2337	2709
472	5624	0.0062	0.0624	0.0623	0.0409	0.0196	3.5290	3.6182	0.074	2292	2624
473	5636	0.0048	0.0558	0.0548	0.0449	0.0178	2.9754	3.2050	0.068	2099	2477
474	5648	0.0053	0.0586	0.0514	0.0405	0.0216	3.1558	3.5705	0.070	2162	2607
475	5660	0.0064	0.0544	0.0561	0.0485	0.0244	3.4755	4.1480	0.066	2273	2812
476	5671	0.0056	0.0634	0.0771	0.0534	0.0405	4.9485	5.5198	0.075	2785	3299
477	5683	0.0061	0.0827	0.0980	0.0650	0.0362	6.1640	6.0015	0.093	3208	3471
478	5695	0.0084	0.0895	0.0919	0.0617	0.0360	4.7705	5.8784	0.099	2723	3427
479	5707	0.0064	0.0737	0.0816	0.0553	0.0248	4.2145	4.7803	0.084	2530	3037
480	5719	0.0059	0.0689	0.0674	0.0554	0.0216	4.3467	4.2822	0.080	2576	2860
481	5731	0.0065	0.0808	0.0812	0.0531	0.0293	5.1101	6.2707	0.091	2841	3566
482	5743	0.0072	0.0971	0.0961	0.0684	0.0290	5.9212	7.0199	0.106	3123	3833
483	5755	0.0089	0.1110	0.1176	0.0792	0.0392	6.3901	5.4945	0.119	3286	3291
484	5767	0.0084	0.0984	0.1017	0.0674	0.0374	6.2668	6.9304	0.107	3243	3801
485	5779	0.0095	0.1180	0.1234	0.0878	0.0458	7.7368	7.6231	0.125	3754	4047
486	5791	0.0085	0.1073	0.1136	0.0846	0.0444	6.7520	7.3475	0.115	3412	3949
487	5803	0.0076	0.0927	0.1044	0.0706	0.0369	5.3383	5.8899	0.102	2921	3431
488	5815	0.0060	0.0745	0.0788	0.0546	0.0272	4.1823	4.3523	0.085	2519	2885
489	5827	0.0046	0.0674	0.0686	0.0477	0.0227	3.7361	4.9881	0.078	2364	3111
490	5839	0.0056	0.0730	0.0706	0.0537	0.0287	4.3007	5.2356	0.084	2560	3198
491	5851	0.0060	0.0735	0.0820	0.0632	0.0276	5.0629	6.2927	0.084	2825	3574
492	5863	0.0063	0.0811	0.0849	0.0636	0.0300	5.0430	6.7058	0.091	2818	3721
493	5874	0.0077	0.0915	0.0997	0.0710	0.0373	5.6992	6.8532	0.101	3046	3773
494	5886	0.0067	0.0989	0.0990	0.0729	0.0345	6.1685	7.3133	0.107	3209	3937
495	5898	0.0076	0.0989	0.0937	0.0736	0.0416	6.3942	6.4574	0.107	3288	3633

**Table F.2.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
496	5910	0.0115	0.0885	0.0911	0.0604	0.0289	5.0990	5.2331	0.098	2838	3198
497	5922	0.0066	0.0676	0.0645	0.0522	0.0278	4.4595	5.4400	0.079	2615	3271
498	5934	0.0062	0.0773	0.0832	0.0513	0.0325	4.7612	5.1187	0.088	2720	3157
499	5946	0.0069	0.0766	0.0689	0.0576	0.0247	4.0530	5.2610	0.087	2474	3208
500	5958	0.0062	0.0673	0.0707	0.0485	0.0259	4.0808	4.1844	0.078	2484	2825
501	5970	0.0116	0.0724	0.0595	0.0510	0.0260	4.3335	4.5078	0.083	2572	2940
502	5982	0.0052	0.0743	0.0698	0.0500	0.0214	3.9123	4.6659	0.085	2425	2996
503	5994	0.0050	0.0681	0.0626	0.0434	0.0220	4.0291	3.6036	0.079	2466	2619
504	6006	0.0058	0.0589	0.0553	0.0418	0.0187	3.2471	3.0415	0.071	2194	2419
505	6018	0.0043	0.0568	0.0460	0.0356	0.0181	1.9742	3.1396	0.069	1752	2454
506	6030	0.0051	0.0513	0.0457	0.0313	0.0174	2.9635	3.5855	0.064	2095	2612
507	6042	0.0041	0.0519	0.0519	0.0375	0.0199	2.9293	3.1873	0.064	2083	2471
508	6054	0.0047	0.0560	0.0534	0.0354	0.0202	3.2087	4.4728	0.068	2181	2927
509	6066	0.0046	0.0551	0.0594	0.0395	0.0229	3.1058	4.3264	0.067	2145	2875
510	6077	0.0063	0.0645	0.0636	0.0438	0.0267	4.4486	4.1688	0.076	2612	2819
511	6089	0.0058	0.0759	0.0618	0.0466	0.0317	3.9267	4.8581	0.086	2430	3064
512	6101	0.0080	0.0827	0.0808	0.0627	0.0329	5.3229	5.7074	0.093	2915	3366
513	6113	0.0072	0.0852	0.0874	0.0669	0.0456	5.5359	6.4816	0.095	2989	3641
514	6125	0.0070	0.0812	0.0846	0.0592	0.0342	5.4762	6.5575	0.091	2969	3668
515	6137	0.0071	0.0896	0.0871	0.0636	0.0351	6.3190	6.4879	0.099	3262	3644
516	6149	0.0087	0.1030	0.0972	0.0692	0.0379	6.7692	7.2092	0.111	3418	3900
517	6161	0.0087	0.1143	0.1143	0.0698	0.0377	6.0213	6.3506	0.122	3158	3595
518	6173	0.0095	0.0967	0.0912	0.0704	0.0363	5.7229	5.9486	0.105	3054	3452
519	6185	0.0072	0.0898	0.0807	0.0611	0.0260	4.9657	4.8713	0.099	2791	3069
520	6197	0.0059	0.0753	0.0664	0.0460	0.0248	4.2014	4.7652	0.086	2526	3031
521	6209	0.0057	0.0683	0.0731	0.0513	0.0239	4.5922	4.0261	0.079	2661	2769
522	6221	0.0062	0.0673	0.0679	0.0462	0.0218	4.1853	5.3145	0.078	2520	3227
523	6233	0.0066	0.0718	0.0739	0.0494	0.0229	4.2800	4.5402	0.083	2553	2951
524	6245	0.0062	0.0757	0.0748	0.0535	0.0257	5.3380	5.8145	0.086	2921	3404
525	6257	0.0080	0.0943	0.0920	0.0663	0.0328	6.2016	7.5718	0.103	3221	4029
526	6268	0.0094	0.1137	0.0978	0.0730	0.0370	6.8672	7.6079	0.121	3452	4042
527	6280	0.0086	0.1205	0.1016	0.0835	0.0340	6.5470	6.7436	0.127	3341	3734
528	6292	0.0082	0.1018	0.0999	0.0644	0.0391	5.9214	6.3594	0.110	3123	3598
529	6304	0.0070	0.0947	0.0849	0.0662	0.0270	5.1360	5.6003	0.104	2850	3328
530	6316	0.0063	0.0794	0.0817	0.0498	0.0248	5.0994	4.3806	0.090	2838	2895
531	6328	0.0059	0.0685	0.0629	0.0388	0.0159	3.8529	3.9343	0.079	2404	2736
532	6340	0.0048	0.0534	0.0563	0.0385	0.0122	2.4620	2.8707	0.066	1921	2358
533	6352	0.0050	0.0530	0.0451	0.0345	0.0129	3.0868	3.1557	0.065	2138	2459
534	6364	0.0045	0.0594	0.0544	0.0418	0.0192	3.7016	4.5994	0.071	2352	2972
535	6376	0.0068	0.0711	0.0665	0.0532	0.0267	4.2523	4.7984	0.082	2543	3043
536	6388	0.0064	0.0706	0.0755	0.0587	0.0270	4.6826	5.8248	0.081	2693	3408
537	6400	0.0062	0.0679	0.0831	0.0512	0.0317	4.4940	5.5580	0.079	2627	3313
538	6412	0.0054	0.0643	0.0722	0.0612	0.0267	4.2721	5.6670	0.076	2550	3352
539	6424	0.0057	0.0668	0.0821	0.0516	0.0305	4.5423	4.7607	0.078	2644	3030
540	6436	0.0064	0.0709	0.0708	0.0575	0.0250	3.6054	5.5106	0.082	2318	3296



**Table F.2.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
541	6448	0.0051	0.0769	0.0672	0.0590	0.0272	4.5130	5.5372	0.087	2634	3306
542	6460	0.0073	0.0821	0.0828	0.0547	0.0332	4.5473	5.5164	0.092	2646	3298
543	6471	0.0062	0.0692	0.0773	0.0591	0.0281	4.2099	5.3664	0.080	2529	3245
544	6483	0.0066	0.0736	0.0800	0.0580	0.0266	4.9682	5.8808	0.084	2792	3428
545	6495	0.0061	0.0707	0.0757	0.0564	0.0246	4.5390	5.2003	0.081	2643	3186
546	6507	0.0070	0.0704	0.0678	0.0531	0.0225	3.6311	3.6179	0.081	2327	2624
547	6519	0.0051	0.0607	0.0582	0.0369	0.0177	3.5103	3.9188	0.072	2285	2731
548	6531	0.0053	0.0609	0.0604	0.0428	0.0242	4.6713	4.8517	0.072	2689	3062
549	6543	0.0069	0.0757	0.0668	0.0492	0.0315	4.4027	4.8037	0.086	2596	3045
550	6555	0.0068	0.0690	0.0823	0.0558	0.0308	4.1218	5.0019	0.080	2498	3115
551	6567	0.0073	0.0698	0.0773	0.0568	0.0363	5.0918	5.8778	0.081	2835	3427
552	6579	0.0071	0.0720	0.0814	0.0590	0.0356	4.2236	5.7782	0.083	2533	3391
553	6591	0.0067	0.0775	0.0909	0.0573	0.0326	4.8452	6.1893	0.088	2749	3537
554	6603	0.0075	0.0816	0.0841	0.0651	0.0465	5.7706	7.0121	0.091	3071	3830
555	6615	0.0084	0.0860	0.1024	0.0726	0.0342	6.0621	7.2699	0.096	3172	3921
556	6627	0.0088	0.0894	0.0963	0.0697	0.0365	5.7172	6.4137	0.099	3052	3617
559	6663	0.0052	0.0680	0.0726	0.0510	0.0300	3.8689	5.1832	0.079	2410	3180
560	6674	0.0057	0.0726	0.0695	0.0591	0.0466	5.3933	6.1084	0.083	2940	3509
561	6686	0.0072	0.0781	0.0908	0.0755	0.0377	6.2805	6.8896	0.088	3248	3786
562	6698	0.0083	0.0906	0.1040	0.0676	0.0497	6.6010	7.5386	0.100	3360	4017
563	6710	0.0081	0.0971	0.1060	0.0722	0.0376	5.8842	7.5706	0.106	3110	4028
564	6722	0.0071	0.0962	0.1084	0.0734	0.0419	5.4728	7.4576	0.105	2967	3988
565	6734	0.0070	0.0879	0.0955	0.0660	0.0330	5.1148	5.5971	0.097	2843	3327
566	6746	0.0062	0.0735	0.0799	0.0579	0.0253	4.5081	4.8548	0.084	2632	3063
567	6758	0.0052	0.0700	0.0719	0.0487	0.0259	4.2480	4.2914	0.081	2542	2863
568	6770	0.0063	0.0820	0.0860	0.0640	0.0269	5.4236	6.0672	0.092	2950	3494
569	6782	0.0072	0.0913	0.1009	0.0682	0.0315	6.3454	5.6061	0.100	3271	3330
570	6794	0.0081	0.1035	0.0946	0.0776	0.0340	6.8202	6.4146	0.112	3436	3617
571	6806	0.0076	0.1035	0.1057	0.0718	0.0317	7.3269	7.5692	0.112	3612	4028
572	6818	0.0077	0.1049	0.0991	0.0703	0.0339	6.2230	7.2343	0.113	3228	3909
573	6830	0.0059	0.0947	0.0883	0.0672	0.0295	5.2017	5.2631	0.104	2873	3208
574	6842	0.0075	0.0819	0.0855	0.0566	0.0261	4.9694	5.1142	0.092	2793	3155
575	6854	0.0066	0.0835	0.0764	0.0580	0.0253	5.3114	5.6588	0.093	2911	3349
576	6865	0.0056	0.0787	0.0654	0.0548	0.0230	4.2931	4.5538	0.089	2557	2956
577	6877	0.0060	0.0813	0.0774	0.0503	0.0291	5.9068	6.2015	0.091	3118	3542
578	6889	0.0074	0.1040	0.0977	0.0682	0.0326	5.9253	6.5320	0.112	3125	3659
579	6901	0.0077	0.0931	0.0999	0.0677	0.0348	6.7854	7.0556	0.102	3424	3845
580	6913	0.0076	0.1062	0.1062	0.0915	0.0495	8.2217	8.9498	0.114	3923	4518
581	6925	0.0096	0.1179	0.1430	0.0868	0.0572	8.2485	10.9060	0.125	3932	5214
582	6937	0.0122	0.1209	0.1376	0.1050	0.0753	8.0278	9.8645	0.128	3856	4844
583	6949	0.0186	0.1241	0.1475	0.1164	0.0700	8.5908	10.0825	0.131	4051	4921
584	6961	0.0131	0.1299	0.1615	0.1197	0.0755	10.5333	12.2025	0.136	4726	5674
585	6973	0.0117	0.1444	0.1711	0.1174	0.0891	10.5186	12.1411	0.149	4721	5653
586	6985	0.0125	0.1451	0.1554	0.1137	0.0858	10.3903	11.9861	0.150	4677	5598
587	6997	0.0121	0.1514	0.1540	0.1181	0.0846	10.3603	11.8893	0.156	4666	5563

**Table F.2.3 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
588	7009	0.0128	0.1473	0.1578	0.1107	0.0738	9.5417	11.4047	0.152	4382	5391
589	7021	0.0134	0.1289	0.1660	0.1099	0.0690	8.9105	9.7568	0.135	4162	4805
590	7033	0.0159	0.1324	0.1527	0.1126	0.0653	8.5857	8.3715	0.138	4049	4313
591	7045	0.0388	0.1293	0.1588	0.1157	0.0628	7.7243	7.4367	0.135	3750	3981
593	7068	0.0415	0.1211	0.1672	0.1079	0.0529	6.8804	7.8678	0.128	3457	4134
594	7080	0.0306	0.1138	0.1338	0.0892	0.0489	7.1326	8.2516	0.121	3544	4270
595	7092	0.0228	0.1161	0.1409	0.1008	0.0462	7.2397	9.9757	0.123	3582	4883
596	7104	0.0190	0.1175	0.1453	0.1024	0.0776	8.1086	11.5436	0.125	3884	5440
597	7116	0.0195	0.1248	0.1494	0.1039	0.0575	9.3841	10.2036	0.131	4327	4964
598	7128	0.0203	0.1251	0.1722	0.1014	0.0542	7.6743	8.8639	0.131	3733	4488
599	7140	0.0223	0.1162	0.1301	0.1025	0.0567	6.9346	10.9525	0.123	3476	5230
600	7152	0.0178	0.1055	0.1681	0.0993	0.0539	7.2954	9.3868	0.114	3601	4674
602	7176	0.0124	0.0964	0.1173	0.0887	0.0439	6.0996	9.2885	0.105	3185	4639
603	7188	0.0095	0.1059	0.1165	0.1032	0.0553	7.0118	9.8182	0.114	3502	4827
604	7200	0.0119	0.1316	0.1321	0.0885	0.0549	7.1139	9.4458	0.137	3538	4695
605	7212	0.0132	0.1218	0.1390	0.0976	0.0684	8.4556	13.2598	0.128	4004	6050
606	7224	0.0145	0.1229	0.1710	0.1080	0.0628	8.7137	11.9230	0.129	4094	5575
607	7236	0.0149	0.1348	0.1656	0.1178	0.0600	7.6534	11.2020	0.140	3725	5319
608	7248	0.0109	0.1321	0.1347	0.0942	0.0675	7.3220	11.1757	0.138	3610	5310
609	7260	0.0111	0.1210	0.1216	0.0917	0.0725	7.2177	10.8950	0.128	3574	5210
610	7271	0.0112	0.1116	0.1459	0.1022	0.0463	7.5000	10.9899	0.119	3672	5243
611	7283	0.0099	0.1212	0.1298	0.0885	0.0469	6.5912	9.3769	0.128	3356	4670
612	7295	0.0103	0.1087	0.1309	0.0887	0.0641	6.5655	9.3920	0.116	3347	4676
613	7307	0.0094	0.1120	0.1401	0.0971	0.0663	6.8835	10.2597	0.119	3458	4984
614	7319	0.0113	0.1034	0.1513	0.1113	0.1061	6.5984	11.4264	0.112	3359	5399
615	7331	0.0104	0.1083	0.1733	0.1201	0.1106	7.5314	13.3938	0.116	3683	6098
616	7343	0.0126	0.1049	0.1656	0.1218	0.1296	7.6716	12.1215	0.113	3732	5646
617	7355	0.0228	0.0996	0.1548	0.1171	0.1405	6.7625	11.9838	0.108	3416	5597
618	7367	0.0114	0.1081	0.1862	0.1276	0.1153	7.7444	11.7273	0.116	3757	5506
619	7379	0.0191	0.1103	0.1896	0.1267	0.1067	7.6019	13.6520	0.118	3707	6190
620	7391	0.0123	0.1136	0.1912	0.1211	0.1157	7.3315	12.5374	0.121	3614	5793
621	7403	0.0122	0.1140	0.1395	0.1183	0.0799	6.8706	11.6757	0.121	3453	5487
622	7415	0.0125	0.1137	0.1471	0.1250	0.0948	7.3404	11.9734	0.121	3617	5593
623	7427	0.0116	0.1117	0.1688	0.1152	0.0936	7.5229	12.0469	0.119	3680	5619
624	7439	0.0108	0.1087	0.1572	0.1120	0.0804	6.0575	8.9554	0.116	3171	4520
625	7451	0.0093	0.0912	0.1430	0.0957	0.0797	5.6907	9.7653	0.100	3043	4808
626	7462	0.0086	0.0771	0.1097	0.0858	0.0695	4.6087	8.9679	0.087	2667	4525
627	7474	0.0074	0.0832	0.1164	0.0981	0.0829	5.1571	10.7009	0.093	2858	5141
628	7486	0.0090	0.0978	0.1653	0.1128	0.0874	5.4891	10.3242	0.106	2973	5007
629	7498	0.0083	0.0836	0.1274	0.0924	0.0715	4.1174	6.6074	0.093	2496	3686

\* Analyses that were below background levels are left blank.

**Table F.2.4: Section eb05019b Rim to Core Transect by LA-ICP-MS**Step size: 11.94  $\mu\text{m}$  $n =$  La-ICP-MS analysis number

$n$	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
10	107	0.0067	0.0116	0.0513	0.0113	0.0103	0.8669	0.5343	0.027	1367	1528
11	119	0.0052	0.0178	0.0173	0.0150	0.0238	1.4037	1.3666	0.033	1553	1824
12	131	0.0124	0.0357	0.0313	0.0236	0.0095	1.2940	0.6208	0.049	1515	1558
13	143	0.0066	0.0174	0.0172	0.0127	0.0086	1.2741	0.4456	0.033	1508	1496
14	155	0.0036	0.0215	0.0236	0.0108	0.0050	1.0560	1.2407	0.036	1432	1779
15	167	0.0017	0.0200	0.0268	0.0166	0.0076	0.4491	0.6733	0.035	1221	1577
16	179	0.0111	0.0382	0.0141	0.0087	0.0059	0.8526	0.9843	0.052	1362	1688
17	191	0.0021	0.0167	0.0276	0.0092	0.0063	0.8163	0.4616	0.032	1349	1502
18	203		0.0086	0.0151	0.0075	0.0072	0.5929	0.1959	0.024	1271	1407
19	215		0.0113	0.0099	0.0090	0.0083	0.3370	0.4975	0.027	1182	1515
20	227		0.0244	0.0120	0.0066	0.0053	0.4500	1.1064	0.039	1222	1731
21	239	0.0132	0.0096	0.0088	0.0156	0.0059	0.4765	0.6611	0.025	1231	1573
22	251	0.0027	0.0072	0.0072	0.0119	0.0036	0.5574	0.4982	0.023	1259	1515
23	263		0.0075	0.0110	0.0073	0.0024	0.7507	0.3865	0.023	1326	1475
24	275		0.0141	0.0168	0.0062	0.0100	0.3412	0.6324	0.029	1184	1563
26	299		0.0056	0.0163	0.0085	0.0043	0.6417	0.7355	0.022	1288	1599
27	310	0.0226	0.0091	0.0709	0.0893	0.0151	0.7268	0.8648	0.025	1318	1645
38	442	0.0671	0.0110	0.1344	0.0670	0.0184	0.1367	0.5595	0.027	1113	1537
39	454	0.0482	0.0113	0.0724	0.0480	0.0175	0.6153	1.2144	0.027	1279	1769
40	466	0.0279	0.0043	0.0412	0.0316	0.0283	0.4488	0.6071	0.020	1221	1554
41	478	0.0222	0.0068	0.0297	0.0201	0.0133	0.5844	1.0108	0.023	1268	1697
42	490	0.0115	0.0087	0.0405	0.0148	0.0132	0.6862	0.5801	0.024	1304	1544
43	501	0.0057	0.0088	0.0192	0.0252	0.0163	0.6668	0.9173	0.025	1297	1664
44	513	0.0030	0.0167	0.0236	0.0333	0.0084	1.2161	1.4646	0.032	1488	1858
45	525	0.0017	0.0182	0.0250	0.0128	0.0122	1.2333	1.5221	0.033	1494	1879
46	537	0.0127	0.0236	0.0504	0.0176	0.0125	1.2842	1.5309	0.038	1512	1882
47	549		0.0157	0.0217	0.0143	0.0149	1.2173	0.7823	0.031	1488	1616
48	561		0.0277	0.0456	0.0124	0.0104	1.4066	0.6425	0.042	1554	1566
49	573	0.0041	0.0279	0.0725	0.0239	0.0092	1.3203	0.7371	0.042	1524	1600
50	585	0.0019	0.0236	0.0309	0.0145	0.0102	0.9869	-0.0088	0.038	1408	1335
51	597		0.0101	0.0174	0.0352	0.0057	0.6872	1.1273	0.026	1304	1738
52	609	0.0024	0.0277	0.0170	0.0387	0.0046	0.8502	1.1209	0.042	1361	1736
53	621		0.0204	0.0120	0.0147	0.0105	0.4115	1.1257	0.035	1208	1738
54	633		0.0193	0.0124	0.0159	0.0067	0.7553	1.3118	0.034	1328	1804
55	645		0.0225	0.0310	0.0274	0.0108	1.5120	2.1457	0.037	1591	2100
62	728	0.0400	0.0267	0.0988	0.0584	0.0236	0.6978	2.2685	0.041	1308	2144
63	740	0.0379	0.0212	0.0541	0.0318	0.0417	1.1550	0.7887	0.036	1467	1618
64	752	0.0146	0.0176	0.0365	0.0348	0.0166	1.1467	0.5496	0.033	1464	1533
65	764	0.0158	0.0190	0.0296	0.0233	0.0194	0.9874	1.6189	0.034	1409	1913
66	776	0.0152	0.0144	0.0605	0.0222	0.0292	1.2056	0.8974	0.030	1484	1657
67	788	0.0074	0.0318	0.0676	0.0580	0.0488	1.2696	1.0407	0.046	1507	1708
68	800	0.0165	0.0282	0.0753	0.0273	0.0137	2.5048	0.7276	0.042	1936	1596

**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
69	812	0.0037	0.0349	0.0452	0.0178	0.0182	1.8734	1.8159	0.049	1716	1983
70	824		0.0170	0.0172	0.0203	0.0204	0.9907	-0.0089	0.032	1410	1335
71	836	0.0022	0.0358	0.0287	0.0237	0.0110	0.7184	0.5903	0.049	1315	1548
72	848	0.0027	0.0127	0.0280	0.0130	0.0442	0.8818	1.2575	0.028	1372	1785
73	860	0.0020	0.0080	0.0138	0.0326	0.0097	0.3884	2.0657	0.024	1200	2072
74	872	0.0031	0.0160	0.0319	0.0196	0.0189	0.9265	0.5938	0.031	1387	1549
75	884	0.0124	0.0161	0.0471	0.0286	0.0138	1.2842	2.3846	0.031	1512	2185
76	896		0.0332	0.0508	0.0247	0.0113	0.9738	1.5600	0.047	1404	1892
77	907		0.0237	0.0160	0.0200	0.0226	0.7781	1.9953	0.038	1336	2047
78	919		0.0105	0.0189	0.0114	0.0062	0.7145	1.0110	0.026	1314	1697
79	931		0.0128	0.0160	0.0144	0.0115	0.7055	0.9939	0.028	1311	1691
80	943	0.0021	0.0134	0.0141	0.0257	0.0134	0.6114	1.1690	0.029	1278	1753
81	955		0.0119	0.0251	0.0102	0.0159	0.5062	1.2147	0.027	1241	1770
82	967		0.0192	0.0277	0.0302	0.0254	1.1835	0.7729	0.034	1477	1613
83	979	0.0034	0.0289	0.0331	0.0296	0.0233	1.0725	0.6598	0.043	1438	1572
84	991	0.0121	0.0185	0.0307	0.0247	0.0129	0.9917	-0.0091	0.034	1410	1335
85	1003		0.0193	0.0451	0.0339	0.0167	1.0029	1.3976	0.034	1414	1835
86	1015	0.0017	0.0229	0.0337	0.0266	0.0154	1.0505	1.2128	0.038	1430	1769
87	1027	0.0122	0.0140	0.0463	0.0194	0.0154	1.0839	0.8346	0.029	1442	1634
88	1039	0.0031	0.0165	0.0289	0.0474	0.0216	1.1136	2.1517	0.032	1452	2103
89	1051	0.0116	0.0174	0.0302	0.0174	0.0221	1.0902	1.8640	0.032	1444	2000
90	1063		0.0145	0.0488	0.0302	0.0125	1.3922	1.7981	0.030	1549	1977
91	1075	0.0120	0.0214	0.0767	0.0255	0.0212	1.4785	2.0301	0.036	1579	2059
92	1087	0.0006	0.0292	0.0920	0.0297	0.0462	1.5952	3.1495	0.043	1620	2457
93	1098	0.0036	0.0326	0.0273	0.0357	0.0442	0.9422	2.7535	0.046	1393	2316
94	1110		0.0324	0.0304	0.0337	0.0197	0.8302	1.9521	0.046	1354	2032
95	1122	0.0098	0.0182	0.0236	0.0306	0.0339	1.0115	1.6771	0.033	1417	1934
96	1134	0.0002	0.0221	0.0511	0.0461	0.0180	1.2189	1.9991	0.037	1489	2048
97	1146	0.0002	0.0287	0.0289	0.0220	0.0151	1.7173	6.7724	0.043	1662	3745
98	1158	0.0013	0.0372	0.0382	0.0487	0.0271	2.8652	3.6535	0.051	2061	2636
99	1170	0.0088	0.0494	0.0405	0.0416	0.0183	1.7224	1.8670	0.062	1664	2001
100	1182		0.0235	0.0388	0.0278	0.0203	1.3271	2.0796	0.038	1527	2077
101	1194	0.0038	0.0396	0.0440	0.0215	0.0192	1.8100	2.5103	0.053	1694	2230
102	1206	0.0096	0.0303	0.0368	0.0278	0.0353	1.9998	3.7687	0.044	1760	2677
103	1218	0.0218	0.0705	0.0321	0.0307	0.0200	1.1659	2.7861	0.081	1471	2328
104	1230	0.0153	0.0313	0.0470	0.0351	0.0195	1.6771	1.9255	0.045	1648	2022
108	1278	0.0073	0.0414	0.0459	0.0308	0.0174	3.1190	3.0446	0.055	2149	2420
109	1290	0.0344	0.0586	0.0272	0.0221	0.0235	2.5435	6.6325	0.070	1949	3695
110	1301	0.0585	0.0707	0.0532	0.0262	0.0154	2.7868	4.5715	0.082	2034	2962
111	1313	0.0069	0.0645	0.0574	0.0400	0.0190	3.6880	4.7869	0.076	2347	3039
112	1325	0.0065	0.0413	0.0257	0.0412	0.0147	2.4440	1.1252	0.054	1915	1738
113	1337	0.0035	0.0366	0.0344	0.0262	0.0281	3.3104	3.2487	0.050	2216	2492
114	1349	0.0010	0.0396	0.0548	0.0403	0.0317	2.6423	4.5881	0.053	1984	2968
115	1361	0.0126	0.0542	0.0302	0.0357	0.0102	-0.0113	3.5905	0.066	1061	2614
116	1373	0.0115	0.0502	0.0302	0.0383	0.0123	3.3876	2.3017	0.063	2243	2156

**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
117	1385	0.0054	0.0272	0.0406	0.0187	0.0106	1.5974	0.7193	0.042	1621	1593
118	1397	0.0015	0.0177	0.0202	0.0172	0.0048	1.0119	0.6900	0.033	1417	1583
119	1409	0.0030	0.0324	0.0237	0.0124	0.0040	0.6358	1.4061	0.046	1286	1838
120	1421		0.0286	0.0203	0.0255	0.0107	1.2967	1.4121	0.043	1516	1840
121	1433	0.0301	0.0248	0.0186	0.0253	0.0088	1.1674	1.5381	0.039	1471	1884
122	1445	0.0007	0.0339	0.0216	0.0185	0.0126	1.7771	-0.0087	0.048	1683	1335
123	1457		0.0476	0.0464	0.0514	0.0175	1.2128	2.3828	0.060	1487	2185
124	1469	0.0051	0.0369	0.0915	0.0247	0.0445	2.2316	2.8960	0.050	1841	2367
127	1504	0.0204	0.0326	0.0539	0.0243	0.0124	2.1970	-0.0087	0.046	1829	1335
128	1516	0.0047	0.0481	0.0350	0.0203	0.0092	2.2418	1.2363	0.061	1845	1777
137	1624	0.0217	0.0545	0.1973	0.1236	0.0102	0.6977	0.6306	0.067	1308	1562
138	1636	0.0074	0.0250	0.1378	0.0640	0.0143	0.6305	-0.0086	0.039	1284	1335
139	1648	0.0053	0.0323	0.0750	0.0617	0.0126	1.5131	1.1561	0.046	1591	1749
140	1660	0.0124	0.0235	0.0632	0.0544	0.0174	1.7534	3.3821	0.038	1675	2540
141	1672	0.0157	0.0499	0.0899	0.0668	0.0153	1.1927	2.8164	0.062	1480	2339
142	1684	0.0048	0.0606	0.0691	0.0470	0.0267	3.4853	3.9079	0.072	2277	2727
143	1695	0.0134	0.0421	0.0658	0.0310	0.0145	0.9322	-0.0091	0.055	1389	1335
144	1707	0.0027	0.0435	0.0424	0.0552	0.0088	0.7297	1.8650	0.056	1319	2001
145	1719	0.0115	0.0295	0.0368	0.0260	0.0238	1.1112	1.6856	0.044	1452	1937
146	1731	0.0033	0.0389	0.0327	0.0201	0.0073	0.7695	2.4951	0.052	1333	2225
147	1743		0.0320	0.0210	0.0146	0.0067	0.8027	0.7090	0.046	1344	1590
148	1755		0.0211	0.0217	0.0126	0.0063	1.5498	1.7096	0.036	1604	1945
149	1767	0.0040	0.0241	0.0398	0.0189	0.0102	0.9283	1.4478	0.039	1388	1852
150	1779		0.0448	0.0310	0.0147	0.0345	0.7278	1.6538	0.058	1318	1926
151	1791	0.0028	0.0390	0.0270	0.0162	0.0078	1.5334	1.3853	0.052	1598	1830
152	1803	0.0004	0.0197	0.0341	0.0159	0.0098	1.4351	1.9663	0.035	1564	2037
153	1815		0.0280	0.0454	0.0133	0.0080	0.9353	-0.0089	0.042	1390	1335
154	1827	0.0124	0.0287	0.0204	0.0372	0.0099	0.6902	1.3763	0.043	1305	1827
155	1839	0.0031	0.0229	0.0223	0.0188	0.0067	1.4099	0.8672	0.038	1555	1646
156	1851	0.0027	0.0364	0.0378	0.0232	0.0067	1.7254	1.4840	0.050	1665	1865
157	1863	0.0003	0.0559	0.0394	0.0166	0.0069	1.4587	1.3774	0.068	1572	1827
158	1875	0.0034	0.0190	0.0241	0.0161	0.0078	1.5919	1.1979	0.034	1619	1764
159	1887	0.0035	0.0282	0.0245	0.0293	0.0106	1.6423	0.8655	0.042	1636	1645
160	1898		0.0315	0.0294	0.0320	0.0166	-0.0107	0.8519	0.045	1062	1641
161	1910		0.0286	0.0582	0.0243	0.0255	1.6625	2.0398	0.043	1643	2063
162	1922	0.0114	0.0368	0.0322	0.0272	0.0083	2.8750	1.8774	0.050	2065	2005
163	1934		0.0428	0.0563	0.0235	0.0121	2.5734	3.3127	0.056	1960	2515
164	1946		0.0860	0.0458	0.0320	0.0184	3.6993	3.4373	0.096	2351	2559
165	1958		0.0518	0.0627	0.0648	0.0229	4.8313	3.2317	0.064	2745	2486
166	1970		0.0859	0.0408	0.0495	0.0227	2.6351	3.2272	0.095	1981	2485
167	1982	0.0045	0.0449	0.0451	0.0454	0.0196	3.7484	6.6950	0.058	2368	3717
168	1994	0.0057	0.0353	0.0385	0.0292	0.0149	4.1611	9.0032	0.049	2512	4537
169	2006		0.0525	0.0764	0.0426	0.0193	4.5638	8.7857	0.065	2652	4460
170	2018	0.0023	0.0488	0.0623	0.0376	0.0317	5.6571	3.8542	0.061	3032	2708
171	2030	0.0004	0.0886	0.0765	0.0508	0.0170	4.9747	4.6756	0.098	2794	2999

**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
172	2042	0.0012	0.0721	0.0630	0.0645	0.0236	4.6656	6.2423	0.083	2687	3556
173	2054	0.0066	0.0591	0.0879	0.0509	0.0321	4.8419	4.1796	0.071	2748	2823
174	2066	0.0057	0.0788	0.0902	0.0519	0.0269	4.1138	4.2305	0.089	2495	2841
175	2078	0.0059	0.0519	0.0606	0.0358	0.0407	3.6396	4.8887	0.064	2330	3075
176	2090	0.0030	0.0596	0.0558	0.0347	0.0204	3.9497	4.4487	0.071	2438	2919
177	2101	0.0025	0.0475	0.0661	0.0293	0.0338	3.6051	4.5048	0.060	2318	2939
178	2113	0.0124	0.0557	0.0838	0.0403	0.0163	4.2063	3.8867	0.068	2527	2719
200	2376	0.0284	0.0433	0.0624	0.0452	0.0227	3.6670	5.5299	0.056	2340	3303
201	2388	0.0089	0.0673	0.0794	0.0560	0.0249	4.4037	4.9099	0.078	2596	3083
202	2400	0.0085	0.0584	0.0995	0.0669	0.0252	3.6243	5.1226	0.070	2325	3158
203	2412	0.0051	0.0626	0.0637	0.0476	0.0315	3.6803	4.8579	0.074	2344	3064
204	2424	0.0044	0.0360	0.0720	0.0409	0.0310	4.1424	4.1673	0.050	2505	2819
205	2436	0.0146	0.0403	0.0495	0.0367	0.0254	4.3009	4.7841	0.053	2560	3038
206	2448	0.0141	0.0814	0.0565	0.0496	0.0208	4.2321	6.3579	0.091	2536	3597
207	2460	0.0088	0.0703	0.0995	0.0559	0.0248	5.8141	6.4812	0.081	3086	3641
208	2472	0.0025	0.0690	0.0718	0.0536	0.0685	5.2906	7.5500	0.080	2904	4021
209	2484	0.0007	0.0545	0.0838	0.0513	0.0280	4.8421	4.6851	0.067	2748	3003
210	2495	0.0028	0.0644	0.0655	0.0553	0.0394	3.7690	5.6050	0.076	2375	3330
211	2507	0.0010	0.0584	0.0785	0.0458	0.0259	4.0146	3.5248	0.070	2461	2591
212	2519	0.0035	0.0600	0.0536	0.0621	0.0215	5.5249	6.1379	0.072	2986	3519
213	2531	0.0041	0.0792	0.0706	0.0786	0.0404	4.6825	5.9630	0.089	2693	3457
214	2543	0.0074	0.0710	0.1063	0.0569	0.0330	5.5382	6.7987	0.082	2990	3754
215	2555	0.0019	0.0873	0.0883	0.0586	0.0463	5.0048	7.0990	0.097	2805	3861
216	2567	0.0040	0.1077	0.1373	0.0793	0.0382	7.6833	10.2655	0.116	3736	4986
217	2579	0.0033	0.0946	0.0790	0.0720	0.0360	5.9478	7.4219	0.103	3133	3975
218	2591	0.0085	0.0989	0.1279	0.0815	0.0448	7.6642	8.1117	0.107	3729	4221
219	2603	0.0082	0.1059	0.1359	0.1205	0.0485	8.5042	11.3511	0.114	4021	5372
220	2615	0.0085	0.1131	0.1032	0.1186	0.0686	7.2005	8.3181	0.121	3568	4294
221	2627	0.0112	0.1284	0.0931	0.0887	0.0415	7.3152	7.4469	0.135	3608	3984
222	2639	0.0125	0.0730	0.1164	0.0777	0.0377	5.6397	8.8850	0.084	3026	4495
223	2651	0.0060	0.0729	0.1054	0.0572	0.0258	5.3985	6.5811	0.083	2942	3677
224	2663	0.0019	0.0873	0.1160	0.0686	0.0260	5.0934	8.1460	0.097	2836	4233
225	2675	0.0086	0.0828	0.0994	0.0772	0.0405	6.5258	5.8505	0.093	3333	3417
226	2687	0.0055	0.0953	0.0848	0.0734	0.0334	5.0578	5.7926	0.104	2823	3396
227	2698	0.0052	0.1015	0.1379	0.0636	0.0288	6.4245	6.5250	0.110	3298	3657
228	2710	0.0073	0.0631	0.0666	0.0451	0.0322	3.8894	7.2030	0.074	2417	3898
229	2722	0.0055	0.0653	0.0944	0.0663	0.0292	5.9087	5.5415	0.077	3119	3307
230	2734	0.0077	0.0744	0.0781	0.0500	0.0261	4.0741	5.2398	0.085	2481	3200
231	2746	0.0073	0.0721	0.0697	0.0531	0.0293	4.3854	4.0655	0.083	2590	2783
232	2758	0.0060	0.0650	0.0782	0.0471	0.0218	5.3750	5.4797	0.076	2934	3285
233	2770	0.0055	0.0613	0.0834	0.0475	0.0299	6.1377	5.8703	0.073	3199	3424
234	2782	0.0050	0.1050	0.0692	0.0619	0.0201	5.5245	7.0018	0.113	2985	3826
235	2794	0.0015	0.0710	0.0597	0.0482	0.0228	3.5489	4.7498	0.082	2299	3026
236	2806	0.0023	0.0795	0.0448	0.0270	0.0155	3.4848	4.0335	0.090	2277	2771
237	2818	0.0027	0.0705	0.0831	0.0381	0.0190	4.7050	3.7045	0.081	2701	2654

**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
238	2830	0.0055	0.0680	0.1071	0.0421	0.0155	4.4508	3.6215	0.079	2612	2625
239	2842	0.0028	0.0591	0.0522	0.0317	0.0152	2.6607	1.8163	0.071	1990	1983
240	2854	0.0068	0.0511	0.0633	0.0356	0.0131	3.0322	2.9001	0.063	2119	2369
241	2866	0.0152	0.0475	0.0239	0.0278	0.0076	2.2498	1.8609	0.060	1847	1999
242	2878	0.0029	0.0275	0.0329	0.0296	0.0083	2.7473	0.8519	0.042	2020	1641
243	2889	0.0111	0.0288	0.0433	0.0274	0.0072	2.1683	0.9342	0.043	1819	1670
244	2901	0.0023	0.0470	0.0314	0.0271	0.0223	1.1212	2.2727	0.060	1455	2146
245	2913	0.0001	0.0409	0.0352	0.0362	0.0074	1.4666	1.8591	0.054	1575	1999
246	2925		0.0494	0.0311	0.0291	0.0067	1.0967	2.0049	0.062	1447	2050
247	2937	0.0039	0.0624	0.0769	0.0340	0.0083	1.2514	2.8201	0.074	1500	2340
248	2949		0.0413	0.0374	0.0219	0.0100	1.0890	1.7588	0.054	1444	1963
249	2961		0.0503	0.0633	0.0504	0.0105	2.1881	1.8491	0.063	1826	1995
250	2973	0.0070	0.0528	0.0680	0.0240	0.0098	-0.0110	0.9336	0.065	1062	1670
251	2985	0.0034	0.0400	0.0448	0.0628	0.0106	2.9999	3.3093	0.053	2108	2514
252	2997	0.0062	0.0586	0.0526	0.0483	0.0118	3.6183	2.1603	0.070	2323	2106
253	3009	0.0143	0.0840	0.0758	0.0399	0.0087	3.1666	1.2942	0.094	2166	1798
254	3021		0.0405	0.0552	0.0286	0.0059	2.8711	1.7348	0.054	2063	1954
255	3033	0.0042	0.0696	0.0486	0.0232	0.0115	1.0215	1.6699	0.080	1420	1931
256	3045	0.0033	0.0429	0.0345	0.0241	0.0074	0.8406	0.5748	0.056	1357	1542
257	3057	0.0027	0.0373	0.0520	0.0181	0.0059	2.5840	1.3855	0.051	1963	1830
267	3176	0.0353	0.0560	0.0580	0.0407	0.0203	2.5667	0.9755	0.068	1957	1685
268	3188	0.0249	0.0625	0.0469	0.0385	0.0169	2.4024	1.4788	0.074	1900	1863
269	3200	0.0086	0.0441	0.0527	0.0411	0.0142	3.5700	4.4063	0.057	2306	2904
270	3212	0.0099	0.0585	0.0564	0.0423	0.0182	2.9747	5.2921	0.070	2099	3219
271	3224	0.0071	0.0561	0.0572	0.0709	0.0113	3.0371	3.8203	0.068	2121	2696
272	3236	0.0040	0.0554	0.0536	0.0483	0.0184	3.9644	2.7923	0.067	2443	2330
273	3248	0.0009	0.0472	0.0401	0.0353	0.0139	4.0676	3.1051	0.060	2479	2441
274	3260	0.0012	0.0425	0.0458	0.0432	0.0127	4.2616	2.8270	0.056	2547	2343
275	3272	0.0020	0.0491	0.0358	0.0675	0.0201	3.6521	4.6632	0.062	2335	2995
276	3284	0.0008	0.0515	0.0706	0.0466	0.0165	4.4120	5.1216	0.064	2599	3158
277	3295	0.0023	0.0517	0.0566	0.0439	0.0145	4.0284	3.7422	0.064	2465	2668
278	3307	0.0029	0.0653	0.0461	0.0406	0.0243	3.6370	4.9967	0.077	2329	3114
279	3319	0.0127	0.0508	0.0494	0.0397	0.0154	4.3838	4.3215	0.063	2589	2874
280	3331	0.0027	0.0653	0.0757	0.0364	0.0164	3.0308	2.3154	0.077	2119	2161
281	3343	0.0024	0.0488	0.0345	0.0330	0.0152	3.2253	3.3099	0.061	2186	2514
282	3355		0.0557	0.0485	0.0374	0.0202	4.8032	3.5950	0.068	2735	2615
283	3367	0.0035	0.0521	0.0607	0.0635	0.0220	4.3908	3.6826	0.064	2591	2647
284	3379	0.0164	0.0556	0.0810	0.0485	0.0141	6.1537	5.8240	0.068	3204	3408
285	3391	0.0014	0.0589	0.0611	0.0635	0.0202	6.7316	6.1999	0.071	3405	3541
286	3403	0.0080	0.0659	0.0446	0.0302	0.0276	5.1218	3.8798	0.077	2846	2717
287	3415	0.0037	0.0576	0.0477	0.0369	0.0174	3.5955	4.5094	0.069	2315	2940
288	3427	0.0012	0.0571	0.0525	0.0434	0.0207	3.5156	2.5798	0.069	2287	2255
289	3439	0.0037	0.0607	0.0453	0.0303	0.0143	4.0683	2.6281	0.072	2479	2272
290	3451	0.0024	0.0587	0.0543	0.0403	0.0135	4.0451	2.6753	0.070	2471	2289
291	3463	0.0142	0.0568	0.0679	0.0291	0.0138	4.2279	1.4659	0.069	2535	1859

**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
292	3475		0.0513	0.0453	0.0444	0.0125	3.4482	2.5291	0.064	2264	2237
293	3486	0.0023	0.0679	0.0371	0.0460	0.0089	3.9987	1.6597	0.079	2455	1928
294	3498	0.0022	0.0453	0.0401	0.0384	0.0120	3.6809	3.3718	0.058	2345	2536
295	3510	0.0043	0.0629	0.0826	0.0372	0.0173	3.4542	2.8093	0.074	2266	2336
296	3522	0.0141	0.0494	0.0546	0.0305	0.0208	2.8962	3.8916	0.062	2072	2721
297	3534	0.0123	0.0567	0.0558	0.0279	0.0116	1.3902	2.2093	0.069	1549	2123
298	3546	0.0147	0.0443	0.0607	0.0342	0.0144	3.7540	3.3870	0.057	2370	2542
299	3558	0.0039	0.0790	0.0486	0.0376	0.0129	5.8496	4.5373	0.089	3098	2950
300	3570	0.0026	0.0803	0.0636	0.0409	0.0186	4.7153	4.4645	0.090	2704	2924
301	3582	0.0045	0.0893	0.0856	0.0483	0.0146	3.7112	4.5536	0.099	2355	2956
302	3594	0.0051	0.0635	0.0520	0.0444	0.0201	6.1239	3.9440	0.075	3194	2739
303	3606	0.0040	0.1011	0.0682	0.0462	0.0137	3.6757	5.5517	0.109	2343	3311
304	3618	0.0018	0.0488	0.0628	0.0382	0.0155	4.8109	4.5788	0.061	2737	2965
305	3630		0.0667	0.1158	0.0417	0.0120	3.7186	3.9720	0.078	2358	2749
306	3642	0.0041	0.0710	0.0608	0.0430	0.0152	3.9353	4.6276	0.082	2433	2982
307	3654		0.0547	0.0737	0.0328	0.0185	3.9524	4.5183	0.067	2439	2944
308	3666	0.0028	0.0698	0.0469	0.0411	0.0155	4.3104	4.2827	0.081	2563	2860
309	3678	0.0035	0.0928	0.0985	0.0482	0.0241	4.3937	5.7521	0.102	2592	3382
310	3689	0.0046	0.0832	0.0432	0.0490	0.0203	5.2959	5.6635	0.093	2906	3351
311	3701	0.0033	0.0618	0.0805	0.0728	0.0155	4.3548	5.0189	0.073	2579	3121
312	3713	0.0014	0.0943	0.0766	0.0622	0.0181	4.3511	2.1132	0.103	2578	2089
313	3725	0.0032	0.0662	0.0688	0.0534	0.0164	5.9414	3.9682	0.077	3130	2748
314	3737	0.0028	0.0704	0.0513	0.0462	0.0145	4.8531	4.5433	0.081	2752	2952
315	3749	0.0092	0.0793	0.0877	0.0714	0.0217	4.4073	5.4775	0.089	2597	3284
316	3761	0.0187	0.0607	0.0892	0.0649	0.0248	3.9234	4.1702	0.072	2429	2820
317	3773	0.0104	0.0573	0.0873	0.1152	0.0209	7.2364	3.5474	0.069	3580	2599
318	3785	0.0087	0.0671	0.0596	0.0441	0.0336	3.2552	3.6889	0.078	2197	2649
319	3797	0.0083	0.0710	0.0832	0.0373	0.0223	3.7924	1.7677	0.082	2383	1966
320	3809	0.0035	0.0485	0.0463	0.0384	0.0181	4.0166	3.2782	0.061	2461	2503
321	3821	0.0052	0.0673	0.0560	0.0465	0.0225	4.0964	3.6570	0.078	2489	2638
322	3833	0.0022	0.0737	0.0525	0.0454	0.0188	5.5886	6.0091	0.084	3008	3473
323	3845	0.0022	0.0684	0.0520	0.0818	0.0264	5.0839	5.0676	0.079	2832	3139
324	3857	0.0060	0.0666	0.0718	0.0405	0.0199	4.6715	4.9694	0.078	2689	3104
325	3869	0.0005	0.0907	0.0927	0.0481	0.0176	5.3283	5.5882	0.100	2917	3324
326	3881	0.0019	0.0756	0.0721	0.0685	0.0277	4.0961	6.3361	0.086	2489	3590
327	3892	0.0035	0.0907	0.0920	0.0579	0.0420	5.0286	7.0044	0.100	2813	3827
328	3904	0.0050	0.0856	0.0667	0.0543	0.0340	4.8872	6.3628	0.095	2764	3599
329	3916	0.0025	0.0748	0.0548	0.0577	0.0256	5.7364	5.7118	0.085	3059	3368
330	3928	0.0043	0.0850	0.0935	0.0666	0.0232	5.6308	6.2679	0.095	3022	3565
331	3940	0.0010	0.0731	0.0774	0.0492	0.0221	5.0624	6.4787	0.084	2825	3640
332	3952	0.0022	0.0720	0.0611	0.0619	0.0211	5.3172	6.0741	0.083	2913	3497
333	3964	0.0049	0.0639	0.0850	0.0682	0.0200	4.9753	4.4497	0.075	2795	2919
334	3976	0.0045	0.0856	0.0726	0.0508	0.0267	5.2643	6.2002	0.095	2895	3541
335	3988	0.0037	0.0889	0.0816	0.0669	0.0314	5.8471	7.3295	0.098	3098	3943
336	4000	0.0048	0.1172	0.0685	0.0644	0.0306	7.0514	4.1057	0.124	3516	2797



**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
392	4669	0.0090	0.0757	0.1037	0.0651	0.0341	6.1058	7.3911	0.086	3188	3965
393	4680	0.0046	0.0838	0.0899	0.0644	0.0387	5.9325	5.7136	0.094	3127	3368
394	4692	0.0033	0.0778	0.0887	0.0645	0.0253	5.8758	6.7025	0.088	3108	3720
395	4704	0.0089	0.0954	0.0953	0.0814	0.0366	5.9733	7.4425	0.104	3141	3983
396	4716	0.0058	0.0951	0.1018	0.0615	0.0337	7.1943	7.8886	0.104	3566	4141
411	4895	0.0075	0.1386	0.1744	0.1010	0.0498	8.0633	9.9074	0.144	3868	4859
412	4907	0.0075	0.1685	0.0842	0.0892	0.0424	7.5628	9.4266	0.171	3694	4688
413	4919	0.0074	0.1092	0.1034	0.1002	0.0299	8.5430	9.1791	0.117	4035	4600
414	4931	0.0107	0.1229	0.1407	0.0699	0.0389	8.9089	7.9980	0.129	4162	4180
415	4943	0.0103	0.1355	0.1532	0.0867	0.0279	8.2251	9.2064	0.141	3924	4610
416	4955	0.0074	0.1239	0.1100	0.0865	0.0356	7.7994	8.8450	0.130	3776	4481
417	4967	0.0076	0.1406	0.1094	0.0760	0.0284	7.6594	10.9131	0.146	3727	5216
418	4979	0.0075	0.1272	0.1277	0.1019	0.0336	7.4270	7.9734	0.133	3647	4171
419	4991	0.0069	0.1303	0.1303	0.0947	0.0344	8.6423	9.6775	0.136	4069	4777
420	5003	0.0082	0.1320	0.1114	0.1056	0.0436	8.3847	8.0456	0.138	3980	4197
421	5015	0.0102	0.1405	0.1262	0.1062	0.0354	9.8571	8.5528	0.146	4491	4377
422	5027	0.0090	0.1166	0.1209	0.0696	0.0282	7.3294	7.4678	0.124	3613	3992
423	5039	0.0048	0.1256	0.1084	0.0669	0.0343	8.1207	7.6567	0.132	3888	4059
424	5051	0.0125	0.1248	0.0993	0.0818	0.0334	7.1147	7.3657	0.131	3538	3955
425	5063	0.0053	0.1117	0.1256	0.0705	0.0276	9.5288	7.0200	0.119	4377	3833
426	5074	0.0068	0.1003	0.0881	0.0603	0.0333	6.9790	8.5025	0.109	3491	4359
427	5086	0.0020	0.1577	0.1042	0.0818	0.0408	7.6726	11.6924	0.161	3732	5493
428	5098	0.0087	0.1339	0.1384	0.1087	0.0410	10.1901	9.5923	0.140	4607	4747
429	5110	0.0120	0.1480	0.1772	0.1358	0.0503	9.3392	9.1018	0.153	4311	4572
430	5122	0.0097	0.1549	0.2092	0.1256	0.0415	10.7429	9.4401	0.159	4799	4693
431	5134	0.0079	0.1451	0.2193	0.1009	0.0447	10.2227	12.9997	0.150	4618	5958
432	5146	0.0106	0.1294	0.1526	0.0910	0.0392	10.7731	11.3830	0.135	4810	5383
433	5158	0.0059	0.1221	0.1535	0.0957	0.0430	9.0917	8.4781	0.129	4225	4351
434	5170	0.0060	0.1320	0.1234	0.0908	0.0273	9.2875	6.6770	0.138	4293	3711
435	5182	0.0059	0.1096	0.1252	0.0853	0.0266	6.0393	6.2689	0.117	3164	3566
436	5194	0.0037	0.1100	0.0976	0.0700	0.0259	8.6451	7.0513	0.118	4070	3844
437	5206	0.0067	0.0978	0.0884	0.0550	0.0347	8.6549	7.3264	0.106	4073	3942
438	5218	0.0066	0.1146	0.1292	0.0643	0.0355	7.1610	10.2810	0.122	3554	4992
439	5230	0.0068	0.1308	0.1382	0.0907	0.0421	9.7301	8.8451	0.137	4447	4481
440	5242	0.0049	0.1611	0.1025	0.0906	0.0310	8.6051	7.6774	0.165	4056	4066
441	5254	0.0055	0.1126	0.1273	0.0960	0.0298	7.3792	7.5050	0.120	3630	4005
442	5266	0.0065	0.1193	0.1066	0.0625	0.0281	7.5662	6.7783	0.126	3695	3747
443	5277	0.0069	0.1014	0.0844	0.0702	0.0282	5.1880	5.4782	0.110	2869	3285
444	5289	0.0023	0.0908	0.1179	0.0767	0.0312	7.0680	10.7066	0.100	3522	5143
445	5301	0.0067	0.1348	0.0949	0.0722	0.0306	6.5326	8.1217	0.140	3336	4224
446	5313	0.0084	0.1380	0.1249	0.0922	0.0502	7.2669	9.4490	0.143	3591	4696
447	5325	0.0060	0.1081	0.1035	0.0731	0.0324	7.6918	9.6536	0.116	3739	4769
448	5337	0.0094	0.1249	0.1325	0.0927	0.0367	7.9486	7.6853	0.131	3828	4069
449	5349	0.0078	0.1184	0.1054	0.0980	0.0426	8.4970	8.6693	0.125	4019	4419
450	5361	0.0097	0.1580	0.1239	0.0772	0.0389	9.6787	8.6627	0.162	4429	4416

**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
451	5373	0.0039	0.1372	0.1182	0.1009	0.0642	8.3421	10.2516	0.143	3965	4981
452	5385	0.0100	0.1281	0.1684	0.1075	0.0517	9.7972	9.9186	0.134	4471	4863
453	5397	0.0070	0.1206	0.1231	0.0791	0.0447	7.4596	10.7689	0.127	3658	5165
454	5409	0.0049	0.1139	0.1595	0.0843	0.0641	8.2238	9.2271	0.121	3924	4617
455	5421	0.0079	0.1231	0.1208	0.0952	0.0516	6.7810	7.6059	0.130	3422	4041
456	5433	0.0081	0.1202	0.1315	0.0837	0.0470	7.3077	10.5637	0.127	3605	5092
457	5445	0.0094	0.1092	0.1286	0.0903	0.0430	7.0879	7.9718	0.117	3529	4171
458	5457	0.0040	0.1064	0.1515	0.1203	0.0521	7.6836	8.4663	0.114	3736	4347
459	5469	0.0050	0.1114	0.1797	0.0859	0.0607	7.6724	8.2435	0.119	3732	4267
460	5480	0.0100	0.1064	0.1222	0.0721	0.0490	6.9446	8.4191	0.114	3479	4330
461	5492	0.0068	0.0691	0.0909	0.0881	0.0346	7.3626	6.0392	0.080	3624	3484
462	5504	0.0069	0.0820	0.1613	0.0658	0.0446	5.3916	7.6245	0.092	2939	4047
463	5516	0.0067	0.0816	0.0847	0.0608	0.0551	4.6021	7.3309	0.091	2665	3943
464	5528	0.0047	0.0939	0.0791	0.0684	0.0354	5.4102	5.7025	0.103	2946	3364
465	5540	0.0048	0.0721	0.0866	0.0656	0.0329	5.5267	5.3137	0.083	2986	3226
466	5552	0.0033	0.0796	0.0649	0.0447	0.0279	5.9068	6.0525	0.090	3118	3489
467	5564	0.0022	0.0709	0.0842	0.0570	0.0319	5.0030	6.5926	0.082	2804	3681
468	5576	0.0027	0.0680	0.0946	0.0648	0.0286	6.3998	5.0979	0.079	3290	3150
469	5588	0.0061	0.0938	0.0957	0.0801	0.0261	5.8305	5.8141	0.103	3092	3404
470	5600	0.0029	0.0982	0.1048	0.0764	0.0293	5.1686	4.8279	0.107	2862	3054
471	5612	0.0069	0.1107	0.0787	0.0789	0.0258	8.1518	6.4566	0.118	3899	3632
472	5624	0.0107	0.0965	0.0907	0.0891	0.0403	6.7628	6.9925	0.105	3416	3823
473	5636	0.0086	0.1140	0.1487	0.0887	0.0354	6.1077	7.2208	0.121	3188	3904
474	5648	0.0040	0.1073	0.1120	0.0888	0.0301	6.6866	5.8849	0.115	3389	3429
475	5660	0.0086	0.1099	0.1549	0.0830	0.0259	6.6659	8.8248	0.118	3382	4474
476	5671	0.0074	0.1253	0.1138	0.0934	0.0325	7.6641	8.2751	0.132	3729	4279
477	5683	0.0048	0.1178	0.1252	0.0924	0.0294	7.1358	7.2989	0.125	3546	3932
478	5695	0.0070	0.1074	0.1004	0.0892	0.0304	6.5109	6.9269	0.115	3328	3800
479	5707	0.0032	0.0928	0.0936	0.1056	0.0303	5.5367	5.6003	0.102	2990	3328
480	5719	0.0043	0.0973	0.0950	0.0692	0.0320	5.1212	5.5890	0.106	2845	3324
481	5731	0.0037	0.1005	0.0862	0.0583	0.0248	4.9581	5.2244	0.109	2789	3195
482	5743	0.0033	0.0978	0.0824	0.0760	0.0255	4.9481	6.1671	0.106	2785	3530
483	5755	0.0042	0.0830	0.0836	0.0676	0.0316	4.6209	6.2593	0.093	2671	3562
484	5767	0.0015	0.0990	0.0882	0.0698	0.0251	4.5121	5.9853	0.108	2634	3465
485	5779	0.0058	0.0794	0.0736	0.0434	0.0286	4.5724	4.8168	0.090	2655	3050
486	5791	0.0001	0.0779	0.0736	0.0612	0.0203	5.2126	6.0664	0.088	2877	3494
487	5803	0.0075	0.0921	0.0917	0.0486	0.0223	6.2679	6.7970	0.101	3244	3753
488	5815	0.0024	0.1089	0.0843	0.0595	0.0263	5.9146	5.9689	0.117	3121	3459
489	5827	0.0051	0.0943	0.1820	0.0614	0.0267	7.3794	5.7654	0.103	3630	3387
490	5839	0.0080	0.1580	0.1263	0.1013	0.0307	7.6778	8.1721	0.162	3734	4242
491	5851	0.0113	0.1116	0.1275	0.0776	0.0438	7.7765	10.6185	0.119	3768	5111
492	5863	0.0115	0.1462	0.1496	0.1272	0.0540	10.2092	14.4153	0.151	4614	6461
493	5874	0.0096	0.1801	0.1223	0.1292	0.1304	9.4037	13.0683	0.182	4334	5982
494	5886	0.0084	0.1726	0.1880	0.1112	0.0472	10.3106	10.5603	0.175	4649	5091
495	5898	0.0109	0.1718	0.1656	0.1271	0.0461	10.1959	8.4803	0.174	4609	4352

**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
496	5910	0.0082	0.1608	0.1681	0.0991	0.0344	8.7520	9.4534	0.164	4107	4697
497	5922	0.0097	0.1270	0.1436	0.1146	0.0338	8.6968	8.5271	0.133	4088	4368
498	5934	0.0099	0.1572	0.1164	0.0858	0.0310	9.1601	9.5176	0.161	4249	4720
499	5946	0.0066	0.1480	0.1159	0.0961	0.0285	7.3726	6.0031	0.153	3628	3471
500	5958	0.0042	0.1346	0.1391	0.0639	0.0236	6.6903	7.5471	0.140	3391	4020
501	5970	0.0027	0.0967	0.0751	0.0742	0.0181	6.2937	7.9199	0.105	3253	4152
502	5982	0.0051	0.1044	0.1283	0.0670	0.0283	7.3309	6.0226	0.112	3613	3478
503	5994	0.0099	0.1230	0.1067	0.0894	0.0289	6.2374	7.5774	0.130	3233	4031
504	6006	0.0028	0.1080	0.1161	0.0861	0.0286	6.6668	7.4659	0.116	3382	3991
505	6018	0.0050	0.1148	0.0958	0.0692	0.0290	6.0056	5.8976	0.122	3153	3434
506	6030	0.0019	0.0854	0.0979	0.0537	0.0180	5.5752	5.3984	0.095	3003	3256
507	6042	0.0041	0.0827	0.0657	0.0455	0.0211	4.5151	5.1173	0.093	2635	3156
508	6054	0.0056	0.0727	0.0610	0.0541	0.0228	6.0985	6.4121	0.083	3185	3617
509	6066	0.0023	0.0862	0.0973	0.0485	0.0183	6.2306	9.2193	0.096	3231	4614
510	6077	0.0027	0.0827	0.0848	0.0552	0.0268	5.5373	5.3760	0.092	2990	3248
511	6089	0.0084	0.0955	0.0846	0.0852	0.0272	5.4862	5.7656	0.104	2972	3387
512	6101	0.0044	0.0974	0.0870	0.0743	0.0250	7.1986	5.3800	0.106	3567	3250
513	6113	0.0049	0.0948	0.0763	0.0697	0.0302	4.8243	6.0833	0.104	2742	3500
514	6125	0.0050	0.0824	0.0827	0.0523	0.0212	4.1701	4.6662	0.092	2515	2996
515	6137	0.0043	0.0823	0.0840	0.0743	0.0248	5.9893	5.5746	0.092	3147	3319
516	6149	0.0054	0.0747	0.0759	0.0611	0.0207	6.0774	6.4147	0.085	3178	3618
517	6161	0.0023	0.0963	0.0810	0.0743	0.0272	5.7918	6.1183	0.105	3078	3512
518	6173	0.0033	0.0992	0.0723	0.0531	0.0351	6.0374	5.5055	0.108	3164	3294
519	6185	0.0003	0.1012	0.0819	0.0816	0.0190	6.0695	7.2095	0.110	3175	3900
520	6197	0.0046	0.0729	0.0620	0.0517	0.0253	4.8732	5.7238	0.083	2759	3372
521	6209	0.0047	0.0887	0.0849	0.0695	0.0246	5.4329	8.1022	0.098	2954	4217
522	6221	0.0019	0.0777	0.0730	0.0539	0.0143	6.4628	5.9552	0.088	3312	3454
523	6233	0.0038	0.0849	0.0809	0.0708	0.0246	4.5319	4.5710	0.095	2640	2962
524	6245	0.0013	0.0819	0.0631	0.0422	0.0175	4.1683	4.4589	0.092	2514	2922
525	6257	0.0024	0.0678	0.0586	0.0394	0.0357	4.8245	4.1538	0.079	2742	2814
526	6268	0.0064	0.0780	0.0770	0.0434	0.0171	4.1440	3.8210	0.088	2506	2696
527	6280	0.0030	0.0843	0.0800	0.0505	0.0210	5.9760	5.0614	0.094	3142	3137
528	6292	0.0017	0.0885	0.0793	0.0545	0.0209	5.5863	5.9813	0.098	3007	3464
529	6304	0.0032	0.0915	0.0689	0.0736	0.0230	6.3720	5.7146	0.101	3280	3369
530	6316	0.0059	0.1134	0.0947	0.0692	0.0237	6.5526	7.1099	0.121	3343	3865
531	6328	0.0036	0.1043	0.0776	0.0630	0.0238	5.8332	4.9463	0.112	3093	3096
532	6340	0.0063	0.1227	0.1181	0.0527	0.0209	7.1299	6.6095	0.129	3543	3687
533	6352	0.0085	0.1146	0.0948	0.0951	0.0226	7.9464	5.7765	0.122	3827	3391
534	6364	0.0073	0.1084	0.1143	0.1116	0.0277	7.3008	6.5770	0.116	3603	3675
535	6376	0.0067	0.1312	0.0853	0.0747	0.0288	7.0780	7.4912	0.137	3525	4000
536	6388	0.0077	0.1092	0.1011	0.0787	0.0252	7.0078	6.1723	0.117	3501	3531
537	6400	0.0068	0.0994	0.1275	0.0639	0.0307	7.2815	7.3793	0.108	3596	3960
538	6412	0.0093	0.1304	0.1101	0.0838	0.0298	6.6785	7.4908	0.136	3387	4000
539	6424	0.0069	0.1113	0.0841	0.0767	0.0258	6.3458	6.4186	0.119	3271	3619
540	6436	0.0047	0.1100	0.1088	0.0483	0.0272	5.1816	5.1575	0.118	2866	3171

**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
541	6448	0.0043	0.0935	0.0778	0.0427	0.0243	5.1675	3.9963	0.102	2861	2758
555	6615	0.0223	0.0530	0.0738	0.0465	0.0173	3.9792	1.2932	0.065	2448	1797
556	6627	0.0147	0.0484	0.0866	0.0588	0.0233	3.2274	2.4279	0.061	2187	2201
557	6639	0.0050	0.0431	0.0406	0.0302	0.0173	3.1118	1.9191	0.056	2147	2020
558	6651	0.0142	0.0497	0.0401	0.0361	0.0109	2.6070	1.0184	0.062	1971	1700
559	6663	0.0019	0.0421	0.0417	0.0273	0.0147	2.2010	1.8901	0.055	1830	2010
560	6674	0.0011	0.0317	0.0380	0.0261	0.0127	2.1708	1.9753	0.046	1820	2040
561	6686	0.0047	0.0344	0.0323	0.0256	0.0093	2.0458	1.2069	0.048	1776	1767
562	6698	0.0030	0.0411	0.0408	0.0364	0.0128	2.6889	2.6772	0.054	2000	2289
563	6710	0.0055	0.0703	0.0508	0.0400	0.0154	1.6600	3.4225	0.081	1642	2554
564	6722	0.0140	0.0507	0.0452	0.0471	0.0159	3.3891	3.7847	0.063	2243	2683
565	6734	0.0008	0.0527	0.0680	0.0526	0.0201	2.4321	3.2946	0.065	1911	2509
566	6746	0.0009	0.0587	0.0666	0.0390	0.0360	3.7090	3.5819	0.070	2354	2611
567	6758	0.0019	0.0678	0.0630	0.0468	0.0265	4.9668	5.5805	0.079	2792	3321
568	6770	0.0031	0.0614	0.0834	0.0585	0.0197	5.4737	5.5759	0.073	2968	3319
569	6782	0.0035	0.0727	0.1052	0.0592	0.0208	5.2388	4.6730	0.083	2886	2999
570	6794	0.0028	0.0871	0.0706	0.0525	0.0389	4.2455	6.2642	0.097	2541	3564
571	6806	0.0026	0.0855	0.1112	0.0548	0.0299	4.8890	5.9131	0.095	2765	3439
572	6818	0.0042	0.0766	0.0824	0.0542	0.0450	5.2481	4.9970	0.087	2889	3114
573	6830	0.0059	0.1229	0.0954	0.0755	0.0295	7.2600	6.3166	0.130	3589	3583
574	6842	0.0048	0.1239	0.0766	0.0731	0.0300	5.5892	5.5191	0.130	3008	3299
575	6854	0.0023	0.0692	0.0936	0.0636	0.0254	5.4558	5.1440	0.080	2962	3166
576	6865	0.0062	0.0702	0.0448	0.0558	0.0181	5.6600	6.0687	0.081	3033	3495
577	6877	0.0028	0.0568	0.0630	0.0463	0.0230	3.4333	3.1621	0.069	2259	2462
578	6889	0.0053	0.0609	0.0823	0.0432	0.0209	3.3680	3.9814	0.072	2236	2753
579	6901	0.0002	0.0547	0.0568	0.0369	0.0162	3.1145	3.6172	0.067	2148	2623
580	6913	0.0021	0.0496	0.0469	0.0342	0.0099	3.4746	4.2793	0.062	2273	2859
581	6925	0.0012	0.0989	0.0617	0.0434	0.0151	3.4018	2.7905	0.107	2248	2330
582	6937	0.0041	0.0623	0.0479	0.0403	0.0180	3.5995	3.0202	0.074	2316	2411
583	6949	0.0009	0.0637	0.0513	0.0279	0.0194	3.3973	1.2642	0.075	2246	1787
584	6961	0.0021	0.0613	0.0424	0.0319	0.0150	2.4123	1.4862	0.073	1904	1866
585	6973	0.0033	0.0367	0.0462	0.0230	0.0165	1.2618	1.7000	0.050	1504	1942
586	6985	0.0128	0.0444	0.0328	0.0318	0.0138	2.5121	2.3298	0.057	1938	2166
587	6997	0.0013	0.0479	0.0348	0.0502	0.0162	1.2666	2.4489	0.060	1506	2208
588	7009	0.0048	0.0480	0.0594	0.0296	0.0129	2.4682	0.9365	0.061	1923	1671
589	7021	0.0135	0.0464	0.0408	0.0300	0.0111	2.0516	1.9093	0.059	1778	2016
590	7033		0.0383	0.0397	0.0332	0.0129	1.0439	2.8233	0.052	1428	2341
591	7045	0.0129	0.0377	0.0398	0.0218	0.0172	3.2972	1.6065	0.051	2211	1909
592	7057	0.0009	0.0299	0.0331	0.0162	0.0109	1.8697	1.0298	0.044	1715	1704
593	7068	0.0098	0.0303	0.0266	0.0260	0.0100	2.0335	1.5039	0.044	1772	1872
594	7080	0.0025	0.0267	0.0427	0.0152	0.0077	0.7555	1.2164	0.041	1328	1770
595	7092		0.0208	0.0154	0.0219	0.0047	1.3145	1.1615	0.036	1522	1751
596	7104	0.0011	0.0217	0.0232	0.0122	0.0048	1.3245	0.9171	0.036	1526	1664
597	7116		0.0304	0.0227	0.0137	0.0080	1.3496	1.0358	0.044	1534	1706
598	7128		0.0217	0.0228	0.0213	0.0086	1.7858	1.9691	0.036	1686	2038

**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
599	7140		0.0284	0.0244	0.0286	0.0103	0.8734	0.6754	0.043	1369	1578
600	7152	0.0045	0.0267	0.0316	0.0185	0.0064	1.6915	1.5567	0.041	1653	1891
601	7164	0.0022	0.0515	0.0258	0.0174	0.0078	1.7285	1.7083	0.064	1666	1945
602	7176	0.0001	0.0345	0.0378	0.0234	0.0103	2.3059	1.9904	0.048	1867	2045
603	7188	0.0189	0.0453	0.0369	0.0256	0.0145	3.1691	2.0748	0.058	2167	2075
604	7200	0.0032	0.0491	0.0477	0.0247	0.0102	2.6628	2.4802	0.062	1991	2219
605	7212	0.0026	0.0468	0.0372	0.0322	0.0147	1.7284	2.3643	0.060	1666	2178
606	7224	0.0127	0.0438	0.0501	0.0313	0.0168	1.9211	2.8259	0.057	1733	2342
607	7236	0.0028	0.0750	0.0478	0.0318	0.0227	3.3774	2.7320	0.085	2239	2309
608	7248	0.0029	0.0507	0.0447	0.0330	0.0105	2.8783	2.0639	0.063	2066	2071
609	7260		0.0422	0.0239	0.0234	0.0173	0.8510	1.7124	0.055	1361	1946
610	7271	0.0058	0.0300	0.0416	0.0213	0.0078	2.5412	1.6039	0.044	1949	1908
611	7283	0.0013	0.0431	0.0415	0.0256	0.0074	1.9969	2.4741	0.056	1759	2217
612	7295		0.0444	0.0327	0.0324	0.0103	2.2595	2.7995	0.057	1851	2333
613	7307	0.0003	0.0345	0.0469	0.0400	0.0171	2.8235	3.0969	0.048	2047	2438
614	7319	0.0041	0.0388	0.0526	0.0404	0.0126	2.8869	2.3545	0.052	2069	2175
615	7331		0.0474	0.0533	0.0310	0.0140	3.0025	2.7685	0.060	2109	2322
616	7343	0.0029	0.0523	0.0540	0.0299	0.0101	2.9399	3.7103	0.065	2087	2656
617	7355		0.0509	0.0401	0.0412	0.0135	4.0240	1.5707	0.063	2464	1896
618	7367	0.0136	0.0461	0.0605	0.0458	0.0178	2.7992	1.3208	0.059	2038	1807
619	7379	0.0071	0.0481	0.0499	0.0397	0.0132	3.2513	2.1038	0.061	2195	2086
620	7391	0.0157	0.0555	0.0842	0.0401	0.0130	2.7276	2.6558	0.067	2013	2282
621	7403	0.0038	0.0456	0.0416	0.0356	0.0202	3.5492	2.8509	0.058	2299	2351
622	7415	0.0027	0.0698	0.0589	0.0390	0.0153	3.3351	4.3701	0.081	2224	2891
623	7427	0.0003	0.0510	0.0432	0.0441	0.0130	3.5868	3.1001	0.063	2312	2440
624	7439	0.0142	0.0493	0.0425	0.0337	0.0168	3.1423	3.1727	0.062	2157	2465
625	7451	0.0019	0.0511	0.0464	0.0302	0.0153	3.2137	3.3591	0.063	2182	2532
626	7462	0.0007	0.0534	0.0592	0.0290	0.0111	3.0214	1.2654	0.066	2115	1788
627	7474	0.0012	0.0421	0.0343	0.0294	0.0087	2.5514	1.3173	0.055	1952	1806
628	7486	0.0032	0.0493	0.0344	0.0272	0.0085	1.4832	2.7732	0.062	1581	2323
629	7498	0.0015	0.0514	0.0723	0.0284	0.0120	3.1726	2.6113	0.064	2168	2266
630	7510	0.0002	0.0710	0.0591	0.0449	0.0118	3.9648	3.3957	0.082	2443	2545
631	7522	0.0019	0.0675	0.0888	0.0417	0.0124	3.6048	3.5855	0.079	2318	2612
632	7534	0.0029	0.0746	0.0440	0.0425	0.0126	5.0621	7.4558	0.085	2825	3988
633	7546	0.0023	0.0721	0.0711	0.0496	0.0165	3.9644	3.3030	0.083	2443	2512
634	7558	0.0006	0.0475	0.0539	0.0408	0.0143	3.8188	4.8841	0.060	2393	3074
635	7570		0.0646	0.0595	0.0385	0.0158	3.8795	3.1474	0.076	2414	2456
651	7761	0.0427	0.0826	0.1350	0.0863	0.0461	5.3302	5.9216	0.092	2918	3442
652	7773	0.0271	0.0729	0.1277	0.0805	0.0316	5.8231	4.8995	0.084	3089	3079
653	7785	0.0216	0.0736	0.0906	0.0713	0.0269	4.9481	4.7050	0.084	2785	3010
654	7797	0.0121	0.0840	0.0691	0.0451	0.0182	4.1690	4.6257	0.094	2514	2982
655	7809	0.0066	0.0476	0.0549	0.0418	0.0168	4.1158	3.2732	0.060	2496	2501
656	7821	0.0050	0.0535	0.0503	0.0350	0.0129	3.2175	2.8668	0.066	2184	2357
657	7833	0.0153	0.0586	0.0504	0.0333	0.0157	3.4717	3.3678	0.070	2272	2535
658	7845	0.0035	0.0530	0.0374	0.0574	0.0108	1.5585	3.0062	0.065	1607	2406

**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
659	7857	0.0002	0.0538	0.0397	0.0378	0.0139	3.2127	2.8460	0.066	2182	2349
660	7868	0.0152	0.0573	0.0538	0.0525	0.0232	3.5572	4.7390	0.069	2302	3022
661	7880	0.0030	0.0674	0.0544	0.0425	0.0184	3.6102	3.8078	0.078	2320	2691
662	7892	0.0019	0.0667	0.0651	0.0374	0.0139	3.7048	4.2534	0.078	2353	2849
663	7904	0.0028	0.0706	0.0564	0.0392	0.0118	3.8549	6.4173	0.081	2405	3618
664	7916	0.0029	0.0586	0.0601	0.0442	0.0182	3.4448	4.0408	0.070	2263	2774
665	7928	0.0018	0.0596	0.0516	0.0446	0.0199	4.6681	4.6519	0.071	2688	2991
666	7940	0.0034	0.0689	0.0532	0.0452	0.0199	5.1161	4.2054	0.080	2844	2832
667	7952	0.0002	0.0726	0.0489	0.0539	0.0191	4.3739	6.7161	0.083	2586	3725
668	7964	0.0004	0.0615	0.0443	0.0554	0.0312	4.1921	4.3670	0.073	2522	2890
669	7976	0.0015	0.0736	0.0588	0.0420	0.0247	4.8996	4.5636	0.084	2768	2960
670	7988	0.0044	0.0643	0.0526	0.0755	0.0463	4.6150	3.7720	0.076	2669	2678
671	8000	0.0007	0.0558	0.0698	0.0311	0.0334	5.5407	4.4243	0.068	2991	2910
672	8012	0.0004	0.0604	0.0784	0.0398	0.0159	4.3340	2.3094	0.072	2572	2159
673	8024	0.0003	0.0628	0.0586	0.0718	0.0215	5.8603	4.7414	0.074	3102	3023
674	8036	0.0062	0.0774	0.0766	0.1019	0.0264	6.3802	5.0675	0.088	3283	3139
675	8048	0.0058	0.1003	0.0772	0.0497	0.0206	4.4678	5.6587	0.109	2618	3349
676	8059	0.0045	0.1033	0.0678	0.0526	0.0358	4.9340	7.2957	0.111	2780	3931
677	8071	0.0049	0.1132	0.0650	0.0561	0.0162	5.0918	5.5365	0.121	2835	3305
678	8083	0.0055	0.0777	0.0871	0.0602	0.0199	5.6153	5.4083	0.088	3017	3260
679	8095	0.0017	0.0948	0.0954	0.0522	0.0178	4.9228	6.5670	0.104	2776	3672
680	8107	0.0056	0.0769	0.0786	0.0518	0.0215	5.2532	5.0366	0.087	2891	3128
681	8119	0.0048	0.0791	0.0718	0.0427	0.0305	4.6128	5.9138	0.089	2669	3440
686	8179	0.0042	0.0862	0.0893	0.0780	0.0268	5.6186	7.0214	0.096	3018	3833
687	8191	0.0035	0.0843	0.0713	0.0448	0.0159	4.4092	4.9140	0.094	2598	3084
689	8215	0.0056	0.0615	0.0820	0.0319	0.0215	1.4738	1.3428	0.073	1578	1815
690	8227	0.0003	0.0605	0.0386	0.0265	0.0163	3.1949	3.3042	0.072	2176	2512
691	8239	0.0056	0.0460	0.0363	0.0336	0.0099	3.0046	1.3070	0.059	2110	1802
692	8251	0.0112	0.0574	0.0602	0.0296	0.0165	3.1187	2.8739	0.069	2149	2359
693	8262	0.0017	0.0557	0.0942	0.0406	0.0312	3.9370	5.2465	0.068	2434	3202
701	8358	0.0018	0.0856	0.0711	0.0492	0.0236	3.8387	4.3094	0.095	2400	2869
702	8370		0.0491	0.0676	0.0550	0.0238	4.1252	4.4606	0.062	2499	2923
703	8382		0.0650	0.0621	0.0378	0.0242	3.8828	3.1983	0.076	2415	2474
704	8394	0.0147	0.0494	0.0623	0.0394	0.0262	4.6322	4.6944	0.062	2675	3006
705	8406	0.0026	0.0551	0.0714	0.0419	0.0207	4.4466	3.7301	0.067	2611	2663
706	8418	0.0017	0.0825	0.0765	0.0504	0.0236	3.4433	3.8367	0.092	2262	2701
707	8430	0.0013	0.0725	0.0523	0.0517	0.0171	4.7093	4.6850	0.083	2702	3003
708	8442	0.0029	0.0879	0.0640	0.0536	0.0167	4.6408	3.5706	0.097	2678	2607
709	8454	0.0028	0.0593	0.0528	0.0423	0.0179	1.6584	4.0751	0.071	1642	2786
710	8465	0.0024	0.0568	0.0615	0.0344	0.0152	3.3022	1.4781	0.069	2213	1863
711	8477	0.0003	0.0560	0.0479	0.0352	0.0198	3.4279	3.2531	0.068	2257	2494
712	8489	0.0126	0.0541	0.0459	0.0387	0.0242	3.3675	4.5944	0.066	2236	2971
713	8501	0.0034	0.0622	0.0553	0.0536	0.0183	3.0976	2.8003	0.074	2142	2333
714	8513	0.0158	0.0551	0.0863	0.0349	0.0194	3.9596	4.4819	0.067	2442	2931
715	8525	0.0008	0.0643	0.0461	0.0379	0.0161	4.1141	5.6644	0.076	2495	3351

**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
716	8537	0.0012	0.0655	0.0498	0.0461	0.0185	4.0017	4.1673	0.077	2456	2819
717	8549	0.0038	0.0520	0.0533	0.0391	0.0135	4.0069	4.7177	0.064	2458	3014
718	8561	0.0024	0.0472	0.0570	0.0382	0.0167	3.3810	4.0834	0.060	2240	2789
719	8573	0.0037	0.0643	0.0425	0.0430	0.0175	3.6642	4.1929	0.076	2339	2828
720	8585	0.0021	0.0694	0.0588	0.0474	0.0178	4.5125	5.4025	0.080	2634	3258
721	8597	0.0031	0.0720	0.0688	0.0515	0.0166	4.8915	4.2548	0.083	2765	2850
722	8609	0.0026	0.0697	0.0791	0.0415	0.0149	5.1630	4.4312	0.081	2860	2913
723	8621	0.0023	0.0826	0.0492	0.0393	0.0195	5.0209	4.2911	0.092	2810	2863
724	8633	0.0050	0.0823	0.1015	0.0598	0.0238	6.1272	6.2007	0.092	3195	3541
725	8645	0.0089	0.0909	0.0857	0.0806	0.0275	7.2752	5.4925	0.100	3594	3290
726	8656	0.0036	0.1018	0.0654	0.0616	0.0258	6.1438	4.9499	0.110	3201	3097
727	8668	0.0041	0.1034	0.0536	0.0418	0.0185	5.8812	4.2034	0.112	3109	2832
728	8680	0.0037	0.0973	0.0571	0.0611	0.0221	4.7578	5.1735	0.106	2719	3176
729	8692	0.0045	0.0616	0.0761	0.0904	0.0245	5.0628	6.0993	0.073	2825	3505
730	8704	0.0039	0.0769	0.0608	0.0395	0.0309	5.0616	3.7532	0.087	2825	2672
731	8716	0.0043	0.0810	0.0755	0.0398	0.0154	4.4370	4.5312	0.091	2607	2948
732	8728	0.0021	0.0780	0.0744	0.0854	0.0246	4.6668	3.6207	0.088	2687	2625
733	8740	0.0006	0.0690	0.0606	0.0400	0.0164	3.6539	3.4754	0.080	2335	2573
734	8752	0.0069	0.0669	0.0503	0.0333	0.0193	3.3417	4.1168	0.078	2227	2801
735	8764	0.0021	0.0572	0.0443	0.0273	0.0183	3.9681	4.0691	0.069	2445	2784
736	8776	0.0010	0.0861	0.0665	0.0406	0.0152	4.1910	3.7305	0.096	2522	2664
737	8788	0.0038	0.0647	0.0483	0.0338	0.0178	4.4322	5.0817	0.076	2606	3144
738	8800	0.0028	0.0849	0.0813	0.0425	0.0220	4.4779	4.8956	0.095	2622	3078
739	8812	0.0025	0.0956	0.0672	0.0534	0.0211	5.1855	6.3432	0.104	2868	3592
740	8824	0.0039	0.0636	0.0692	0.0505	0.0214	6.5371	5.6899	0.075	3337	3360
741	8836	0.0017	0.0624	0.0747	0.0517	0.0292	5.2167	6.2415	0.074	2878	3556
742	8848	0.0056	0.0799	0.0534	0.0425	0.0213	5.5111	4.7115	0.090	2981	3012
743	8859	0.0034	0.0998	0.0713	0.0547	0.0180	5.0318	6.1312	0.108	2814	3517
744	8871	0.0009	0.0818	0.0647	0.0504	0.0231	5.7760	4.2841	0.092	3073	2860
745	8883	0.0033	0.0779	0.0676	0.0535	0.0222	4.6987	5.6303	0.088	2698	3339
746	8895	0.0023	0.0856	0.0739	0.0699	0.0242	5.4178	5.8286	0.095	2948	3409
747	8907	0.0086	0.0990	0.1047	0.0625	0.0319	6.7831	7.5174	0.108	3423	4009
748	8919	0.0031	0.0823	0.0951	0.0714	0.0326	9.3709	6.9744	0.092	4322	3816
749	8931	0.0038	0.0886	0.1085	0.0876	0.0294	7.7176	6.3960	0.098	3748	3611
750	8943	0.0025	0.0908	0.1265	0.0694	0.0501	5.1299	4.9144	0.100	2848	3084
751	8955	0.0067	0.0645	0.0735	0.0502	0.0206	5.2272	5.3158	0.076	2882	3227
752	8967	0.0018	0.0673	0.0817	0.0381	0.0179	6.8490	5.6441	0.078	3446	3344
753	8979	0.0088	0.0663	0.0775	0.0474	0.0199	4.4309	4.5103	0.077	2605	2941
754	8991	0.0004	0.0684	0.0522	0.0611	0.0330	3.7869	4.1839	0.079	2382	2825
755	9003	0.0022	0.0776	0.0786	0.0508	0.0193	3.3023	4.6278	0.088	2213	2983
756	9015	0.0033	0.0651	0.0645	0.0409	0.0174	4.5942	4.5088	0.076	2662	2940
757	9027	0.0024	0.0605	0.0720	0.0503	0.0272	4.2901	4.1583	0.072	2556	2816
758	9039	0.0018	0.0710	0.0573	0.0619	0.0239	5.3820	5.0460	0.082	2936	3131
759	9051	0.0028	0.0750	0.0984	0.0540	0.0315	5.8823	5.5012	0.085	3110	3293
760	9062	0.0024	0.0858	0.0619	0.0707	0.0251	6.1815	6.6680	0.095	3214	3708

**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
761	9074	0.0030	0.0733	0.0773	0.0767	0.0219	5.9098	4.6435	0.084	3119	2988
762	9086	0.0026	0.0716	0.0704	0.0594	0.0228	4.4318	4.6312	0.082	2606	2984
763	9098	0.0024	0.0596	0.0715	0.0638	0.0177	4.4934	3.7483	0.071	2627	2670
764	9110	0.0032	0.0577	0.0684	0.0549	0.0141	4.4670	3.8320	0.070	2618	2700
765	9122	0.0014	0.0647	0.0576	0.0463	0.0174	4.6732	4.4614	0.076	2690	2923
766	9134	0.0001	0.0705	0.0681	0.0480	0.0188	3.6090	4.1034	0.081	2320	2796
767	9146	0.0051	0.0588	0.0508	0.0492	0.0346	3.9923	4.5723	0.071	2453	2963
768	9158	0.0034	0.0537	0.0759	0.0465	0.0241	4.7246	4.7846	0.066	2707	3038
769	9170	0.0046	0.1034	0.0895	0.0638	0.0404	6.1274	5.6194	0.112	3195	3335
770	9182	0.0031	0.1181	0.0912	0.0649	0.0371	5.8863	6.5824	0.125	3111	3677
771	9194	0.0029	0.1232	0.1066	0.1114	0.0306	6.6880	6.1620	0.130	3390	3528
772	9206	0.0049	0.1009	0.0869	0.0979	0.0483	5.0539	4.7828	0.109	2822	3038
773	9218	0.0073	0.1085	0.0947	0.0665	0.0262	6.2233	6.3086	0.116	3228	3580
774	9230	0.0045	0.0789	0.1282	0.0781	0.0292	5.4382	5.5931	0.089	2955	3326
775	9242	0.0074	0.0978	0.0910	0.0684	0.0345	6.4746	6.5487	0.106	3316	3665
776	9253	0.0057	0.0798	0.1018	0.0810	0.0242	5.2775	6.9195	0.090	2900	3797
777	9265	0.0042	0.0795	0.1209	0.0970	0.0337	6.7557	6.6787	0.090	3413	3711
778	9277	0.0054	0.0802	0.1032	0.0698	0.0321	6.3434	6.3283	0.090	3270	3587
779	9289	0.0084	0.0979	0.0896	0.0710	0.0409	5.9601	7.4505	0.107	3137	3986
780	9301	0.0028	0.1146	0.0830	0.0570	0.0272	5.7009	8.3060	0.122	3047	4290
781	9313	0.0048	0.0767	0.0933	0.0652	0.0476	6.9633	7.5545	0.087	3486	4023
782	9325	0.0048	0.1137	0.0799	0.0608	0.0262	5.7080	6.8435	0.121	3049	3770
783	9337	0.0056	0.0893	0.0728	0.0669	0.0308	6.8046	6.6502	0.099	3430	3701
784	9349	0.0031	0.1054	0.0980	0.0654	0.0370	5.7376	8.1208	0.113	3060	4224
785	9361	0.0044	0.0939	0.0849	0.0508	0.0246	6.2336	5.9068	0.103	3232	3437
786	9373	0.0050	0.0855	0.0995	0.0762	0.0255	6.7759	9.1822	0.095	3420	4601
787	9385	0.0073	0.0982	0.0788	0.0922	0.0236	6.1795	6.7330	0.107	3213	3731
788	9397	0.0065	0.1044	0.0729	0.0645	0.0317	6.2167	6.2361	0.113	3226	3554
789	9409	0.0043	0.1068	0.1251	0.0713	0.0325	7.1714	8.0897	0.115	3558	4213
790	9421	0.0087	0.1077	0.0996	0.0621	0.0287	6.7335	9.1684	0.116	3406	4596
791	9433	0.0044	0.1176	0.0939	0.0702	0.0364	8.1736	6.8085	0.125	3906	3757
792	9445	0.0092	0.0948	0.1284	0.0703	0.0332	7.5574	7.4579	0.104	3692	3988
793	9456	0.0104	0.1025	0.1097	0.0857	0.0447	6.9593	7.1531	0.111	3484	3880
794	9468	0.0066	0.1137	0.0976	0.0880	0.0388	6.1593	7.8630	0.121	3206	4132
795	9480	0.0097	0.1172	0.0930	0.0722	0.0338	6.8654	8.8702	0.124	3452	4490
796	9492	0.0084	0.1062	0.0969	0.0813	0.0390	6.8628	8.9177	0.114	3451	4507
826	9850	0.0121	0.1099	0.1006	0.0986	0.0304	6.5940	5.8421	0.118	3357	3414
827	9862	0.0051	0.1106	0.0803	0.0721	0.0389	7.2126	6.9168	0.118	3572	3796
828	9874	0.0081	0.1198	0.0809	0.0638	0.0331	6.9894	7.2648	0.127	3495	3920
829	9886	0.0068	0.1045	0.0920	0.0796	0.0344	6.3047	5.7016	0.113	3257	3364
830	9898	0.0050	0.1323	0.0891	0.0852	0.0420	6.9287	7.2342	0.138	3474	3909
831	9910	0.0063	0.0987	0.0976	0.0691	0.0339	7.1944	8.6129	0.107	3566	4399
832	9922	0.0068	0.1089	0.1026	0.0891	0.0266	6.8304	7.1530	0.117	3439	3880
833	9934	0.0082	0.1171	0.0928	0.0765	0.0273	6.9628	7.4130	0.124	3485	3972
834	9946	0.0093	0.1258	0.1055	0.0722	0.0296	7.2503	7.4847	0.132	3585	3998



**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
835	9958	0.0071	0.1155	0.1203	0.0770	0.0244	7.4823	6.8905	0.123	3666	3787
836	9970	0.0072	0.1042	0.1056	0.0753	0.0333	6.6721	7.1505	0.112	3384	3879
837	9982	0.0076	0.1385	0.1417	0.0818	0.0338	7.4980	7.7388	0.144	3671	4088
838	9994	0.0086	0.1139	0.1092	0.0632	0.0375	6.6682	10.5475	0.121	3383	5086
839	10006	0.0068	0.1213	0.1170	0.0727	0.0414	8.3476	9.5180	0.128	3967	4720
840	10018	0.0077	0.1178	0.1447	0.0792	0.0266	5.9656	7.5703	0.125	3139	4028
841	10030	0.0074	0.0940	0.1036	0.0762	0.0305	7.1901	8.8820	0.103	3564	4494
842	10042	0.0056	0.1260	0.1262	0.0908	0.0534	7.3883	8.3520	0.132	3633	4306
843	10053	0.0063	0.1141	0.0999	0.0573	0.0255	6.6805	8.3807	0.121	3387	4316
895	10674	0.0185	0.1107	0.1438	0.1138	0.0506	7.1727	10.4140	0.118	3558	5039
896	10686	0.0152	0.1020	0.1216	0.0804	0.0435	6.6295	7.4213	0.110	3370	3975
897	10698	0.0133	0.1041	0.1246	0.0857	0.0364	5.7758	8.2302	0.112	3073	4263
898	10710	0.0121	0.1042	0.1089	0.0690	0.0348	5.2500	6.3261	0.112	2890	3586
899	10722	0.0071	0.0936	0.0833	0.0735	0.0447	6.1372	8.1982	0.103	3198	4251
900	10734	0.0089	0.1134	0.0980	0.0640	0.0281	6.3666	5.9064	0.121	3278	3437
901	10746	0.0091	0.0831	0.0969	0.0661	0.0357	6.8719	7.4998	0.093	3454	4003
902	10758	0.0081	0.1061	0.1283	0.0840	0.0424	5.6804	6.5389	0.114	3040	3662
903	10770	0.0073	0.1204	0.0941	0.0803	0.0416	9.1516	8.0478	0.127	4246	4198
904	10782	0.0093	0.1028	0.1028	0.0715	0.0362	7.4348	8.8887	0.111	3649	4497
905	10794	0.0062	0.0915	0.1403	0.1083	0.0467	7.4168	10.1625	0.101	3643	4949
906	10806	0.0045	0.1098	0.0865	0.0842	0.0376	6.4604	6.9384	0.117	3311	3804
907	10818	0.0052	0.1077	0.1011	0.0622	0.0305	6.4767	7.1771	0.116	3316	3888
908	10830	0.0070	0.1050	0.0762	0.0742	0.0446	7.0845	6.7783	0.113	3528	3747
909	10842	0.0060	0.1154	0.1079	0.0510	0.0418	6.7056	5.3421	0.123	3396	3236
910	10853	0.0070	0.1290	0.0956	0.0615	0.0301	6.9903	5.7168	0.135	3495	3370
911	10865	0.0035	0.0843	0.0958	0.0667	0.0380	5.5382	5.9074	0.094	2990	3437
912	10877	0.0069	0.0978	0.1014	0.0995	0.0325	7.4077	6.4585	0.106	3640	3633
913	10889	0.0080	0.0935	0.1017	0.0690	0.0354	5.9596	7.2588	0.102	3137	3918
914	10901	0.0067	0.0982	0.1299	0.0612	0.0352	6.6174	7.3063	0.107	3365	3934
915	10913	0.0088	0.1174	0.0963	0.0743	0.0357	6.7794	6.7365	0.124	3422	3732
916	10925	0.0093	0.1251	0.1126	0.0720	0.0426	8.4788	6.7202	0.132	4012	3726
917	10937	0.0099	0.1167	0.0979	0.0638	0.0366	6.4240	7.1900	0.124	3298	3893
918	10949	0.0057	0.0928	0.1149	0.0692	0.0303	6.4155	6.6619	0.102	3295	3705
938	11188	0.0114	0.0815	0.0927	0.0785	0.0396	5.6793	7.1915	0.091	3039	3894
939	11200	0.0095	0.0827	0.0869	0.0645	0.0404	5.4472	6.1906	0.093	2959	3538
940	11212	0.0083	0.0909	0.1039	0.1004	0.0303	5.6298	6.4457	0.100	3022	3629
941	11224	0.0085	0.0922	0.0850	0.0755	0.0304	6.4812	7.0588	0.101	3318	3846
951	11343	0.0221	0.0891	0.1062	0.0647	0.0411	6.6795	5.3467	0.098	3387	3238
952	11355	0.0213	0.1165	0.1047	0.0786	0.0368	6.8832	7.8524	0.124	3458	4128
953	11367	0.0183	0.1139	0.1035	0.0799	0.0323	7.0207	9.6328	0.121	3505	4761
954	11379	0.0148	0.1407	0.1064	0.0819	0.0345	6.7203	8.1295	0.146	3401	4227
955	11391	0.0118	0.1070	0.1325	0.0758	0.0326	8.1601	9.7377	0.115	3902	4798
956	11403	0.0124	0.1336	0.1321	0.0949	0.0566	8.7688	8.5848	0.139	4113	4389
957	11415	0.0113	0.1429	0.1414	0.0801	0.0334	7.8477	9.9537	0.148	3793	4875
958	11427	0.0087	0.1397	0.1414	0.0857	0.0590	8.4158	9.5683	0.145	3990	4738

**Table F.2.4 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
959	11439	0.0119	0.1444	0.1276	0.0785	0.0521	8.2062	8.7910	0.149	3918	4462
960	11450	0.0184	0.1306	0.1851	0.1460	0.0440	8.3322	7.7992	0.137	3961	4110
961	11462	0.0116	0.1306	0.1168	0.1200	0.0548	9.6619	8.0313	0.137	4424	4192
962	11474	0.0108	0.1404	0.1652	0.1027	0.0607	9.3371	8.5432	0.146	4311	4374
963	11486	0.0142	0.1304	0.1277	0.0989	0.0576	9.2443	10.3338	0.136	4278	5010
964	11498	0.0085	0.1490	0.1324	0.0814	0.0768	9.2194	9.2401	0.154	4270	4622
966	11522	0.0094	0.0991	0.1013	0.0948	0.1581	7.0212	6.9783	0.108	3506	3818
967	11534	0.0105	0.1101	0.1182	0.0881	0.0340	7.6713	7.7653	0.118	3732	4098
968	11546	0.0138	0.1048	0.1232	0.0813	0.0422	6.8321	7.8996	0.113	3440	4145
969	11558	0.0067	0.0975	0.0972	0.0970	0.0317	7.6849	7.0924	0.106	3736	3858
970	11570	0.0092	0.1121	0.1100	0.0715	0.0298	7.5820	7.2803	0.120	3701	3925
971	11582	0.0058	0.0851	0.0949	0.0519	0.0393	6.4135	6.6682	0.095	3294	3708
972	11594	0.0056	0.0881	0.0782	0.0726	0.0284	5.5749	7.2346	0.097	3003	3909
973	11606	0.0053	0.0765	0.0892	0.0498	0.0263	5.2469	5.4303	0.087	2889	3268
974	11618	0.0091	0.0994	0.0698	0.0567	0.0303	5.6079	6.4022	0.108	3014	3613
975	11630	0.0071	0.1071	0.0877	0.0560	0.0322	6.3104	6.4136	0.115	3259	3617
976	11642	0.0052	0.0864	0.0869	0.0642	0.0323	4.7680	6.1361	0.096	2723	3519
977	11653	0.0076	0.0796	0.1102	0.0627	0.0415	5.4306	5.4134	0.090	2953	3262
978	11665	0.0457	0.1132	0.1606	0.1170	0.0436	6.6509	6.6530	0.121	3377	3702
979	11677	0.0484	0.0950	0.1273	0.1012	0.0379	7.0497	5.0809	0.104	3516	3144
980	11689	0.0363	0.0842	0.1081	0.0744	0.0269	5.0649	4.3724	0.094	2826	2892
981	11701	0.0285	0.0949	0.0962	0.0813	0.0281	5.0450	4.9213	0.104	2819	3087
982	11713	0.0204	0.0862	0.0892	0.0770	0.0356	5.6102	5.9525	0.096	3015	3453
983	11725	0.0112	0.0813	0.0780	0.0654	0.0285	6.1379	6.1400	0.091	3199	3520
984	11737	0.0111	0.0846	0.1384	0.0556	0.0300	5.0772	5.7829	0.094	2830	3393
985	11749	0.0060	0.0883	0.0880	0.0531	0.0274	5.3622	4.9013	0.098	2929	3080
986	11761	0.0074	0.0750	0.0912	0.0522	0.0348	5.0002	5.9499	0.085	2803	3452
987	11773	0.0044	0.0754	0.0796	0.0396	0.0288	4.8883	4.2171	0.086	2764	2837
988	11785	0.0087	0.0727	0.0852	0.0682	0.0240	6.6571	5.2050	0.083	3379	3188
989	11797	0.0068	0.1058	0.0913	0.0582	0.0328	5.1978	7.4238	0.114	2872	3976
990	11809	0.0176	0.1263	0.1051	0.0773	0.0256	5.6942	8.6227	0.133	3044	4402
991	11821	0.0090	0.1048	0.0941	0.0525	0.1033	5.1181	4.9220	0.113	2844	3087
992	11833	0.0070	0.0789	0.0827	0.0546	0.0277	5.7839	6.6511	0.089	3076	3702
993	11844	0.0108	0.0755	0.0840	0.0718	0.0408	5.8603	5.2789	0.086	3102	3214
1019	12155	0.0422	0.0865	0.1232	0.0708	0.0437	6.2435	6.3922	0.096	3235	3610
1020	12167	0.0325	0.0942	0.1192	0.0821	0.0473	7.5567	6.8767	0.103	3692	3782
1021	12179	0.0233	0.0988	0.1012	0.1141	0.0475	6.9101	7.8549	0.107	3467	4129
1022	12191	0.0162	0.1065	0.1385	0.0937	0.0373	7.2938	9.3192	0.114	3600	4650
1023	12203	0.0155	0.1235	0.1028	0.0832	0.0536	8.2698	7.7030	0.130	3940	4075

\* Analyses that were below background levels are left blank.

**Table F.2.5: Section eb05042b1 Rim to Rim Transect by LA-ICP-MS**Step size: 11.94  $\mu\text{m}$  $n$  = La-ICP-MS analysis number

$n$	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
6	60	0.1353	0.0443	0.2030	0.1465	0.0764	2.5796	4.3581	0.057	1962	2887
7	72	0.1181	0.0473	0.1729	0.1477	0.0747	2.8884	3.7231	0.060	2069	2661
8	84	0.1165	0.0498	0.1930	0.1552	0.0787	3.4368	4.6728	0.062	2260	2999
9	96	0.1574	0.0508	0.2458	0.1783	0.1027	3.0779	3.8210	0.063	2135	2696
10	107	0.1564	0.0551	0.2212	0.1712	0.1127	2.6651	4.2842	0.067	1992	2860
11	119	0.1400	0.0395	0.2101	0.1507	0.0852	1.4635	4.0534	0.053	1574	2778
12	131	0.1131	0.0421	0.1761	0.1261	0.0663	2.6823	5.3795	0.055	1998	3250
13	143	0.0879	0.0482	0.1325	0.1101	0.0525	3.3674	5.9292	0.061	2236	3445
14	155	0.0597	0.0391	0.1160	0.0852	0.0444	2.9852	3.9861	0.052	2103	2754
15	167	0.0792	0.0460	0.1687	0.1327	0.0820	2.1344	2.1409	0.059	1807	2099
16	179	0.1844	0.0473	0.2693	0.2072	0.1348	2.5650	3.8713	0.060	1957	2714
17	191	0.2156	0.0525	0.2877	0.2261	0.3393	2.0641	3.5288	0.065	1783	2592
18	203	0.1818	0.0426	0.2700	0.1780	0.1054	2.4636	2.9988	0.056	1922	2404
19	215	0.1469	0.0443	0.2129	0.1670	0.0907	2.4077	3.9695	0.057	1902	2749
20	227	0.1093	0.0407	0.1634	0.1155	0.0959	1.8463	4.6310	0.054	1707	2984
21	239	0.0779	0.0373	0.1536	0.1102	0.2944	1.8558	3.1771	0.051	1710	2467
22	251	0.0583	0.0365	0.1147	0.0783	0.0571	2.4184	4.1337	0.050	1906	2807
23	263	0.0368	0.0393	0.0933	0.0713	0.0449	2.1542	3.8348	0.053	1814	2701
24	275	0.0277	0.0380	0.0849	0.0552	0.0448	2.3228	2.8744	0.051	1873	2359
25	287	0.0164	0.0346	0.0729	0.0479	0.0299	2.2002	4.1788	0.048	1830	2823
26	299	0.0131	0.0430	0.0599	0.0363	0.0394	1.9449	3.0839	0.056	1741	2434
27	310	0.0088	0.0392	0.0551	0.0444	0.0217	2.7507	3.3865	0.053	2021	2541
28	322	0.0065	0.0384	0.0476	0.0465	0.0313	2.1719	3.7224	0.052	1820	2661
29	334	0.0059	0.0397	0.0591	0.0416	0.0350	1.7020	4.9875	0.053	1657	3110
30	346	0.0054	0.0420	0.0783	0.0423	0.0202	2.0680	3.4143	0.055	1784	2551
31	358	0.0048	0.0500	0.0706	0.0407	0.0298	3.0864	3.9281	0.062	2138	2734
32	370	0.0051	0.0478	0.0675	0.0454	0.0279	3.4840	5.5047	0.060	2276	3294
33	382	0.0041	0.0523	0.0607	0.0461	0.0396	3.6301	6.1234	0.065	2327	3514
34	394	0.0045	0.0472	0.0653	0.0511	0.0666	3.6088	4.8157	0.060	2320	3049
35	406	0.0037	0.0480	0.0808	0.0515	0.0278	3.6558	4.6841	0.061	2336	3002
36	418	0.2205	0.0522	0.0608	0.0483	0.0506	2.9570	6.0941	0.064	2093	3504
37	430	0.0052	0.0514	0.0816	0.0519	0.0342	3.5936	5.1857	0.064	2314	3181
38	442	0.0040	0.0623	0.0600	0.0461	0.0274	3.0087	4.2208	0.074	2111	2838
39	454	0.0043	0.0585	0.0610	0.0612	0.0517	3.3429	6.0024	0.070	2227	3471
40	466	0.0070	0.0637	0.0718	0.0617	0.0288	4.0582	5.2680	0.075	2476	3210
41	478	0.0059	0.0521	0.0719	0.0623	0.0329	3.9674	5.7225	0.064	2444	3372
42	490	0.0046	0.0595	0.0855	0.0519	0.0487	3.9000	6.7662	0.071	2421	3742
43	501	0.0066	0.0550	0.0814	0.0572	0.0442	3.8230	4.7113	0.067	2394	3012
44	513	0.0168	0.0592	0.0765	0.0751	0.0405	3.3523	4.8638	0.071	2230	3066
45	525	0.0236	0.0445	0.0932	0.0601	0.0361	3.2134	3.9240	0.057	2182	2732
46	537	0.0253	0.0634	0.0941	0.0560	0.0329	2.9383	3.0572	0.075	2087	2424
47	549	0.0209	0.0564	0.0813	0.0565	0.0388	1.8858	4.3562	0.068	1721	2886

**Table F.2.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
48	561	0.0191	0.0518	0.0947	0.0583	0.0297	3.6509	3.6501	0.064	2334	2635
49	573	0.0159	0.0622	0.0721	0.0517	0.0397	3.7430	4.2898	0.074	2366	2862
50	585	0.0105	0.0572	0.0733	0.0541	0.0264	3.9246	4.0169	0.069	2429	2765
51	597	0.0086	0.0652	0.0808	0.0585	0.0246	2.8191	3.2168	0.076	2045	2481
52	609	0.0075	0.0584	0.0583	0.0559	0.0263	3.3141	7.5920	0.070	2217	4036
53	621	0.0072	0.0593	0.0583	0.0393	0.0204	3.5334	3.1906	0.071	2293	2472
54	633	0.0063	0.0464	0.0551	0.0409	0.0307	3.2313	3.9529	0.059	2188	2743
55	645	0.0056	0.0512	0.0571	0.0339	0.0231	3.3159	3.1687	0.064	2218	2464
56	657	0.0050	0.0484	0.0494	0.0364	0.0169	2.5894	2.9960	0.061	1965	2403
57	669	0.0040	0.0448	0.0694	0.0417	0.0233	3.8285	3.0038	0.058	2396	2405
58	681	0.0057	0.0569	0.0664	0.0450	0.2482	3.6726	3.1723	0.069	2342	2465
59	693	0.0042	0.0538	0.0633	0.0397	0.0401	4.6751	3.6745	0.066	2690	2644
60	704	0.0049	0.0597	0.0911	0.0488	0.0397	3.3511	5.1638	0.071	2230	3173
61	716	0.0058	0.0763	0.1007	0.0643	0.0220	5.2497	4.2665	0.087	2890	2854
62	728	0.0068	0.0622	0.0725	0.0433	0.0272	4.4629	4.5718	0.074	2616	2963
63	740	0.0066	0.0686	0.0763	0.0461	0.0351	4.1892	4.5044	0.080	2521	2939
64	752	0.0060	0.0674	0.0813	0.0575	0.0282	3.5249	4.0444	0.078	2290	2775
65	764	0.0065	0.0633	0.0727	0.0403	0.0242	4.1485	4.2753	0.075	2507	2857
66	776	0.0055	0.0555	0.0768	0.0519	0.0544	3.8971	4.7246	0.068	2420	3017
67	788	0.0060	0.0554	0.0568	0.0393	0.0203	3.3535	5.0071	0.067	2231	3117
68	800	0.0059	0.0611	0.0650	0.0489	0.0205	3.6991	4.7128	0.073	2351	3013
69	812	0.0067	0.0676	0.0751	0.0628	0.0287	5.1635	5.2617	0.079	2860	3208
70	824	0.0060	0.0694	0.0974	0.0533	0.0352	5.1754	4.5341	0.080	2864	2949
71	836	0.0066	0.0789	0.0906	0.0590	0.0525	5.5182	7.2394	0.089	2983	3911
72	848	0.0057	0.0744	0.0814	0.0796	0.0493	5.0045	6.6251	0.085	2805	3692
73	860	0.0060	0.0815	0.0950	0.0662	0.0273	5.3577	5.7523	0.091	2928	3382
74	872	0.0054	0.0731	0.1007	0.0712	0.0483	5.1045	6.0275	0.084	2839	3480
75	884	0.0061	0.0789	0.1084	0.0694	0.0350	4.9442	5.9396	0.089	2784	3449
76	896	0.0055	0.0717	0.0854	0.0893	0.0392	4.8024	7.5552	0.082	2734	4023
77	907	0.0065	0.0844	0.0865	0.0544	0.0681	4.9584	10.5394	0.094	2789	5083
78	919	0.0077	0.0755	0.0864	0.0835	0.0431	5.1211	8.0495	0.086	2845	4199
79	931	0.0079	0.0718	0.1065	0.0738	0.0550	4.7195	5.6835	0.082	2706	3358
80	943	0.0072	0.0858	0.1058	0.0773	0.0565	4.5702	6.3398	0.095	2654	3591
81	955	0.0069	0.0817	0.1119	0.0732	0.0446	5.4299	6.9007	0.092	2953	3790
82	967	0.0067	0.0733	0.0897	0.0710	0.0377	4.9948	6.4379	0.084	2801	3626
83	979	0.0069	0.0796	0.0930	0.0777	0.0508	4.5537	7.4744	0.090	2648	3994
84	991	0.0078	0.0695	0.0882	0.0767	0.0510	5.1047	7.2000	0.080	2840	3897
85	1003	0.0060	0.0806	0.0996	0.0672	0.0319	5.1860	7.4628	0.091	2868	3990
86	1015	0.0061	0.0826	0.1078	0.0724	0.0462	5.2085	5.8869	0.092	2876	3430
87	1027	0.0087	0.0745	0.1128	0.0675	0.0408	5.1835	5.8304	0.085	2867	3410
88	1039	0.0074	0.0754	0.1177	0.0696	0.0403	4.7708	5.6999	0.086	2724	3363
89	1051	0.0162	0.1053	0.1108	0.0739	0.0613	6.2510	7.2233	0.113	3238	3905
90	1063	0.0096	0.0800	0.1091	0.0778	0.0376	6.6119	7.9664	0.090	3363	4169
91	1075	0.0076	0.0860	0.1221	0.0737	0.0552	5.8517	7.5344	0.096	3099	4015
92	1087	0.0115	0.0895	0.1195	0.0891	0.0501	6.1303	6.2304	0.099	3196	3552

**Table F.2.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
93	1098	0.0070	0.0762	0.1201	0.0806	0.0570	5.5446	7.4376	0.087	2992	3981
94	1110	0.0102	0.0880	0.1272	0.0849	0.2834	5.8070	9.6887	0.097	3084	4781
95	1122	0.0063	0.0898	0.0995	0.0738	0.2836	5.0786	7.4444	0.099	2830	3983
96	1134	0.0068	0.0841	0.1089	0.0740	0.0701	5.9915	7.1049	0.094	3148	3863
97	1146	0.0082	0.0927	0.1060	0.0628	0.0526	6.4610	6.7966	0.102	3311	3753
98	1158	0.0068	0.0971	0.1126	0.0813	0.0672	7.0304	6.7867	0.106	3509	3750
99	1170	0.0082	0.0752	0.1217	0.0708	0.2967	6.4132	8.2889	0.086	3294	4284
100	1182	0.0079	0.0986	0.1241	0.0806	0.0544	5.8129	7.7421	0.107	3086	4089
101	1194	0.0081	0.0896	0.3357	0.0797	0.0589	6.6562	9.4385	0.099	3379	4692
102	1206	0.0089	0.1067	0.1219	0.0823	0.0726	6.5874	8.1522	0.115	3355	4235
103	1218	0.0096	0.0981	0.1455	0.1003	0.0470	6.2886	8.1753	0.107	3251	4243
104	1230	0.0068	0.0926	0.1278	0.0932	0.2749	5.5929	7.6795	0.102	3009	4067
105	1242	0.0089	0.0920	0.1259	0.0816	0.0515	5.8338	6.5413	0.101	3093	3663
106	1254	0.0091	0.0848	0.0993	0.0970	0.0437	5.5069	6.7091	0.094	2979	3722
107	1266	0.0091	0.0880	0.1094	0.0818	0.0488	5.7931	8.7596	0.097	3079	4451
108	1278	0.0088	0.0823	0.1069	0.0820	0.0398	5.9692	8.2093	0.092	3140	4255
109	1290	0.0073	0.0832	0.1005	0.0872	0.0418	5.7126	6.0965	0.093	3051	3504
110	1301	0.0091	0.0807	0.0893	0.0764	0.0406	5.2959	7.9803	0.091	2906	4174
111	1313	0.0081	0.0921	0.1116	0.0575	0.0451	6.4712	5.7421	0.101	3314	3379
112	1325	0.0079	0.0903	0.0951	0.0694	0.0373	5.6684	6.8044	0.100	3035	3756
113	1337	0.0119	0.0759	0.0887	0.0684	0.0499	5.8044	6.1378	0.086	3083	3519
114	1349	0.0080	0.0877	0.0826	0.0904	0.0469	5.1785	6.6769	0.097	2865	3711
115	1361	0.0063	0.0919	0.0999	0.0742	0.0447	6.0658	6.3578	0.101	3174	3597
116	1373	0.0077	0.0999	0.0943	0.0969	0.0547	6.3679	7.4246	0.108	3279	3976
117	1385	0.0082	0.0867	0.0883	0.0631	0.0616	5.2163	7.8391	0.096	2878	4124
118	1397	0.0062	0.0828	0.0819	0.0698	0.0564	5.8730	7.4167	0.093	3107	3974
119	1409	0.0072	0.0818	0.1133	0.0724	0.0365	5.5406	6.2368	0.092	2991	3554
120	1421	0.0066	0.0788	0.1029	0.0745	0.0365	5.1070	6.7076	0.089	2840	3722
121	1433	0.0065	0.0772	0.0991	0.0648	0.0418	6.1662	6.2266	0.087	3209	3551
122	1445	0.0073	0.0837	0.0906	0.0807	0.0465	6.0080	6.9622	0.093	3154	3812
123	1457	0.0075	0.0863	0.1014	0.0794	0.0615	5.2656	7.3313	0.096	2895	3943
124	1469	0.0157	0.0818	0.1206	0.0943	0.0495	5.8201	7.5008	0.092	3088	4004
125	1481	0.0345	0.0966	0.1286	0.0949	0.0505	5.8650	8.6931	0.105	3104	4427
126	1493	0.0482	0.1052	0.1662	0.1102	0.0685	5.6382	8.1988	0.113	3025	4252
127	1504	0.0524	0.0896	0.1781	0.1027	0.0596	5.9181	7.0159	0.099	3122	3831
128	1516	0.0441	0.0968	0.1573	0.1068	0.0566	6.3212	6.3139	0.105	3262	3582
129	1528	0.0353	0.0977	0.1205	0.1047	0.0576	5.3796	9.7319	0.106	2935	4796
130	1540	0.0269	0.0930	0.1413	0.0849	0.0409	6.2256	6.2913	0.102	3229	3574
131	1552	0.0247	0.0824	0.1271	0.0923	0.0524	5.2923	6.9308	0.092	2905	3801
132	1564	0.0537	0.0825	0.1601	0.1245	0.0591	5.7336	6.5671	0.092	3058	3672
144	1707	0.1203	0.0805	0.2005	0.1600	0.0878	4.8384	7.2050	0.091	2747	3898
145	1719	0.0822	0.0840	0.1784	0.1354	0.0631	5.3459	7.3457	0.094	2923	3948
146	1731	0.0550	0.0842	0.1596	0.1072	0.0582	5.5668	6.1939	0.094	3000	3539
147	1743	0.0437	0.0884	0.1152	0.0895	0.0593	5.9799	7.3693	0.098	3144	3957
148	1755	0.0267	0.0969	0.1473	0.0997	0.0496	5.4038	7.6945	0.106	2944	4072

**Table F.2.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
149	1767	0.0195	0.0968	0.1055	0.0864	0.0551	6.0073	8.2831	0.105	3153	4282
150	1779	0.0154	0.0896	0.1045	0.0773	0.0663	6.2622	7.8664	0.099	3242	4133
151	1791	0.0116	0.1050	0.1124	0.0793	0.2652	6.6061	6.6391	0.113	3361	3697
152	1803	0.0166	0.0937	0.1575	0.1119	0.0453	6.6984	7.1735	0.103	3393	3887
153	1815	0.1170	0.1250	0.2547	0.2109	0.0510	6.5674	6.9236	0.131	3348	3798
164	1946	0.1449	0.1044	0.2334	0.1825	0.0666	6.3034	9.1824	0.112	3256	4601
165	1958	0.0977	0.0909	0.1888	0.1327	0.0835	7.6050	7.8139	0.100	3709	4115
166	1970	0.0633	0.1012	0.1669	0.1342	0.0579	6.3701	8.0042	0.110	3279	4182
167	1982	0.0460	0.0972	0.1416	0.1000	0.0567	7.5268	8.0782	0.106	3681	4209
168	1994	0.0344	0.1014	0.1385	0.1014	0.0522	7.0153	9.4214	0.110	3504	4686
169	2006	0.0220	0.1023	0.1388	0.0927	0.2704	6.8421	7.6960	0.111	3443	4073
170	2018	0.0199	0.0966	0.1431	0.0910	0.0579	6.9145	8.7276	0.105	3469	4439
171	2030	0.0157	0.0980	0.1439	0.0817	0.0575	6.5485	9.0072	0.107	3341	4539
172	2042	0.0123	0.1046	0.1241	0.0845	0.0615	6.2599	7.6747	0.113	3241	4065
173	2054	0.0123	0.0981	0.1357	0.0768	0.0623	7.5081	7.1361	0.107	3675	3874
174	2066	0.0082	0.0897	0.1173	0.0655	0.0453	5.9432	6.6080	0.099	3131	3686
175	2078	0.0126	0.0863	0.1239	0.0844	0.0464	5.8976	8.3389	0.096	3115	4301
176	2090	0.0078	0.0819	0.1158	0.0783	0.0487	5.3574	6.4250	0.092	2927	3621
177	2101	0.0073	0.0849	0.0987	0.0922	0.0525	5.6669	7.5695	0.095	3035	4028
178	2113	0.0073	0.0811	0.0993	0.0798	0.0477	5.1213	7.7397	0.091	2845	4088
179	2125	0.0094	0.0774	0.1114	0.0877	0.0756	4.9210	7.3801	0.088	2776	3961
180	2137	0.0081	0.0915	0.1204	0.0749	0.0624	5.3638	7.7159	0.101	2930	4080
181	2149	0.0090	0.0914	0.1274	0.0806	0.0735	6.3184	10.5291	0.101	3261	5080
182	2161	0.0085	0.1006	0.1297	0.0918	0.0502	6.6811	9.3572	0.109	3387	4663
183	2173	0.0113	0.0891	0.1495	0.0886	0.0658	6.3236	9.8110	0.098	3263	4825
184	2185	0.0084	0.0970	0.1256	0.0926	0.0713	6.7387	9.0888	0.106	3407	4568
185	2197	0.0095	0.0882	0.1111	0.0833	0.0862	5.2458	7.6203	0.098	2889	4046
186	2209	0.0084	0.0897	0.1069	0.0812	0.0618	5.3299	8.1238	0.099	2918	4225
187	2221	0.0064	0.0789	0.1290	0.0846	0.0656	4.8304	8.1247	0.089	2744	4225
188	2233	0.0087	0.0666	0.1041	0.0765	0.0536	4.3835	6.4214	0.078	2589	3620
189	2245	0.0068	0.0708	0.0893	0.0689	0.0532	4.8767	7.0546	0.082	2760	3845
190	2257	0.0064	0.0753	0.1063	0.0792	0.0480	4.9981	6.1554	0.086	2802	3525
191	2269	0.0076	0.0753	0.1093	0.0842	0.0597	5.1083	7.6822	0.086	2841	4068
192	2281	0.0087	0.0684	0.0978	0.0724	0.0518	4.9470	8.1563	0.079	2785	4236
193	2292	0.0119	0.0832	0.0997	0.0966	0.0543	5.0646	7.2265	0.093	2826	3906
194	2304	0.0098	0.0762	0.1124	0.0648	0.0842	5.3516	6.6582	0.087	2925	3704
195	2316	0.0084	0.0735	0.1035	0.0754	0.0533	5.1176	7.6011	0.084	2844	4039
196	2328	0.0086	0.0812	0.1097	0.0948	0.0556	4.8050	8.3578	0.091	2735	4308
197	2340	0.0070	0.0754	0.0925	0.0700	0.0612	5.5262	7.2241	0.086	2986	3905
198	2352	0.0099	0.0810	0.1079	0.0876	0.0607	5.2684	7.3363	0.091	2896	3945
199	2364	0.0077	0.0970	0.3144	0.0929	0.0569	5.3637	8.7103	0.106	2930	4433
200	2376	0.0083	0.0925	0.1388	0.1034	0.0843	5.9381	7.4824	0.102	3129	3997
201	2388	0.0109	0.0930	0.1237	0.1077	0.0585	5.6092	8.9150	0.102	3015	4506
202	2400	0.0200	0.0929	0.1426	0.1033	0.0781	5.4401	6.4870	0.102	2956	3643
203	2412	0.0861	0.0826	0.2166	0.1824	0.1026	4.3060	6.2722	0.092	2562	3567

**Table F.2.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
204	2424	0.2421	0.0735	0.4316	0.3291	0.1833	3.9074	6.3773	0.084	2423	3604
205	2436	0.4359	0.0796	0.6198	0.4560	0.2485	3.1770	4.5480	0.090	2170	2954
206	2448	0.4901	0.0826	0.6300	0.4681	0.2307	2.8856	5.2734	0.092	2068	3212
207	2460	0.4387	0.0776	0.7683	0.4083	0.2004	3.6502	4.4518	0.088	2334	2920
208	2472	0.3612	0.0691	0.4634	0.5673	0.1661	3.3703	6.4562	0.080	2237	3632
209	2484	0.2757	0.0698	0.3766	0.2756	0.1449	4.0918	6.3306	0.081	2488	3588
210	2495	0.1864	0.0839	0.2843	0.1948	0.1308	4.9254	5.3069	0.094	2777	3224
211	2507	0.1271	0.0729	0.2269	0.1632	0.0852	4.8085	5.7950	0.083	2737	3397
212	2519	0.0904	0.0738	0.1925	0.1185	0.0867	3.9165	6.0446	0.084	2427	3486
213	2531	0.0589	0.0746	0.1423	0.1189	0.2880	5.6017	7.3864	0.085	3012	3963
214	2543	0.0431	0.0685	0.1440	0.1063	0.2808	4.1231	7.1152	0.079	2498	3866
215	2555	0.0281	0.0819	0.1222	0.0906	0.2785	4.9067	7.2866	0.092	2771	3927
216	2567	0.0209	0.0767	0.1205	0.0820	0.0583	4.7032	7.5088	0.087	2700	4006
217	2579	0.0165	0.0825	0.1271	0.0799	0.0990	5.5635	7.3378	0.092	2999	3946
218	2591	0.0118	0.0767	0.1165	0.0944	0.0779	6.1666	6.9711	0.087	3209	3815
219	2603	0.0104	0.0798	0.1109	0.0858	0.0654	5.6653	8.2516	0.090	3034	4270
220	2615	0.0114	0.0814	0.1082	0.0819	0.0502	4.7442	7.3122	0.091	2714	3936
221	2627	0.0074	0.0732	0.1048	0.0772	0.0690	4.0751	6.5637	0.084	2482	3671
222	2639	0.0083	0.0812	0.0950	0.1097	0.0761	4.5504	6.4446	0.091	2647	3628
223	2651	0.0134	0.0726	0.1054	0.0893	0.0846	4.9361	6.6698	0.083	2781	3708
224	2663	0.0075	0.0647	0.1043	0.0868	0.2903	4.8851	5.9423	0.076	2763	3450
225	2675	0.0066	0.0679	0.0857	0.0799	0.0683	4.6850	5.8297	0.079	2694	3410
226	2687	0.0056	0.0822	0.0951	0.0699	0.2648	4.5416	8.8556	0.092	2644	4485
227	2698	0.0083	0.0666	0.0797	0.0835	0.0689	4.4067	6.2490	0.078	2597	3559
228	2710	0.0086	0.0643	0.0846	0.0616	0.0714	4.5188	7.0431	0.076	2636	3841
229	2722	0.0068	0.0774	0.1111	0.0684	0.0630	5.2118	7.4279	0.088	2877	3978
230	2734	0.0063	0.0701	0.1131	0.0727	0.0756	4.9510	6.1849	0.081	2786	3536
231	2746	0.0068	0.0654	0.1152	0.0769	0.0669	5.0709	6.9195	0.077	2828	3797
232	2758	0.0080	0.0759	0.1028	0.0681	0.0531	4.7526	8.2243	0.086	2717	4261
233	2770	0.0076	0.0709	0.1019	0.0704	0.0704	5.1642	6.2082	0.082	2860	3544
234	2782	0.0216	0.0733	0.0952	0.0858	0.0808	4.4390	8.1409	0.084	2608	4231
235	2794	0.0065	0.0750	0.1244	0.0791	0.0673	4.8935	7.1964	0.085	2766	3895
236	2806	0.0079	0.0712	0.1337	0.0926	0.0775	5.2962	8.8483	0.082	2906	4482
237	2818	0.0168	0.0839	0.1324	0.1115	0.0908	5.9576	9.0822	0.094	3136	4566
238	2830	0.0338	0.0840	0.1590	0.1082	0.0783	6.5209	8.6042	0.094	3332	4396
239	2842	0.0343	0.0806	0.1524	0.1427	0.0836	5.9521	10.5683	0.091	3134	5094
240	2854	0.0305	0.0851	0.1434	0.1027	0.0900	6.2122	8.4148	0.095	3224	4328
241	2866	0.0276	0.0870	0.1372	0.1016	0.0792	5.8520	8.8915	0.096	3099	4498
242	2878	0.0212	0.0822	0.1295	0.0866	0.0968	5.7937	6.7802	0.092	3079	3747
243	2889	0.0163	0.0725	0.1277	0.0841	0.0608	5.3885	7.3967	0.083	2938	3967
244	2901	0.0154	0.0786	0.1176	0.0771	0.0474	5.0333	7.6475	0.089	2815	4056
245	2913	0.0144	0.0753	0.1120	0.0893	0.0737	4.6966	7.4117	0.086	2698	3972
246	2925	0.0102	0.0732	0.1122	0.0774	0.0697	4.4700	6.5171	0.084	2619	3654
247	2937	0.0095	0.0745	0.0950	0.0766	0.0647	4.3987	5.8853	0.085	2594	3429
248	2949	0.0083	0.0806	0.1008	0.0986	0.0363	4.5664	8.2173	0.091	2652	4258

**Table F.2.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
249	2961	0.0079	0.0671	0.0977	0.0712	0.0535	5.3679	6.9932	0.078	2931	3823
250	2973	0.0087	0.0799	0.1152	0.0773	0.0579	6.2704	7.3561	0.090	3245	3952
251	2985	0.0101	0.0860	0.1181	0.0818	0.0667	6.0096	7.9528	0.096	3154	4164
252	2997	0.2278	0.1000	0.1044	0.0739	0.0455	5.3796	7.4842	0.108	2935	3998
253	3009	0.0074	0.0907	0.1144	0.0835	0.0732	5.3544	7.4171	0.100	2926	3974
254	3021	0.0098	0.0910	0.1179	0.0871	0.0689	6.0430	8.6357	0.100	3166	4407
255	3033	0.0089	0.0952	0.1230	0.0847	0.0832	6.3135	9.1910	0.104	3260	4604
256	3045	0.0079	0.0943	0.1141	0.1032	0.0671	6.1067	7.6448	0.103	3188	4055
257	3057	0.0079	0.0994	0.1230	0.0832	0.0638	6.0737	7.5252	0.108	3176	4012
258	3069	0.0085	0.0871	0.1112	0.0884	0.0704	5.5911	6.9280	0.097	3009	3800
259	3081	0.0087	0.0925	0.1176	0.0826	0.0614	5.3277	6.9893	0.102	2917	3822
260	3092	0.0096	0.0811	0.1107	0.0814	0.0482	5.7301	7.4964	0.091	3057	4002
261	3104	0.0067	0.0923	0.0940	0.0833	0.0655	5.5589	7.5416	0.101	2997	4018
262	3116	0.0074	0.0905	0.1045	0.0802	0.0632	5.4048	8.6816	0.100	2944	4423
263	3128	0.0064	0.0829	0.1281	0.0721	0.0600	4.9805	8.4686	0.093	2796	4347
264	3140	0.0064	0.0847	0.0995	0.0815	0.0614	5.9718	9.0934	0.094	3141	4569
265	3152	0.0080	0.0892	0.1219	0.0696	0.0583	5.1989	7.6023	0.099	2872	4040
266	3164	0.0080	0.0876	0.1007	0.0674	0.0554	4.9854	8.8009	0.097	2798	4466
267	3176	0.0075	0.0847	0.3309	0.0756	0.0544	5.3284	7.8606	0.094	2917	4131
268	3188	0.0064	0.0773	0.1126	0.0728	0.0571	4.6651	7.4363	0.088	2687	3981
269	3200	0.0081	0.0866	0.1226	0.0844	0.0561	5.3521	6.8315	0.096	2926	3766
270	3212	0.0083	0.0885	0.1107	0.0736	0.0506	5.3187	6.8083	0.098	2914	3757
271	3224	0.0125	0.0820	0.1406	0.0873	0.0777	5.3509	8.4058	0.092	2925	4325
272	3236	0.0069	0.0815	0.1166	0.0956	0.0817	5.1067	8.7914	0.091	2840	4462
273	3248	0.0081	0.0811	0.1275	0.0920	0.0464	5.9562	8.4023	0.091	3136	4324
274	3260	0.0090	0.0856	0.1152	0.0821	0.2837	5.6840	7.9322	0.095	3041	4157
275	3272	0.0074	0.0838	0.1149	0.0817	0.0588	5.0500	8.9993	0.094	2821	4536
276	3284	0.0073	0.0903	0.0902	0.0764	0.0551	5.3594	7.0920	0.100	2928	3858
277	3295	0.0090	0.0957	0.1245	0.0888	0.2846	5.7256	7.4512	0.104	3055	3986
278	3307	0.0087	0.1024	0.1302	0.0779	0.0727	5.2119	9.0158	0.111	2877	4542
279	3319	0.0091	0.1054	0.1188	0.0890	0.0615	5.7472	7.9974	0.113	3063	4180
280	3331	0.0072	0.0905	0.1223	0.0638	0.0447	5.5879	7.6863	0.100	3008	4069
281	3343	0.0068	0.0795	0.0993	0.0748	0.0430	4.8506	7.7447	0.090	2751	4090
282	3355	0.0079	0.0745	0.1083	0.0752	0.0773	4.6713	5.9842	0.085	2689	3465
283	3367	0.0079	0.0821	0.1109	0.0723	0.0551	5.6631	6.2935	0.092	3034	3574
284	3379	0.0080	0.0737	0.1011	0.0707	0.0604	5.2680	6.2874	0.084	2896	3572
285	3391	0.0081	0.0753	0.1157	0.0759	0.0633	5.3144	7.5969	0.086	2912	4038
286	3403	0.0079	0.0954	0.1248	0.0692	0.0763	5.5006	8.3728	0.104	2977	4313
287	3415	0.0086	0.0871	0.1102	0.0870	0.0658	5.4300	7.7936	0.097	2953	4108
288	3427	0.0089	0.0861	0.1301	0.0902	0.0657	5.3026	8.3065	0.096	2908	4290
289	3439	0.0110	0.0915	0.1311	0.1007	0.2799	6.6718	9.4295	0.101	3384	4689
290	3451	0.0084	0.0952	0.1556	0.1045	0.0659	5.4234	7.8595	0.104	2950	4131
291	3463	0.0092	0.0974	0.1412	0.0987	0.0898	5.7736	8.4312	0.106	3072	4334
292	3475	0.0090	0.0981	0.1498	0.0911	0.0933	6.1604	7.9582	0.107	3206	4166
293	3486	0.0122	0.1065	0.1286	0.0946	0.0578	6.5427	8.2493	0.114	3339	4270



**Table F.2.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
294	3498	0.0091	0.0950	0.1433	0.0917	0.1067	7.2919	9.8723	0.104	3600	4846
295	3510	0.0125	0.1018	0.1394	0.1085	0.0841	6.5796	9.7516	0.110	3352	4803
296	3522	0.0094	0.1110	0.1533	0.1117	0.0964	7.9675	9.9931	0.119	3835	4889
297	3534	0.0119	0.0995	0.1441	0.1065	0.0786	6.3328	11.0439	0.108	3266	5263
298	3546	0.0081	0.1031	0.1384	0.1046	0.0764	5.9628	8.5449	0.111	3138	4375
299	3558	0.0097	0.0909	0.1244	0.0980	0.0887	5.9739	10.3074	0.100	3142	5001
300	3570	0.0082	0.0969	0.1462	0.0926	0.0879	6.3033	9.8136	0.106	3256	4825
301	3582	0.0093	0.0950	0.1278	0.1141	0.0771	6.9125	9.4605	0.104	3468	4700
302	3594	0.0099	0.1008	0.1614	0.0903	0.0606	6.2824	9.2735	0.109	3249	4634
303	3606	0.0078	0.0987	0.1332	0.0902	0.0717	6.6617	8.3895	0.107	3381	4319
304	3618	0.0092	0.0937	0.1145	0.0873	0.0712	6.8585	8.4891	0.103	3449	4355
305	3630	0.0088	0.0983	0.1173	0.0917	0.0766	6.1399	9.2168	0.107	3199	4613
306	3642	0.0097	0.0934	0.1278	0.0967	0.0863	6.4680	8.8021	0.102	3313	4466
307	3654	0.0084	0.0945	0.1337	0.0939	0.0912	6.1652	8.8405	0.103	3208	4480
308	3666	0.0080	0.0953	0.1282	0.1060	0.0694	6.0812	8.1904	0.104	3179	4249
309	3678	0.0087	0.0983	0.1090	0.0846	0.0821	5.4587	7.5254	0.107	2963	4012
310	3689	0.0091	0.0879	0.1358	0.0907	0.0612	5.1006	8.8635	0.097	2838	4488
311	3701	0.0110	0.0910	0.1209	0.0989	0.0647	5.4659	8.5286	0.100	2965	4369
312	3713	0.0117	0.0942	0.1409	0.1066	0.0751	5.9430	7.8528	0.103	3131	4129
313	3725	0.0093	0.0968	0.1290	0.1126	0.0852	6.1282	8.3161	0.105	3195	4293
314	3737	0.0099	0.0965	0.1369	0.0955	0.0592	6.4689	8.9477	0.105	3314	4518
315	3749	0.0091	0.0897	0.1039	0.0905	0.0688	6.0048	7.7949	0.099	3152	4108
316	3761	0.0093	0.1059	0.1386	0.0978	0.0842	5.9383	7.9425	0.114	3129	4160
317	3773	0.0115	0.0856	0.1236	0.0975	0.0928	5.8282	8.0407	0.095	3091	4195
318	3785	0.0090	0.0888	0.1409	0.1030	0.0620	5.0648	8.9978	0.098	2826	4536
319	3797	0.0102	0.0822	0.1340	0.1186	0.0850	5.9302	6.7893	0.092	3126	3751
320	3809	0.0081	0.0756	0.1111	0.0805	0.0819	5.2604	8.0728	0.086	2894	4207
321	3821	0.0072	0.0853	0.1276	0.0904	0.0842	5.4710	9.0761	0.095	2967	4563
322	3833	0.0083	0.1003	0.1457	0.0977	0.2983	5.8816	9.8816	0.109	3110	4850
323	3845	0.0086	0.0931	0.1430	0.0846	0.0621	5.8109	6.6234	0.102	3085	3692
324	3857	0.0088	0.0851	0.1345	0.0842	0.0809	4.8611	7.3238	0.095	2755	3941
325	3869	0.0083	0.0848	0.1148	0.0771	0.0692	4.4241	8.0653	0.094	2603	4204
326	3881	0.0079	0.0844	0.1248	0.0796	0.0567	4.6817	8.7299	0.094	2693	4440
327	3892	0.0097	0.0834	0.1269	0.0904	0.0658	4.7904	8.4739	0.093	2730	4349
328	3904	0.0070	0.0856	0.1292	0.1072	0.1035	5.7839	8.5914	0.095	3076	4391
329	3916	0.0076	0.0810	0.1203	0.0889	0.0922	5.1603	7.5774	0.091	2859	4031
330	3928	0.0112	0.0893	0.1222	0.1027	0.0988	5.2680	7.2994	0.099	2896	3932
331	3940	0.0075	0.0820	0.1296	0.0907	0.2893	4.9824	6.7765	0.092	2797	3746
332	3952	0.0100	0.0748	0.1472	0.0867	0.0748	5.1934	6.9534	0.085	2870	3809
333	3964	0.0210	0.0764	0.1278	0.0875	0.0922	5.1158	6.9979	0.087	2843	3825
334	3976	0.0230	0.0791	0.1236	0.1050	0.0687	4.8334	8.1855	0.089	2745	4247
335	3988	0.0187	0.0796	0.1608	0.0807	0.0736	4.7728	6.1085	0.090	2724	3509
336	4000	0.0153	0.0685	0.1038	0.0793	0.0806	4.7673	5.9000	0.079	2722	3435
337	4012	0.0106	0.0825	0.0928	0.0835	0.0587	5.1247	7.4799	0.092	2847	3996
338	4024	0.0152	0.0768	0.1086	0.0912	0.0564	5.0743	7.4637	0.087	2829	3990

**Table F.2.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
339	4036	0.0112	0.0860	0.1062	0.0808	0.0811	4.9908	6.4229	0.096	2800	3620
340	4048	0.0145	0.0791	0.1001	0.0739	0.0664	4.5138	6.9696	0.089	2634	3815
341	4060	0.0064	0.0764	0.0958	0.0598	0.0531	4.7316	5.8507	0.087	2710	3417
342	4072	0.0082	0.0753	0.1109	0.0662	0.2628	4.3726	5.7962	0.086	2585	3398
343	4083	0.0068	0.0761	0.0972	0.0881	0.0473	4.0744	5.6335	0.086	2481	3340
344	4095	0.0142	0.0670	0.1139	0.0806	0.2662	4.9681	6.6315	0.078	2792	3695
345	4107	0.0084	0.0727	0.1101	0.0769	0.0559	4.5645	5.4765	0.083	2652	3284
346	4119	0.0059	0.0717	0.0890	0.0736	0.0458	4.6794	6.0708	0.082	2692	3495
347	4131	0.0053	0.0702	0.0963	0.0646	0.0475	4.2322	6.7665	0.081	2536	3743
348	4143	0.0076	0.0647	0.1095	0.0790	0.0526	3.7667	5.8532	0.076	2375	3418
349	4155	0.0070	0.0726	0.0989	0.0799	0.0436	3.6894	5.9267	0.083	2348	3444
350	4167	0.0053	0.0647	0.0957	0.0817	0.0565	4.2094	4.9433	0.076	2528	3095
351	4179	0.0111	0.0761	0.0911	0.0666	0.0644	4.5551	6.4424	0.086	2649	3627
352	4191	0.0109	0.0732	0.1114	0.0788	0.0609	4.3694	6.0664	0.084	2584	3494
353	4203	0.0118	0.0700	0.0952	0.0655	0.0873	3.4084	4.9329	0.081	2250	3091
354	4215	0.0225	0.0701	0.0824	0.0607	0.0514	3.6938	5.0603	0.081	2349	3136
355	4227	0.0096	0.0739	0.1089	0.0638	0.0518	3.8522	5.1236	0.084	2404	3159
356	4239	0.0095	0.0826	0.1244	0.0918	0.0459	5.6463	6.6448	0.092	3028	3699
357	4251	0.0083	0.0797	0.1168	0.0809	0.0418	4.6364	5.8723	0.090	2677	3425
358	4263	0.0062	0.0780	0.1070	0.0794	0.0522	5.1036	6.5959	0.088	2839	3682
359	4275	0.0080	0.0867	0.1368	0.0728	0.0718	4.8426	9.0581	0.096	2748	4557
360	4286	0.0087	0.0737	0.3434	0.0669	0.0508	4.7366	6.1270	0.084	2712	3515
361	4298	0.0059	0.0692	0.0939	0.0646	0.0496	4.7221	7.7419	0.080	2707	4089
362	4310	0.0072	0.0808	0.1035	0.0633	0.0508	4.8470	5.4984	0.091	2750	3292
363	4322	0.0064	0.0838	0.1063	0.0865	0.0654	4.3244	6.0086	0.094	2568	3473
364	4334	0.0057	0.0776	0.1271	0.0671	0.0518	4.6191	6.5164	0.088	2671	3654
365	4346	0.0071	0.0783	0.1072	0.0772	0.0555	5.8191	7.2983	0.088	3088	3932
366	4358	0.0072	0.0781	0.1141	0.0968	0.0535	5.8343	7.8664	0.088	3093	4133
367	4370	0.0110	0.0859	0.1196	0.0836	0.2666	5.5844	5.8397	0.095	3006	3413
368	4382	0.0308	0.0822	0.1293	0.0958	0.0666	5.4451	7.2055	0.092	2958	3899
369	4394	0.0386	0.0827	0.1329	0.1094	0.0802	5.5335	8.0314	0.093	2989	4192
370	4406	0.0342	0.0757	0.1486	0.0998	0.0811	4.8120	6.5027	0.086	2738	3649
371	4418	0.0232	0.0780	0.1237	0.1004	0.0638	5.7148	7.1958	0.088	3052	3895
372	4430	0.0166	0.0831	0.0831	0.0725	0.2857	5.1526	4.8736	0.093	2856	3070
373	4442	0.0125	0.0665	0.0938	0.0692	0.0516	5.2868	6.0301	0.078	2903	3481
374	4454	0.0092	0.0753	0.1024	0.0771	0.0635	4.5935	6.4308	0.086	2662	3623
375	4466	0.0094	0.0784	0.1114	0.0815	0.0480	5.6096	6.7522	0.089	3015	3737
376	4478	0.0086	0.0997	0.1332	0.0958	0.0586	6.0321	6.8566	0.108	3162	3775
377	4489	0.0102	0.0954	0.1325	0.0833	0.0504	5.7479	7.0069	0.104	3063	3828
378	4501	0.0075	0.0902	0.1164	0.0868	0.0682	6.0490	7.5069	0.099	3168	4006
379	4513	0.0085	0.0964	0.1300	0.0792	0.0438	5.2295	8.2714	0.105	2883	4277
380	4525	0.0086	0.0955	0.1179	0.0841	0.0452	5.5485	7.7266	0.104	2994	4084
381	4537	0.0076	0.0888	0.1289	0.0897	0.0486	6.1638	6.9376	0.098	3208	3803
382	4549	0.0120	0.0778	0.1070	0.0792	0.0405	4.5874	6.1605	0.088	2660	3527
383	4561	0.0182	0.0883	0.1168	0.0807	0.0457	5.0316	6.5349	0.098	2814	3660

**Table F.2.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
384	4573	0.0220	0.0784	0.1049	0.0928	0.0404	5.6180	6.5411	0.089	3018	3662
385	4585	0.0188	0.0842	0.1154	0.0883	0.0566	5.3075	7.9622	0.094	2910	4167
386	4597	0.0168	0.0875	0.1134	0.0780	0.0543	5.3951	7.0875	0.097	2940	3857
387	4609	0.0143	0.0892	0.1355	0.0847	0.2637	6.4095	7.8650	0.098	3293	4133
388	4621	0.0451	0.0982	0.1758	0.1320	0.0665	6.3339	6.6463	0.107	3267	3700
389	4633	0.1913	0.0940	0.3514	0.2700	0.1293	4.7738	7.2819	0.103	2725	3926
390	4645	0.3875	0.0899	0.5365	0.3772	0.1801	4.3610	5.5695	0.099	2581	3317
391	4657	0.4266	0.0878	0.4929	0.3701	0.1577	3.6770	4.8795	0.097	2343	3072
392	4669	0.3169	0.0915	0.3585	0.2748	0.1167	3.9284	4.7400	0.101	2431	3022
393	4680	0.1950	0.0802	0.2616	0.1654	0.0764	4.1320	5.0416	0.090	2501	3130
394	4692	0.1151	0.0643	0.1702	0.1363	0.0502	3.6485	4.8189	0.076	2333	3050
395	4704	0.0641	0.0698	0.1283	0.0957	0.0657	3.8130	4.9984	0.081	2391	3114
396	4716	0.0421	0.0908	0.1146	0.0904	0.0458	5.1089	6.0102	0.100	2841	3474
397	4728	0.0262	0.0776	0.1203	0.0594	0.0613	5.1016	5.4672	0.088	2838	3281
398	4740	0.0187	0.0732	0.0881	0.0674	0.0407	4.5360	6.2351	0.084	2642	3554
399	4752	0.0140	0.0842	0.0926	0.0700	0.0547	4.8078	6.9373	0.094	2736	3803
400	4764	0.0103	0.0778	0.0983	0.0863	0.0525	5.1923	7.3436	0.088	2870	3948
401	4776	0.0110	0.0854	0.1224	0.0769	0.0588	5.1515	7.4213	0.095	2856	3975
402	4788	0.0101	0.0979	0.1099	0.0719	0.0400	5.9118	7.7366	0.106	3120	4087
403	4800	0.0095	0.0883	0.1042	0.0709	0.0397	5.6089	6.8518	0.098	3015	3773
404	4812	0.0083	0.0787	0.1019	0.0683	0.0341	5.6822	7.1810	0.089	3040	3890
405	4824	0.0093	0.0897	0.1041	0.0650	0.0588	4.8087	6.3232	0.099	2737	3585
406	4836	0.0075	0.0975	0.0900	0.0680	0.0413	5.4313	5.8179	0.106	2953	3405
407	4848	0.0073	0.0781	0.0839	0.0713	0.0363	4.3867	7.1107	0.088	2590	3865
408	4860	0.0101	0.0848	0.0948	0.0828	0.0632	5.5801	8.4900	0.094	3005	4355
409	4872	0.0093	0.1151	0.1335	0.0780	0.0606	5.6127	7.0654	0.122	3016	3849
410	4883	0.0100	0.0957	0.1446	0.0989	0.0404	6.4961	7.1414	0.104	3323	3876
411	4895	0.0083	0.0871	0.1077	0.0701	0.0413	5.8546	6.4333	0.097	3100	3624
412	4907	0.0070	0.0833	0.1092	0.0816	0.0365	5.1213	5.6913	0.093	2845	3360
413	4919	0.0069	0.0975	0.1317	0.0802	0.0335	5.6197	6.8082	0.106	3019	3757
414	4931	0.0088	0.1021	0.1414	0.0865	0.0475	6.4906	6.3506	0.110	3321	3595
415	4943	0.0095	0.1019	0.1289	0.0892	0.0574	6.1668	7.1789	0.110	3209	3889
416	4955	0.0082	0.1053	0.1165	0.0794	0.0628	6.2833	6.3761	0.113	3249	3604
417	4967	0.0095	0.0870	0.1182	0.0783	0.0436	5.5005	5.6339	0.096	2977	3340
418	4979	0.0065	0.0918	0.1189	0.0813	0.0403	4.9266	5.4824	0.101	2778	3286
419	4991	0.0076	0.0989	0.1105	0.0777	0.0427	5.8027	6.6767	0.107	3082	3711
420	5003	0.0058	0.0938	0.1291	0.0917	0.0479	5.0492	5.5749	0.103	2820	3319
421	5015	0.0078	0.1015	0.1121	0.0869	0.2835	5.5809	8.1341	0.110	3005	4229
422	5027	0.0067	0.0925	0.0942	0.0741	0.0659	5.2672	5.2564	0.102	2896	3206
423	5039	0.0062	0.0932	0.1002	0.0766	0.0339	5.2504	6.0372	0.102	2890	3483
424	5051	0.0082	0.0890	0.0992	0.0864	0.0470	4.8184	4.6433	0.098	2740	2988
425	5063	0.0066	0.0823	0.1020	0.0837	0.0608	4.8577	6.1903	0.092	2754	3538
426	5074	0.0064	0.0976	0.1134	0.0780	0.0331	5.2442	6.1398	0.106	2888	3520
427	5086	0.0096	0.0941	0.1025	0.0964	0.0480	4.8964	5.3296	0.103	2767	3232
428	5098	0.0071	0.0857	0.0808	0.0727	0.0375	4.5499	4.5425	0.095	2647	2952

**Table F.2.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
429	5110	0.0086	0.0864	0.0911	0.0765	0.0535	5.3016	5.2478	0.096	2908	3203
430	5122	0.0088	0.0892	0.1012	0.0681	0.0567	5.6345	5.6176	0.098	3024	3334
431	5134	0.0077	0.0855	0.0985	0.0739	0.0463	5.1601	6.1466	0.095	2859	3522
432	5146	0.0073	0.0929	0.1161	0.0668	0.0424	4.5266	5.3297	0.102	2639	3232
433	5158	0.0103	0.0865	0.1041	0.0693	0.0506	4.3740	5.2611	0.096	2586	3208
434	5170	0.0068	0.0799	0.1008	0.0740	0.0371	4.6330	5.8554	0.090	2676	3419
435	5182	0.0076	0.0814	0.0861	0.0585	0.0387	5.0046	5.4148	0.091	2805	3262
436	5194	0.0071	0.0829	0.0984	0.0794	0.0393	5.0087	7.2433	0.093	2806	3912
437	5206	0.0101	0.0915	0.0929	0.0726	0.0586	5.1625	6.7541	0.101	2860	3738
438	5218	0.0059	0.0740	0.0867	0.0718	0.0515	4.2938	6.9252	0.084	2558	3799
439	5230	0.0076	0.0743	0.1221	0.0686	0.0575	5.5617	6.0661	0.085	2998	3494
440	5242	0.0067	0.0872	0.0962	0.0655	0.0440	5.2959	6.6910	0.097	2906	3716
441	5254	0.0078	0.0816	0.0862	0.0721	0.0438	4.3205	5.9338	0.092	2567	3447
442	5266	0.0096	0.0934	0.0923	0.0793	0.0499	6.4993	7.5394	0.102	3324	4017
443	5277	0.0079	0.0970	0.1192	0.0855	0.0450	5.2891	6.8205	0.106	2904	3762
444	5289	0.0106	0.0921	0.0893	0.0715	0.0374	5.3899	7.6933	0.101	2939	4072
445	5301	0.0105	0.0936	0.0993	0.0783	0.0581	6.2747	9.2500	0.103	3246	4625
446	5313	0.0088	0.0879	0.1046	0.0785	0.0336	5.0619	8.8881	0.097	2825	4497
447	5325	0.0077	0.1022	0.0988	0.0684	0.0419	5.0227	7.9352	0.110	2811	4158
448	5337	0.0087	0.0762	0.0928	0.0594	0.0431	5.0612	5.1968	0.087	2824	3185
449	5349	0.0065	0.0926	0.0860	0.0670	0.0343	5.2676	5.1712	0.102	2896	3176
450	5361	0.0074	0.0937	0.1003	0.0703	0.0690	4.9949	5.7807	0.103	2801	3392
451	5373	0.0068	0.0982	0.0886	0.0609	0.0295	4.7992	6.1035	0.107	2733	3507
452	5385	0.0080	0.0845	0.0959	0.0624	0.0328	4.8784	6.8874	0.094	2761	3786
453	5397	0.0060	0.0840	0.1017	0.0619	0.0418	4.6954	8.1440	0.094	2697	4232
454	5409	0.0154	0.0782	0.3194	0.0812	0.0438	4.8239	7.8487	0.088	2742	4127
455	5421	0.1664	0.0877	0.3171	0.2586	0.1280	4.8364	5.9890	0.097	2746	3466
493	5874	0.1326	0.0770	0.1869	0.1379	0.0971	3.4913	4.3323	0.087	2279	2877
494	5886	0.0872	0.0803	0.1447	0.1319	0.0557	3.7122	4.5425	0.090	2356	2952
495	5898	0.0526	0.0835	0.1145	0.0947	0.0618	4.7685	6.7488	0.093	2723	3736
496	5910	0.0367	0.0820	0.1196	0.0897	0.0399	4.6266	5.4381	0.092	2673	3270
497	5922	0.0318	0.0749	0.1087	0.0651	0.0524	4.8176	5.7188	0.085	2740	3370
498	5934	0.0170	0.0732	0.0986	0.0717	0.0403	5.0041	5.6200	0.084	2805	3335
499	5946	0.0132	0.0801	0.0751	0.1003	0.0458	4.2566	5.2185	0.090	2545	3192
500	5958	0.0109	0.0840	0.0913	0.0539	0.0333	4.4110	5.7948	0.094	2598	3397
501	5970	0.0088	0.0727	0.0822	0.0594	0.0375	4.0284	4.3897	0.083	2465	2898
502	5982	0.0070	0.0806	0.0792	0.0545	0.0286	4.4063	5.6646	0.091	2597	3351
503	5994	0.0104	0.0720	0.0922	0.0595	0.0320	4.6230	6.0911	0.083	2672	3503
504	6006	0.0085	0.0750	0.0898	0.0677	0.0374	3.5276	4.9529	0.085	2291	3098
505	6018	0.0068	0.0757	0.0875	0.0685	0.0411	4.7023	5.1131	0.086	2700	3155
506	6030	0.0069	0.0667	0.0879	0.0606	0.0353	5.0759	5.4095	0.078	2830	3260
507	6042	0.0080	0.0687	0.1090	0.0808	0.0469	4.6436	5.5732	0.080	2679	3318
508	6054	0.0069	0.0711	0.0936	0.0704	0.0283	4.4653	7.1338	0.082	2617	3873
509	6066	0.0113	0.0880	0.0916	0.0723	0.0421	3.8350	3.9807	0.097	2398	2753
510	6077	0.0067	0.0670	0.0899	0.0783	0.0360	3.8400	4.9935	0.078	2400	3112

**Table F.2.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
511	6089	0.0084	0.0801	0.0844	0.0713	0.0501	4.6912	6.0274	0.090	2696	3480
512	6101	0.0095	0.0839	0.0690	0.0731	0.0323	5.0169	5.1661	0.094	2809	3174
513	6113	0.0549	0.0786	0.1698	0.1248	0.0715	5.2421	4.4448	0.089	2887	2917
514	6125	0.1998	0.0892	0.3280	0.4934	0.1390	3.5728	4.2645	0.098	2307	2853
515	6137	0.5312	0.0834	0.6712	0.5383	0.2868	3.1960	3.8008	0.093	2176	2689
563	6710	0.3898	0.0660	0.4657	0.3294	0.1187	3.2977	4.0338	0.077	2212	2771
564	6722	0.3128	0.0753	0.3762	0.2761	0.0850	3.6152	5.3748	0.086	2322	3248
565	6734	0.2400	0.0832	0.2996	0.2232	0.0742	3.9192	4.9773	0.093	2428	3107
566	6746	0.1689	0.0606	0.2118	0.1627	0.0532	3.6827	4.6625	0.072	2345	2995
567	6758	0.1155	0.0630	0.1650	0.1270	0.0378	2.6250	4.4718	0.074	1978	2927
568	6770	0.0760	0.0570	0.1392	0.1025	0.0379	3.3999	4.3979	0.069	2247	2901
569	6782	0.0476	0.0719	0.1256	0.0767	0.0492	4.0996	6.9516	0.083	2490	3808
570	6794	0.0320	0.0690	0.0981	0.0660	0.0316	3.9228	4.7698	0.080	2429	3033
571	6806	0.0238	0.0679	0.1119	0.0655	0.0426	4.5884	5.8805	0.079	2660	3428
572	6818	0.0199	0.0722	0.0890	0.0621	0.0393	4.2803	4.0828	0.083	2553	2789
573	6830	0.0135	0.0690	0.1004	0.0709	0.0436	4.1180	5.2118	0.080	2497	3190
574	6842	0.0108	0.0747	0.0754	0.0686	0.0325	5.1757	6.4719	0.085	2864	3638
575	6854	0.0106	0.0721	0.0866	0.0607	0.0336	5.0077	5.4941	0.083	2806	3290
576	6865	0.0074	0.0716	0.0815	0.0468	0.0305	4.2879	4.6358	0.082	2556	2985
577	6877	0.0077	0.0690	0.0794	0.0665	0.0386	4.6017	5.0027	0.080	2665	3116
578	6889	0.0171	0.0597	0.0873	0.0783	0.0533	3.4879	4.2601	0.071	2278	2852
579	6901	0.0642	0.0755	0.1545	0.1207	0.0544	2.5066	3.6821	0.086	1937	2646
580	6913	0.2514	0.0724	0.3852	0.3074	0.1468	2.4516	3.3265	0.083	1917	2520
581	6925	0.4387	0.0706	0.5538	0.3999	0.1981	1.9784	2.5635	0.081	1753	2249
582	6937	0.4770	0.0641	0.5587	0.4224	0.2079	1.6992	2.5762	0.075	1656	2253
583	6949	0.4313	0.0676	0.4802	0.3526	0.1743	3.1053	3.0330	0.079	2145	2416
584	6961	0.3334	0.0673	0.4271	0.2857	0.1326	3.8251	3.7449	0.078	2395	2669
585	6973	0.2343	0.0675	0.2939	0.2159	0.1196	3.5275	4.9529	0.079	2291	3098
586	6985	0.1528	0.0657	0.2043	0.1572	0.0747	3.7408	2.8431	0.077	2366	2348
587	6997	0.0994	0.0689	0.1583	0.1344	0.0756	4.5550	4.7227	0.080	2648	3016
588	7009	0.0632	0.0708	0.1402	0.1048	0.0428	4.2984	4.6133	0.082	2559	2977
589	7021	0.0420	0.0670	0.1175	0.0755	0.0406	4.2955	6.0782	0.078	2558	3498
590	7033	0.0267	0.0699	0.0976	0.0713	0.2434	4.4558	5.6742	0.081	2614	3354
591	7045	0.0201	0.0762	0.1029	0.0797	0.0447	4.3505	5.1564	0.087	2577	3170
592	7057	0.0132	0.0764	0.0948	0.0662	0.0364	3.9086	4.9092	0.087	2424	3082
593	7068	0.0094	0.0739	0.0819	0.0623	0.0335	4.1826	5.3395	0.084	2519	3235
594	7080	0.0097	0.0670	0.0684	0.0590	0.0349	4.5761	5.7798	0.078	2656	3392
595	7092	0.0077	0.0609	0.0787	0.0675	0.0299	3.3891	4.5422	0.072	2243	2952
596	7104	0.0079	0.0670	0.0785	0.0599	0.0339	3.9969	4.9965	0.078	2455	3114
597	7116	0.0077	0.0700	0.0809	0.0622	0.0416	3.8533	4.7538	0.081	2405	3027
598	7128	0.0076	0.0829	0.1086	0.0566	0.0319	5.0682	4.2648	0.093	2827	2854
599	7140	0.0086	0.0742	0.1007	0.0635	0.0465	4.5174	4.7610	0.085	2635	3030
600	7152	0.0108	0.0786	0.0802	0.0690	0.0504	4.6788	5.0447	0.089	2692	3131
601	7164	0.0068	0.0857	0.0843	0.0692	0.0344	4.0699	4.3255	0.095	2480	2875
602	7176	0.0076	0.0818	0.0879	0.0676	0.0512	4.7462	7.2259	0.092	2715	3906

**Table F.2.5 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
603	7188	0.0082	0.0742	0.0794	0.0585	0.0383	4.4248	5.5957	0.085	2603	3326
604	7200	0.0073	0.0889	0.1008	0.0734	0.0337	4.9407	5.9073	0.098	2783	3437
605	7212	0.0070	0.0814	0.0837	0.0716	0.0561	4.5422	5.6544	0.091	2644	3347
606	7224	0.0086	0.0822	0.0830	0.0606	0.0336	5.2378	5.4049	0.092	2886	3259
607	7236	0.0079	0.0787	0.0869	0.0527	0.0322	5.1663	4.9640	0.089	2861	3102
608	7248	0.0054	0.0751	0.0887	0.0705	0.0313	5.0180	4.5769	0.086	2809	2964
609	7260	0.0057	0.0869	0.0748	0.0639	0.0339	5.2878	4.2669	0.096	2903	2854
610	7271	0.0067	0.0799	0.1003	0.0694	0.0267	5.2483	4.7241	0.090	2889	3017
611	7283	0.0061	0.0706	0.1017	0.0672	0.0312	4.0080	5.8612	0.081	2458	3421
612	7295	0.0060	0.0678	0.0820	0.0667	0.0203	4.6536	6.5326	0.079	2683	3659
613	7307	0.0053	0.0742	0.0809	0.0640	0.0339	3.9221	6.1751	0.085	2429	3532
614	7319	0.0073	0.0738	0.0863	0.0735	0.0348	4.8144	5.7374	0.084	2739	3377
615	7331	0.0062	0.0719	0.1327	0.0746	0.0504	5.1762	6.2493	0.083	2864	3559
616	7343	0.0075	0.0888	0.0937	0.0839	0.0423	5.0599	5.9545	0.098	2824	3454
617	7355	0.0096	0.0837	0.0928	0.0689	0.0424	5.3034	5.8101	0.093	2909	3403
618	7367	0.0070	0.0766	0.0958	0.0641	0.0479	5.4956	6.1711	0.087	2975	3531
619	7379	0.0068	0.0831	0.1012	0.0718	0.0396	5.3610	6.0263	0.093	2929	3479
620	7391	0.0068	0.0714	0.0874	0.0586	0.0315	5.3062	7.4193	0.082	2910	3975
621	7403	0.0080	0.0724	0.0775	0.0639	0.0385	5.1897	6.5616	0.083	2869	3670
622	7415	0.0054	0.0797	0.0963	0.0565	0.0379	4.6303	7.4506	0.090	2675	3986
623	7427	0.0076	0.0708	0.1048	0.0582	0.0382	5.0433	7.0059	0.082	2818	3828
624	7439	0.0080	0.0718	0.1118	0.0812	0.0364	4.5494	5.7649	0.083	2647	3387
625	7451	0.0078	0.0741	0.0964	0.0687	0.0436	4.9512	6.3933	0.085	2786	3610
626	7462	0.0078	0.0777	0.0880	0.0795	0.0383	5.2315	8.7671	0.088	2884	4454
627	7474	0.0078	0.0767	0.0967	0.0711	0.0518	5.9292	6.7416	0.087	3126	3734
628	7486	0.0072	0.0888	0.1067	0.0653	0.0291	5.8303	6.2094	0.098	3092	3545
629	7498	0.0068	0.0886	0.0720	0.0690	0.0519	5.2724	6.5814	0.098	2898	3677
630	7510	0.0060	0.0772	0.0806	0.0682	0.0461	4.6220	4.9578	0.087	2672	3100
631	7522	0.0056	0.0658	0.1088	0.0723	0.0516	4.7120	6.4415	0.077	2703	3627
632	7534	0.0063	0.0672	0.0815	0.0558	0.0430	4.7415	5.8891	0.078	2713	3431
633	7546	0.0065	0.0706	0.0995	0.0645	0.0666	4.6449	6.1530	0.081	2680	3525
634	7558	0.0083	0.0829	0.1063	0.0822	0.0416	4.1455	7.7675	0.093	2506	4098
635	7570	0.0124	0.0820	0.0991	0.0811	0.0518	4.4693	6.4266	0.092	2619	3622
636	7582	0.0188	0.0638	0.1040	0.0727	0.0329	4.4999	4.7147	0.075	2629	3013
637	7594	0.0191	0.0539	0.0815	0.0636	0.0211	2.2385	2.1522	0.066	1843	2103

\* Analyses that were below background levels are left blank.

**Table F.2.6: Section eb05042b2 Scan 1 Rim to Core Transect by LA-ICP-MS**  
 Step size: 11.94  $\mu\text{m}$

$n$  = La-ICP-MS analysis number

$n$	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
5	48	0.0135	0.0170	0.0418	0.0253	0.0100	1.2881	1.6636	0.032	1513	1929
6	60	0.0109	0.0240	0.0378	0.0279	0.0127	1.5957	3.5650	0.039	1620	2605
7	72	0.0113	0.0309	0.0388	0.0430	0.0233	1.9840	3.6143	0.045	1755	2622
8	84	0.0088	0.0305	0.0469	0.0296	0.0268	2.0689	2.7242	0.045	1784	2306
11	119	0.0046	0.0328	0.0421	0.0317	0.0177	3.1347	3.6678	0.047	2155	2641
12	131	0.0045	0.0403	0.0426	0.0412	0.0145	1.8427	3.5894	0.054	1706	2613
13	143	0.0040	0.0324	0.0574	0.0293	0.0252	2.0953	2.1356	0.046	1794	2097
14	155	0.0166	0.0341	0.0684	0.0549	0.0340	1.3079	2.4101	0.048	1520	2194
26	299	0.0695	0.0381	0.1368	0.0874	0.0489	2.2524	4.9420	0.052	1848	3094
27	310	0.0477	0.0468	0.1028	0.0837	0.0353	3.2107	4.8510	0.059	2181	3062
28	322	0.0298	0.0490	0.0917	0.0579	0.0429	3.2537	4.7534	0.061	2196	3027
29	334	0.0195	0.0517	0.0811	0.0521	0.0313	2.2531	5.6878	0.064	1848	3359
30	346	0.0134	0.0457	0.0847	0.0428	0.0268	2.6165	3.5011	0.059	1975	2582
31	358	0.0103	0.0442	0.0535	0.0438	0.0178	1.9386	3.7192	0.057	1739	2660
32	370	0.0080	0.0312	0.0406	0.0349	0.0245	2.2404	2.8751	0.045	1844	2360
33	382	0.0056	0.0417	0.0432	0.0321	0.0165	1.3842	2.2772	0.055	1546	2147
34	394	0.0052	0.0507	0.0506	0.0451	0.0371	1.6097	2.8128	0.063	1625	2337
35	406	0.0044	0.0489	0.0728	0.0394	0.0245	1.8070	2.5896	0.061	1693	2258
36	418	0.0051	0.0540	0.0532	0.0474	0.0266	2.9811	4.9222	0.066	2101	3087
37	430	0.0045	0.0579	0.0672	0.0412	0.0215	2.6613	3.2353	0.070	1990	2488
38	442	0.0045	0.0500	0.0699	0.0457	0.0239	2.6541	4.7998	0.062	1988	3044
39	454	0.0042	0.0555	0.0636	0.0487	0.0396	3.6637	5.2340	0.067	2339	3198
40	466	0.0049	0.0564	0.0775	0.0478	0.0213	3.0705	5.1679	0.068	2133	3174
41	478	0.0065	0.0621	0.0714	0.0474	0.0307	4.2520	4.8371	0.074	2543	3057
42	490	0.0063	0.0618	0.0560	0.0570	0.0286	3.4520	5.1844	0.073	2265	3180
43	501	0.0049	0.0575	0.0689	0.0574	0.0280	3.0285	5.2634	0.069	2118	3208
44	513	0.0034	0.0435	0.0593	0.0377	0.0233	2.9446	4.7285	0.056	2089	3018
45	525	0.0060	0.0442	0.0506	0.0408	0.0288	2.3489	5.3362	0.057	1882	3234
46	537	0.0048	0.0426	0.0596	0.0444	0.0420	3.5562	4.4642	0.056	2301	2924
47	549	0.0065	0.0484	0.0728	0.0569	0.0361	2.5201	4.3983	0.061	1941	2901
54	633	0.0830	0.0395	0.1400	0.1007	0.0606	1.5135	2.1406	0.053	1591	2099
55	645	0.0653	0.0407	0.1309	0.0911	0.0434	2.0920	3.0299	0.054	1792	2415
56	657	0.0440	0.0340	0.0978	0.0720	0.0393	2.6239	2.1535	0.048	1977	2103
57	669	0.0317	0.0413	0.0964	0.0668	0.0383	2.5930	3.8409	0.054	1967	2703
58	681	0.0194	0.0423	0.0713	0.0541	0.0294	1.7985	2.9215	0.055	1690	2376
59	693	0.0157	0.0439	0.0726	0.0559	0.0367	2.3872	2.1791	0.057	1895	2112
60	704	0.0105	0.0495	0.0685	0.0426	0.0195	2.1765	2.4611	0.062	1822	2213
61	716	0.0074	0.0502	0.0523	0.0401	0.0216	2.2911	3.6681	0.063	1862	2641
62	728	0.0076	0.0485	0.0674	0.0468	0.0234	2.9464	2.7809	0.061	2089	2326
63	740	0.0061	0.0494	0.0568	0.0424	0.0160	3.0504	3.4259	0.062	2126	2555
64	752	0.0056	0.0643	0.0617	0.0448	0.0217	3.3178	6.2300	0.076	2218	3552
65	764	0.0036	0.0582	0.0771	0.0454	0.0246	3.0756	4.5397	0.070	2134	2951

**Table F.2.6 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
66	776	0.0048	0.0705	0.0550	0.0695	0.0258	2.5418	5.6558	0.081	1949	3348
67	788	0.0042	0.0447	0.0664	0.0442	0.0243	3.4579	3.1682	0.058	2267	2464
68	800	0.0062	0.0544	0.0728	0.0388	0.0238	3.8736	3.7915	0.067	2412	2685
69	812	0.0037	0.0516	0.0549	0.0382	0.0286	3.3054	3.9750	0.064	2214	2750
70	824	0.0033	0.0485	0.0655	0.0449	0.0206	2.6649	2.4878	0.061	1992	2222
71	836	0.0044	0.0480	0.0535	0.0315	0.0160	2.2251	3.2623	0.061	1839	2497
72	848	0.0047	0.0466	0.0439	0.0321	0.0154	2.3917	2.4263	0.059	1897	2200
73	860	0.0039	0.0448	0.0523	0.0351	0.0212	1.4204	2.4867	0.058	1559	2222
74	872	0.0054	0.0452	0.0368	0.0361	0.0208	2.4701	2.2326	0.058	1924	2131
75	884	0.0050	0.0520	0.0600	0.0310	0.0195	2.9600	1.9971	0.064	2094	2048
76	896	0.0051	0.0502	0.0555	0.0350	0.0168	2.8033	3.3649	0.063	2040	2534
77	907	0.0041	0.0600	0.0561	0.0461	0.0221	3.5714	2.3848	0.072	2307	2185
78	919	0.0050	0.0498	0.0777	0.0434	0.0198	4.8386	5.4688	0.062	2747	3281
79	931	0.0044	0.0476	0.0709	0.0402	0.0193	3.3678	4.2552	0.060	2236	2850
80	943	0.0055	0.0694	0.0615	0.0391	0.0203	2.6554	2.6832	0.080	1988	2291
81	955	0.0034	0.0631	0.0513	0.0463	0.0243	3.7712	2.8074	0.075	2376	2336
82	967	0.0033	0.0654	0.0546	0.0381	0.0219	2.6025	2.7524	0.077	1970	2316
83	979	0.0040	0.0583	0.0462	0.0465	0.0218	3.1301	2.8205	0.070	2153	2340
84	991	0.0037	0.0561	0.0703	0.0498	0.0167	4.4682	4.2645	0.068	2618	2853
85	1003	0.0049	0.0641	0.0584	0.0498	0.0190	3.4398	4.2262	0.075	2261	2840
86	1015	0.0048	0.0595	0.0735	0.0566	0.0244	3.9577	3.2479	0.071	2441	2492
87	1027	0.0058	0.0633	0.0740	0.0514	0.0276	4.6595	4.8326	0.075	2685	3055
88	1039	0.0052	0.0619	0.0703	0.0483	0.0236	4.0531	4.9614	0.073	2474	3101
89	1051	0.0060	0.0615	0.0661	0.0569	0.0272	3.6756	4.4139	0.073	2343	2906
90	1063	0.0074	0.0555	0.0533	0.0453	0.0205	3.2399	4.1676	0.068	2191	2819
91	1075	0.0040	0.0608	0.0495	0.0415	0.0163	3.1999	2.4455	0.072	2177	2207
92	1087	0.0052	0.0500	0.0492	0.0326	0.0200	2.8560	1.9076	0.062	2058	2016
93	1098	0.0042	0.0519	0.0483	0.0380	0.0217	2.0065	1.7770	0.064	1763	1969
94	1110	0.0031	0.0452	0.0367	0.0277	0.0160	2.7818	1.5936	0.058	2032	1904
95	1122	0.0071	0.0381	0.0469	0.0290	0.0130	2.1072	2.1597	0.051	1798	2105
96	1134	0.0057	0.0429	0.0428	0.0371	0.0160	1.7308	3.7399	0.056	1667	2667
97	1146	0.0110	0.0450	0.0574	0.0613	0.0201	2.6118	3.3911	0.058	1973	2543
98	1158	0.0244	0.0502	0.0805	0.0810	0.0259	1.9159	3.2673	0.063	1731	2499
99	1170	0.0265	0.0401	0.0955	0.0651	0.0345	2.2149	2.3664	0.053	1835	2179
100	1182	0.0204	0.0455	0.0775	0.0571	0.0349	3.1727	5.1223	0.058	2168	3158
101	1194	0.0180	0.0527	0.0911	0.0545	0.0344	3.7874	4.1031	0.065	2382	2796
102	1206	0.0145	0.0477	0.0817	0.0672	0.0327	3.0267	3.2464	0.060	2117	2492
103	1218	0.0117	0.0619	0.0725	0.0567	0.0358	3.6483	4.8477	0.073	2333	3061
104	1230	0.0079	0.0486	0.0635	0.0513	0.0386	3.8885	4.0932	0.061	2417	2793
105	1242	0.0079	0.0549	0.0722	0.0490	0.0292	3.0142	4.2759	0.067	2113	2857
106	1254	0.0077	0.0483	0.0690	0.0476	0.0339	3.1018	3.2372	0.061	2143	2488
107	1266	0.0057	0.0564	0.0641	0.0374	0.0360	3.7021	4.1848	0.068	2352	2825
108	1278	0.0080	0.0566	0.0822	0.0586	0.0301	4.1173	3.7175	0.068	2496	2659
109	1290	0.0060	0.0643	0.0790	0.0468	0.0308	4.3860	4.5664	0.076	2590	2961
110	1301	0.0053	0.0574	0.0817	0.0468	0.0314	3.5082	2.9808	0.069	2285	2397



**Table F.2.6 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
111	1313	0.0061	0.0667	0.0642	0.0492	0.0224	3.9874	5.6204	0.078	2451	3335
112	1325	0.0047	0.0690	0.0838	0.0450	0.0511	3.4211	4.9597	0.080	2254	3100
113	1337	0.0075	0.0650	0.0738	0.0533	0.0265	4.0960	5.9397	0.076	2489	3449
114	1349	0.0066	0.0712	0.0672	0.0583	0.0251	4.2315	5.6899	0.082	2536	3360
115	1361	0.0045	0.0624	0.0883	0.0725	0.0271	3.5839	6.4063	0.074	2311	3615
116	1373	0.0071	0.0614	0.0819	0.0583	0.0311	4.0898	5.6892	0.073	2487	3360
117	1385	0.0087	0.0674	0.0839	0.0438	0.0340	3.4412	5.8982	0.078	2261	3434
118	1397	0.0130	0.0824	0.0712	0.0647	0.0344	4.5857	5.7027	0.092	2659	3365
119	1409	0.0131	0.0742	0.0839	0.0474	0.0348	4.6662	5.5455	0.085	2687	3309
120	1421	0.0132	0.0897	0.0736	0.0646	0.0326	4.5054	5.1317	0.099	2631	3162
121	1433	0.0126	0.0659	0.0798	0.0557	0.0337	4.9005	6.9187	0.077	2769	3797
122	1445	0.0102	0.0715	0.0699	0.0639	0.0276	5.1497	5.3002	0.082	2855	3221
123	1457	0.0096	0.0700	0.0758	0.0749	0.0432	4.9653	6.6368	0.081	2791	3696
124	1469	0.0076	0.0663	0.1061	0.0675	0.0498	5.2488	5.9346	0.077	2890	3447
125	1481	0.0083	0.0710	0.1030	0.0748	0.0412	4.8720	5.7408	0.082	2759	3378
126	1493	0.0071	0.0693	0.0968	0.0662	0.0463	5.5154	5.1119	0.080	2982	3155
127	1504	0.0092	0.0735	0.1285	0.0709	0.0473	5.7247	7.9913	0.084	3055	4178
128	1516	0.0095	0.0842	0.1079	0.0797	0.0466	5.7999	6.3696	0.094	3081	3601
130	1540	0.0084	0.0718	0.0946	0.0634	0.0371	4.9827	6.9328	0.083	2797	3802
131	1552	0.0058	0.0732	0.0882	0.0802	0.0426	4.9393	6.8970	0.084	2782	3789
132	1564	0.0073	0.0739	0.0851	0.0587	0.0303	4.6601	6.6886	0.084	2685	3715
133	1576	0.0057	0.0717	0.1000	0.0626	0.0490	5.1621	6.2811	0.082	2860	3570
134	1588	0.0070	0.0659	0.1030	0.0637	0.0469	4.9500	6.5100	0.077	2786	3651
135	1600	0.0065	0.0722	0.0930	0.0661	0.0548	4.4438	6.3827	0.083	2610	3606
136	1612	0.0083	0.0799	0.1258	0.0817	0.0387	5.3028	5.7541	0.090	2908	3383
137	1624	0.0094	0.0800	0.1094	0.0670	0.0324	5.6015	5.4363	0.090	3012	3270
138	1636	0.0072	0.0785	0.0953	0.0682	0.0377	6.0859	6.5616	0.089	3181	3670
139	1648	0.0061	0.0751	0.1045	0.0644	0.0356	5.0424	6.1659	0.086	2818	3529
140	1660	0.0072	0.0864	0.0846	0.0670	0.0357	5.1736	6.2399	0.096	2864	3555
141	1672	0.0067	0.0820	0.0968	0.0720	0.0497	4.8270	6.4773	0.092	2743	3640
142	1684	0.0079	0.0755	0.1100	0.0626	0.0414	4.9879	8.5534	0.086	2799	4378
143	1695	0.0069	0.0830	0.0892	0.0756	0.0436	5.9565	6.6753	0.093	3136	3710
144	1707	0.0088	0.0765	0.1089	0.0783	0.0374	5.3835	7.7049	0.087	2936	4076
145	1719	0.0119	0.0817	0.1139	0.0699	0.0497	4.9680	7.1131	0.092	2792	3866
146	1731	0.0372	0.0835	0.1582	0.1109	0.0647	5.3686	7.8146	0.093	2931	4115
151	1791	0.0777	0.0784	0.1648	0.1368	0.0972	4.7304	6.4961	0.089	2709	3646
152	1803	0.0573	0.0698	0.1462	0.1090	0.0568	5.0505	5.2426	0.081	2821	3201
153	1815	0.0428	0.0804	0.1314	0.0925	0.0490	5.1777	7.7954	0.090	2865	4108
154	1827	0.0313	0.0796	0.1245	0.0981	0.0554	4.9990	6.3200	0.090	2803	3584
155	1839	0.0250	0.0825	0.1349	0.0941	0.0536	5.4874	7.9500	0.092	2973	4163
156	1851	0.0170	0.0842	0.1305	0.0814	0.0367	6.7125	6.6994	0.094	3398	3719
157	1863	0.0139	0.0767	0.1016	0.0874	0.0430	5.1540	6.6617	0.087	2857	3705
158	1875	0.0153	0.0860	0.1106	0.0801	0.0485	6.0534	5.7639	0.096	3169	3386
159	1887	0.0103	0.0802	0.1148	0.0761	0.0432	4.9631	7.7645	0.090	2790	4097
160	1898	0.0098	0.0807	0.0963	0.0722	0.0500	6.1668	6.6444	0.091	3209	3699

**Table F.2.6 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
161	1910	0.0079	0.0802	0.0941	0.0766	0.0596	5.7464	6.6581	0.090	3063	3704
163	1934	0.0098	0.1049	0.0993	0.0713	0.2625	5.4671	7.2744	0.113	2966	3923
164	1946	0.0100	0.1084	0.1186	0.0690	0.0392	5.7377	8.7737	0.116	3060	4456
165	1958	0.0078	0.0871	0.0977	0.0898	0.0419	5.4778	7.9166	0.097	2969	4151
166	1970	0.0065	0.0841	0.1021	0.0683	0.0330	5.8065	6.9199	0.094	3083	3797
167	1982	0.0083	0.0837	0.0894	0.0681	0.0414	5.9916	7.0519	0.093	3148	3844
168	1994	0.0072	0.0945	0.0839	0.0678	0.0442	5.0607	6.2864	0.103	2824	3572
169	2006	0.0072	0.0874	0.0950	0.0667	0.0377	5.9264	6.5582	0.097	3125	3669
170	2018	0.0100	0.0819	0.0958	0.0704	0.0307	4.8287	6.9502	0.092	2744	3808
171	2030	0.0068	0.0925	0.1050	0.0684	0.0326	5.7510	7.1422	0.102	3064	3876
172	2042	0.0092	0.0914	0.1033	0.0792	0.0388	5.6094	6.1274	0.100	3015	3515
173	2054	0.0068	0.0864	0.0885	0.0795	0.0353	5.8269	6.8857	0.096	3091	3785
174	2066	0.0071	0.0737	0.0885	0.0724	0.0402	5.2277	5.7061	0.084	2882	3366
175	2078	0.0071	0.0824	0.1046	0.0816	0.0396	4.5109	7.4242	0.092	2633	3976
176	2090	0.0069	0.0962	0.1029	0.0833	0.0488	5.4152	7.5757	0.105	2947	4030
177	2101	0.0082	0.1050	0.1119	0.0949	0.0394	5.6116	6.2840	0.113	3016	3571
178	2113	0.0081	0.0953	0.0971	0.0798	0.0462	6.1256	7.0299	0.104	3194	3836
179	2125	0.0088	0.0931	0.0918	0.0788	0.0359	6.2766	7.7930	0.102	3247	4107
180	2137	0.0075	0.0947	0.0987	0.0715	0.0411	5.6543	6.9569	0.104	3031	3810
181	2149	0.0065	0.0832	0.0891	0.0567	0.0310	5.6409	6.4340	0.093	3026	3624
182	2161	0.0079	0.0855	0.0822	0.0557	0.0231	5.3061	5.1728	0.095	2910	3176
183	2173	0.0088	0.0810	0.1002	0.0571	0.0239	5.2087	7.0332	0.091	2876	3837
184	2185	0.0086	0.0850	0.0816	0.0557	0.0217	4.6758	5.0071	0.095	2690	3117
185	2197	0.0066	0.0884	0.0884	0.0694	0.0212	4.7051	5.0150	0.098	2701	3120
186	2209	0.0069	0.0673	0.0792	0.0545	0.0280	4.9364	5.8370	0.078	2781	3412
187	2221	0.0064	0.0771	0.0688	0.0539	0.0412	4.4886	7.1042	0.087	2625	3863
188	2233	0.0054	0.0770	0.0917	0.0641	0.0333	5.5751	6.1513	0.087	3003	3524
189	2245	0.0058	0.0712	0.0849	0.0702	0.0374	5.2595	5.9629	0.082	2893	3457
190	2257	0.0064	0.0796	0.0888	0.0668	0.0446	6.0827	6.7630	0.090	3179	3741
191	2269	0.0065	0.0842	0.0995	0.0719	0.0497	5.6300	6.6534	0.094	3022	3702
192	2281	0.0087	0.1008	0.1099	0.0703	0.0365	5.6720	5.6540	0.109	3037	3347
193	2292	0.0074	0.0887	0.0998	0.0740	0.0285	6.6841	6.7086	0.098	3389	3722
194	2304	0.0085	0.0910	0.0994	0.0731	0.0297	5.0038	7.0641	0.100	2804	3848
195	2316	0.0074	0.0881	0.1103	0.0634	0.0327	5.5483	5.7273	0.097	2994	3373
196	2328	0.0064	0.0896	0.0968	0.0659	0.0394	6.1820	6.2586	0.099	3214	3562
197	2340	0.0074	0.0942	0.0870	0.0629	0.0357	5.6638	7.0561	0.103	3034	3845
198	2352	0.0094	0.0933	0.0908	0.0717	0.0266	5.9288	6.5575	0.102	3126	3668
199	2364	0.0094	0.1008	0.1055	0.0887	0.0399	6.3315	6.4793	0.109	3266	3641
201	2388	0.0095	0.1004	0.1057	0.0821	0.0456	6.5934	8.2211	0.109	3357	4259
202	2400	0.0093	0.1018	0.0944	0.0829	0.0321	6.0712	6.8863	0.110	3175	3785
203	2412	0.0079	0.1072	0.1003	0.0709	0.0308	5.1250	5.6544	0.115	2847	3347
204	2424	0.0082	0.0848	0.1087	0.0606	0.0267	4.9643	5.6108	0.094	2791	3332
205	2436	0.0074	0.0921	0.1015	0.0569	0.0270	5.1935	5.5529	0.101	2870	3311
206	2448	0.0075	0.0872	0.1011	0.0632	0.0251	6.0203	6.2816	0.097	3158	3570
207	2460	0.0072	0.0825	0.1151	0.0619	0.0246	5.3544	8.4637	0.092	2926	4346

**Table F.2.6 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
208	2472	0.0083	0.0901	0.0914	0.0652	0.0384	6.6611	6.2338	0.099	3381	3553
210	2495	0.0072	0.1060	0.1171	0.0620	0.0302	5.9631	7.8037	0.114	3138	4111
211	2507	0.0077	0.0873	0.1119	0.0649	0.0347	6.1145	7.5875	0.097	3191	4034
212	2519	0.0072	0.1011	0.0896	0.0844	0.0294	5.7462	7.1455	0.109	3063	3877
213	2531	0.0079	0.0873	0.0971	0.0780	0.0376	6.3751	6.0753	0.097	3281	3497
215	2555	0.0067	0.0926	0.1077	0.0643	0.0299	5.1818	7.1517	0.102	2866	3879
216	2567	0.0115	0.0782	0.0979	0.0711	0.0376	5.6529	6.2353	0.088	3030	3554
217	2579	0.0079	0.0831	0.0940	0.0628	0.0327	5.8745	6.3021	0.093	3107	3578
218	2591	0.0070	0.0923	0.0806	0.0779	0.0426	5.4241	6.3344	0.101	2951	3589
219	2603	0.0085	0.0822	0.0884	0.0640	0.0357	5.0496	6.6780	0.092	2820	3711
220	2615	0.0075	0.0794	0.0820	0.0595	0.0278	5.2975	7.1731	0.089	2907	3887
221	2627	0.0056	0.0909	0.0932	0.0612	0.0304	4.9377	6.9899	0.100	2782	3822
222	2639	0.0066	0.0823	0.0843	0.0565	0.0279	4.9651	5.2576	0.092	2791	3206
223	2651	0.0079	0.0803	0.0739	0.0562	0.0356	5.3017	5.0073	0.090	2908	3117
224	2663	0.0066	0.0914	0.0788	0.0687	0.0278	5.1477	4.6754	0.101	2855	2999
225	2675	0.0056	0.0815	0.0712	0.0564	0.0223	5.2090	5.5136	0.091	2876	3297
226	2687	0.0060	0.0721	0.0788	0.0611	0.0369	4.4387	5.5805	0.083	2608	3321
228	2710	0.0051	0.0805	0.0753	0.0498	0.0319	4.8806	6.5676	0.091	2762	3672
229	2722	0.0067	0.0730	0.0759	0.0487	0.0296	4.6317	6.2443	0.084	2675	3557
230	2734	0.0053	0.0839	0.0910	0.0656	0.0267	4.9487	7.2652	0.094	2785	3920
231	2746	0.0066	0.0742	0.1122	0.0734	0.0260	5.9232	7.4128	0.085	3124	3972
232	2758	0.0088	0.0941	0.0754	0.0664	0.0267	6.6860	6.3348	0.103	3389	3589
233	2770	0.0070	0.0840	0.1026	0.0726	0.0341	7.1150	7.6028	0.094	3538	4040
234	2782	0.0063	0.0973	0.0896	0.0811	0.0364	6.0661	7.0688	0.106	3174	3850
235	2794	0.0071	0.0914	0.1050	0.0728	0.0320	6.0269	7.8626	0.101	3160	4132
236	2806	0.0063	0.0836	0.0934	0.0649	0.0457	5.6557	6.6457	0.093	3031	3700
237	2818	0.0064	0.0838	0.1037	0.0786	0.0394	6.5532	6.9799	0.094	3343	3818
238	2830	0.0069	0.0940	0.1010	0.0814	0.0417	6.4778	6.3223	0.103	3317	3585
239	2842	0.0086	0.0797	0.1063	0.0746	0.0333	5.7723	6.8518	0.090	3072	3773
240	2854	0.0064	0.0885	0.0993	0.0583	0.0294	6.6437	6.7666	0.098	3374	3743
241	2866	0.0074	0.0965	0.0940	0.0798	0.0326	7.9891	6.1253	0.105	3842	3515
242	2878	0.0078	0.0922	0.0974	0.0763	0.0456	6.4976	6.6533	0.101	3324	3702
243	2889	0.0075	0.0907	0.1307	0.0779	0.0438	5.4588	7.0483	0.100	2963	3843
244	2901	0.0076	0.1014	0.1099	0.0770	0.0296	5.7036	7.5508	0.110	3048	4021
245	2913	0.0104	0.1048	0.1341	0.0925	0.0447	6.1407	8.6059	0.113	3200	4396
246	2925	0.0100	0.1169	0.1198	0.0769	0.0384	7.9023	8.1758	0.124	3812	4243
247	2937	0.0081	0.1157	0.1334	0.0896	0.0431	7.1516	8.7171	0.123	3551	4436
248	2949	0.0084	0.1063	0.1219	0.0853	0.0442	7.2671	7.8241	0.114	3591	4118
249	2961	0.0097	0.1082	0.1060	0.0795	0.0397	7.1316	8.7954	0.116	3544	4464
250	2973	0.0091	0.1088	0.1268	0.0880	0.0408	7.3384	10.5082	0.116	3616	5072
251	2985	0.0098	0.1142	0.1367	0.1009	0.0346	8.1017	9.3384	0.122	3881	4657
252	2997	0.0187	0.1309	0.1593	0.1024	0.0515	8.5157	8.7838	0.137	4025	4459
259	3081	0.0721	0.1022	0.2030	0.1350	0.0738	6.8872	8.2469	0.110	3459	4269
260	3092	0.0530	0.1018	0.1730	0.1354	0.0629	6.3470	7.4687	0.110	3271	3992
261	3104	0.0406	0.1074	0.1631	0.1165	0.0583	6.4598	8.3196	0.115	3311	4295

**Table F.2.6 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
262	3116	0.0275	0.1100	0.1644	0.1168	0.0617	7.0689	10.3520	0.118	3522	5017
263	3128	0.0217	0.1020	0.1523	0.0848	0.0493	7.8492	8.5077	0.110	3793	4361
264	3140	0.0180	0.1150	0.1525	0.0965	0.0508	7.2839	8.3333	0.122	3597	4299
265	3152	0.0155	0.1174	0.1378	0.1043	0.0568	7.8762	8.7068	0.124	3803	4432
266	3164	0.0128	0.1041	0.1458	0.0970	0.0495	7.5748	11.5903	0.112	3698	5457
267	3176	0.0130	0.1080	0.1227	0.1011	0.0405	7.7806	9.4925	0.116	3770	4711
268	3188	0.0129	0.1177	0.1097	0.1083	0.0601	7.5631	12.5448	0.125	3694	5796
269	3200	0.0122	0.1309	0.1345	0.0849	0.0534	7.4787	12.5090	0.137	3665	5783
270	3212	0.0091	0.1255	0.1291	0.0992	0.0368	7.8017	10.4198	0.132	3777	5041
271	3224	0.0108	0.1102	0.1410	0.0919	0.0431	8.3451	9.3198	0.118	3966	4650
272	3236	0.0108	0.1219	0.1121	0.0963	0.0521	7.3497	9.4045	0.129	3620	4680
273	3248	0.0094	0.1225	0.1403	0.0899	0.0513	8.8360	9.2410	0.129	4136	4622
274	3260	0.0102	0.1195	0.1185	0.1024	0.0467	7.5564	11.1593	0.126	3692	5304
275	3272	0.0094	0.1200	0.1195	0.0906	0.0412	7.8859	7.9492	0.127	3806	4163
276	3284	0.0099	0.1160	0.1328	0.0837	0.0377	8.1802	8.6063	0.123	3908	4396
277	3295	0.0105	0.1098	0.1317	0.0803	0.0375	9.3592	9.8087	0.117	4318	4824
278	3307	0.0085	0.1174	0.1342	0.0992	0.0495	7.9306	8.2842	0.124	3822	4282
279	3319	0.0098	0.1200	0.1352	0.0897	0.0428	8.2357	9.4329	0.127	3928	4690
280	3331	0.0120	0.1247	0.1486	0.0943	0.0419	7.8510	10.3865	0.131	3794	5029
281	3343	0.0105	0.1270	0.1275	0.1075	0.0408	8.7437	8.5395	0.133	4104	4373
282	3355	0.0091	0.1343	0.1358	0.1040	0.0512	7.7310	9.9216	0.140	3752	4864
283	3367	0.0094	0.1347	0.1316	0.1063	0.0493	8.2004	9.4818	0.140	3916	4708
284	3379	0.0125	0.1231	0.1463	0.1126	0.0497	8.2836	9.5387	0.130	3944	4728
285	3391	0.0106	0.1240	0.1618	0.1155	0.0509	8.0944	9.4403	0.130	3879	4693
286	3403	0.0095	0.1230	0.1428	0.0984	0.0440	8.5983	9.6520	0.130	4054	4768
287	3415	0.0117	0.1401	0.1694	0.1129	0.0471	8.6149	11.0957	0.145	4060	5281
288	3427	0.0118	0.1368	0.1618	0.1159	0.0551	7.4831	10.5478	0.142	3666	5086
289	3439	0.0103	0.1434	0.1540	0.0993	0.0616	8.0580	9.4509	0.148	3866	4697
290	3451	0.0102	0.1214	0.1680	0.1071	0.0712	8.5866	10.6320	0.128	4050	5116
291	3463	0.0094	0.1301	0.1688	0.0964	0.0857	8.0983	12.0816	0.136	3880	5631
292	3475	0.0125	0.1339	0.1800	0.1061	0.0581	8.3284	11.8410	0.140	3960	5546
293	3486	0.0117	0.1383	0.1724	0.1089	0.0577	8.3314	11.0467	0.144	3961	5264
294	3498	0.0109	0.1554	0.1617	0.1039	0.0635	8.7597	11.7608	0.159	4110	5517
295	3510	0.0196	0.1519	0.1687	0.0959	0.0582	8.7741	11.1204	0.156	4115	5290
296	3522	0.0148	0.1385	0.1481	0.0930	0.0589	8.7005	11.0946	0.144	4089	5281
297	3534	0.0203	0.1430	0.1533	0.1151	0.0594	7.5071	13.1585	0.148	3675	6014
298	3546	0.0136	0.1370	0.1683	0.1193	0.0544	8.9374	11.2409	0.142	4172	5333
299	3558	0.0127	0.1350	0.1645	0.1046	0.0601	9.0044	11.4762	0.141	4195	5416
300	3570	0.0110	0.1421	0.1607	0.1189	0.0674	8.3734	12.0533	0.147	3976	5621
301	3582	0.0126	0.1460	0.1490	0.1027	0.0519	8.0032	9.6872	0.151	3847	4781
302	3594	0.0109	0.1327	0.1447	0.1005	0.0521	8.7036	10.5426	0.138	4090	5085
303	3606	0.0119	0.1290	0.1574	0.1036	0.0720	7.8642	10.7241	0.135	3799	5149
304	3618	0.0136	0.1284	0.1559	0.1043	0.0640	7.5915	11.7588	0.135	3704	5517
305	3630	0.0123	0.1385	0.1521	0.1122	0.0542	7.2213	10.5729	0.144	3575	5095
306	3642	0.0106	0.1440	0.1486	0.1144	0.0588	9.0234	10.5448	0.149	4202	5085

**Table F.2.6 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
307	3654	0.0125	0.1348	0.1515	0.1094	0.0639	8.4976	10.6415	0.140	4019	5120
308	3666	0.0125	0.1277	0.1510	0.1050	0.0843	8.4930	13.3277	0.134	4017	6074
309	3678	0.0115	0.1317	0.1628	0.1295	0.0863	8.8276	13.3591	0.138	4134	6085
310	3689	0.0118	0.1334	0.1864	0.1065	0.0900	8.5981	11.5768	0.139	4054	5452
311	3701	0.0124	0.1180	0.1470	0.1157	0.0786	8.2165	11.6823	0.125	3921	5490
312	3713	0.0103	0.1259	0.1690	0.1243	0.0630	7.8198	11.2581	0.132	3783	5339
313	3725	0.0113	0.1196	0.1752	0.1088	0.0799	8.3044	10.4858	0.126	3952	5064
314	3737	0.0140	0.1423	0.1728	0.1140	0.0812	8.4188	11.0759	0.147	3991	5274
315	3749	0.0122	0.1255	0.1460	0.1259	0.0666	8.7733	10.2842	0.132	4115	4993
316	3761	0.0116	0.1349	0.1703	0.1106	0.0610	7.8424	9.2649	0.141	3791	4630
317	3773	0.0121	0.1465	0.1624	0.1110	0.0742	8.3142	11.2040	0.151	3955	5320
318	3785	0.0106	0.1373	0.1601	0.1101	0.0668	8.3678	9.3571	0.143	3974	4663
319	3797	0.0145	0.1352	0.1579	0.1136	0.0705	8.2460	12.3365	0.141	3931	5722
320	3809	0.0144	0.1529	0.1600	0.1148	0.0658	9.2665	12.1464	0.157	4286	5654
321	3821	0.0111	0.1395	0.1607	0.1182	0.0618	8.3153	11.2505	0.145	3955	5336
322	3833	0.0120	0.1277	0.1455	0.1286	0.0665	9.1134	9.6682	0.134	4233	4774
324	3857	0.0209	0.1396	0.1914	0.1311	0.0737	8.8894	10.6388	0.145	4155	5119
325	3869	0.0345	0.1490	0.2114	0.1423	0.0816	9.4384	11.6179	0.153	4346	5467
326	3881	0.0468	0.1529	0.2144	0.1693	0.0852	9.5140	10.1668	0.157	4372	4951
327	3892	0.0470	0.1299	0.2111	0.1691	0.0847	10.0128	10.7818	0.136	4545	5170
328	3904	0.0391	0.1528	0.2033	0.1472	0.0828	9.5766	10.4315	0.157	4394	5045
329	3916	0.0329	0.1405	0.1850	0.1425	0.0619	9.7182	10.3631	0.146	4443	5021
330	3928	0.0269	0.1601	0.1897	0.1365	0.0834	9.9787	13.8979	0.164	4534	6277
331	3940	0.0244	0.1498	0.2256	0.1453	0.0832	9.9119	11.0074	0.154	4510	5250
332	3952	0.0227	0.1659	0.1741	0.1344	0.0713	9.3610	13.1652	0.169	4319	6017
333	3964	0.0201	0.1568	0.1809	0.1271	0.0729	9.9759	11.6928	0.161	4533	5493
334	3976	0.0168	0.1590	0.1900	0.1311	0.0618	9.3129	12.4991	0.163	4302	5780
335	3988	0.0153	0.1563	0.1756	0.1325	0.0830	10.0138	10.6483	0.160	4546	5122
336	4000	0.0180	0.1558	0.1927	0.1409	0.0613	8.7453	11.1524	0.160	4105	5301
337	4012	0.0135	0.1637	0.1732	0.1409	0.0874	9.5992	11.8792	0.167	4402	5560
338	4024	0.0160	0.1600	0.1784	0.1487	0.0656	9.1789	12.5218	0.164	4256	5788
339	4036	0.0134	0.1549	0.1620	0.1312	0.0616	8.7467	11.4706	0.159	4105	5414
340	4048	0.0129	0.1504	0.1570	0.1381	0.0665	9.3100	10.3142	0.155	4301	5003
341	4060	0.0124	0.1446	0.1630	0.1266	0.0672	8.5111	11.1581	0.149	4024	5303
342	4072	0.0146	0.1417	0.1625	0.1170	0.0558	8.2806	11.6255	0.147	3943	5469
343	4083	0.0135	0.1429	0.1695	0.1252	0.0576	7.9125	9.4729	0.148	3815	4704
344	4095	0.0138	0.1432	0.1739	0.1290	0.0814	8.0785	9.0712	0.148	3873	4562
345	4107	0.0103	0.1348	0.1458	0.1169	0.0667	8.4230	9.8695	0.140	3993	4845
346	4119	0.0113	0.1282	0.1623	0.1197	0.0530	7.9623	10.1048	0.134	3833	4929
347	4131	0.0112	0.1324	0.1585	0.1099	0.0585	8.0703	9.9835	0.138	3870	4886
348	4143	0.0102	0.1398	0.1494	0.1112	0.0598	8.2898	10.2444	0.145	3947	4979
349	4155	0.0096	0.1463	0.1608	0.1107	0.0442	8.8657	11.4292	0.151	4147	5400
350	4167	0.0117	0.1491	0.1798	0.1246	0.0525	8.2846	11.2243	0.154	3945	5327
351	4179	0.0121	0.1645	0.1541	0.1204	0.0525	8.8889	13.7584	0.168	4155	6227
352	4191	0.0128	0.1599	0.1720	0.1253	0.0490	9.2054	13.5801	0.164	4265	6164

**Table F.2.6 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
353	4203	0.0114	0.1511	0.1872	0.1235	0.0515	8.7301	11.4567	0.155	4100	5409
354	4215	0.0115	0.1575	0.1648	0.1269	0.0493	9.6170	11.8156	0.161	4408	5537
355	4227	0.0131	0.1486	0.1651	0.1210	0.0586	9.0560	13.4765	0.153	4213	6127
356	4239	0.0134	0.1511	0.1741	0.1311	0.0567	10.1138	10.3402	0.155	4581	5013
357	4251	0.0122	0.1688	0.1812	0.1344	0.0653	9.2969	13.1880	0.172	4297	6025
358	4263	0.0137	0.1594	0.1764	0.1211	0.0684	8.6205	13.3636	0.163	4062	6087
359	4275	0.0127	0.1516	0.1833	0.1161	0.0756	8.8692	11.6610	0.156	4148	5482
360	4286	0.0120	0.1425	0.1686	0.1198	0.0706	9.3627	11.3954	0.147	4320	5388
361	4298	0.0120	0.1323	0.1677	0.1236	0.0650	8.6102	10.4464	0.138	4058	5050
362	4310	0.0113	0.1419	0.1724	0.1218	0.0725	8.5649	10.9988	0.147	4042	5247
363	4322	0.0118	0.1277	0.1562	0.1116	0.0704	8.1957	10.5692	0.134	3914	5094
364	4334	0.0105	0.1291	0.1709	0.1111	0.0763	8.5835	9.1236	0.135	4049	4580
365	4346	0.0113	0.1364	0.1656	0.1184	0.0600	8.9541	12.5591	0.142	4177	5801
366	4358	0.0114	0.1327	0.1575	0.1220	0.0860	9.6795	10.8207	0.139	4430	5183
367	4370	0.0200	0.1510	0.1929	0.1394	0.0693	8.0461	10.8120	0.155	3862	5180
368	4382	0.0372	0.1484	0.2118	0.1677	0.0915	8.0199	12.9613	0.153	3853	5944
369	4394	0.0478	0.1337	0.2232	0.1513	0.0913	8.3754	11.1309	0.139	3976	5294
370	4406	0.0463	0.1309	0.2171	0.1728	0.0894	8.5453	11.3763	0.137	4035	5381
371	4418	0.0418	0.1404	0.2172	0.1516	0.0894	7.9717	10.5092	0.146	3836	5073
372	4430	0.0340	0.1331	0.1829	0.1374	0.0714	8.8577	9.3476	0.139	4144	4660
373	4442	0.0292	0.1343	0.1898	0.1204	0.0705	8.4239	11.3644	0.140	3993	5377
374	4454	0.0230	0.1481	0.1642	0.1285	0.0723	8.6960	11.2928	0.153	4088	5351
375	4466	0.0198	0.1215	0.1659	0.1205	0.0797	7.5368	9.0797	0.128	3685	4565
376	4478	0.0152	0.1231	0.1510	0.1235	0.0714	7.6274	10.5837	0.130	3716	5099
377	4489	0.0134	0.1347	0.1586	0.1058	0.0638	7.8485	10.9509	0.140	3793	5230
378	4501	0.0141	0.1215	0.1418	0.1225	0.0620	8.2417	11.0291	0.128	3930	5257
379	4513	0.0118	0.1180	0.1581	0.1230	0.0615	8.3083	10.0666	0.125	3953	4915
380	4525	0.0123	0.1262	0.1546	0.1009	0.0533	8.3500	10.9556	0.132	3968	5231
381	4537	0.0119	0.1311	0.1691	0.1089	0.0678	8.0015	10.2610	0.137	3846	4984
382	4549	0.0133	0.1417	0.1435	0.1202	0.0573	8.0638	10.8023	0.147	3868	5177
383	4561	0.0472	0.1299	0.1985	0.1492	0.0824	6.7111	8.9416	0.136	3398	4516
394	4692	0.0927	0.1397	0.2387	0.1717	0.0797	8.0902	10.0032	0.145	3877	4893
395	4704	0.0654	0.1242	0.1921	0.1541	0.0757	7.6409	10.0310	0.131	3721	4903
396	4716	0.0429	0.1329	0.1869	0.1442	0.0748	6.4357	10.0625	0.139	3302	4914
397	4728	0.0306	0.1229	0.1634	0.1152	0.0634	6.9371	10.6589	0.130	3476	5126
398	4740	0.0236	0.1281	0.1695	0.1098	0.0717	6.5187	9.7930	0.134	3331	4818
399	4752	0.0203	0.1234	0.1365	0.1121	0.0589	7.1809	9.2437	0.130	3561	4623
400	4764	0.0198	0.1155	0.1536	0.1014	0.0562	6.2108	8.9664	0.123	3224	4524
401	4776	0.0144	0.1267	0.1454	0.1026	0.0576	6.3391	7.4726	0.133	3269	3993
402	4788	0.0127	0.1052	0.1507	0.0893	0.0594	6.6111	9.9419	0.113	3363	4871
403	4800	0.0102	0.1018	0.1443	0.0955	0.0542	6.2090	8.4081	0.110	3223	4326
404	4812	0.0095	0.1211	0.1372	0.0921	0.0529	5.5147	8.3533	0.128	2982	4306
405	4824	0.0104	0.1155	0.1329	0.1033	0.0612	6.1055	8.7119	0.123	3187	4434
406	4836	0.0104	0.1047	0.1475	0.1051	0.0642	6.1828	9.6321	0.113	3214	4761
407	4848	0.0129	0.1119	0.1485	0.1089	0.0580	6.5825	9.8452	0.119	3353	4837

**Table F.2.6 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
408	4860	0.0101	0.1131	0.1289	0.0895	0.0675	6.5867	8.9006	0.120	3355	4501
409	4872	0.0117	0.1150	0.1573	0.0975	0.0617	5.9948	10.1351	0.122	3149	4940
410	4883	0.0091	0.1013	0.1376	0.1100	0.0788	6.3467	10.5134	0.110	3271	5074
411	4895	0.0098	0.1018	0.1493	0.1036	0.0708	6.1347	10.8798	0.110	3198	5204
412	4907	0.0100	0.1068	0.1594	0.1171	0.0794	6.2511	9.9951	0.115	3238	4890
413	4919	0.0131	0.1144	0.1479	0.1107	0.0956	6.0585	10.7488	0.122	3171	5158
414	4931	0.0100	0.1095	0.1616	0.1250	0.0918	6.2556	10.2235	0.117	3240	4971
415	4943	0.0097	0.1088	0.1687	0.1331	0.0964	6.6532	9.9482	0.116	3378	4873
416	4955	0.0096	0.1080	0.1385	0.1153	0.0873	6.5197	9.5046	0.116	3331	4716
417	4967	0.0108	0.1023	0.1508	0.1189	0.0905	6.0204	10.8007	0.111	3158	5176
418	4979	0.0118	0.1077	0.1742	0.1020	0.0945	6.2767	8.7858	0.116	3247	4460
419	4991	0.0116	0.1017	0.1402	0.1080	0.0888	5.9528	10.2008	0.110	3134	4963
420	5003	0.0110	0.1118	0.1480	0.1321	0.0805	6.2939	8.6263	0.119	3253	4404
421	5015	0.0097	0.1086	0.1453	0.1125	0.0777	6.4822	8.6381	0.116	3318	4408
422	5027	0.0107	0.1125	0.1769	0.1086	0.0950	6.3420	9.2878	0.120	3270	4639
423	5039	0.0132	0.1137	0.1584	0.1081	0.0842	6.6839	8.5635	0.121	3388	4381
424	5051	0.0103	0.1352	0.1727	0.1269	0.0701	6.3217	9.5218	0.141	3263	4722
425	5063	0.0110	0.1258	0.1670	0.1315	0.0837	7.4769	9.9996	0.132	3664	4892
426	5074	0.0117	0.1321	0.1828	0.1124	0.0840	7.5760	9.1869	0.138	3699	4603
427	5086	0.0113	0.1252	0.1540	0.0996	0.0741	6.8967	8.7896	0.132	3462	4462
428	5098	0.0104	0.1164	0.1596	0.1163	0.0791	5.9325	9.3965	0.123	3127	4677
429	5110	0.0109	0.1092	0.1574	0.1168	0.0630	5.8607	7.6891	0.117	3102	4070
430	5122	0.0132	0.1051	0.1517	0.1075	0.0654	6.1095	8.2682	0.113	3189	4276
431	5134	0.0105	0.1040	0.1284	0.1155	0.0899	5.8364	9.5834	0.112	3094	4744
432	5146	0.0107	0.1038	0.1446	0.0984	0.0750	5.7919	9.7922	0.112	3078	4818
433	5158	0.0112	0.1149	0.1415	0.1079	0.0802	6.0930	8.1962	0.122	3183	4251
434	5170	0.0112	0.1021	0.1754	0.1012	0.0820	5.8178	8.7521	0.110	3087	4448
436	5194	0.0108	0.1011	0.1583	0.1024	0.0811	6.0144	7.8855	0.109	3156	4140
437	5206	0.0114	0.1060	0.1312	0.1026	0.1137	5.8430	7.9784	0.114	3096	4173
438	5218	0.0107	0.0975	0.1332	0.0874	0.0827	5.4842	8.9226	0.106	2971	4509
439	5230	0.0096	0.0912	0.1184	0.1109	0.0702	4.8995	7.6892	0.100	2768	4070
440	5242	0.0092	0.0951	0.1300	0.0884	0.0670	5.2853	7.6359	0.104	2902	4052
441	5254	0.0089	0.0905	0.1495	0.0990	0.0739	4.7756	7.1881	0.100	2725	3892
442	5266	0.0078	0.0865	0.1621	0.1077	0.0833	4.6070	8.9631	0.096	2667	4523
443	5277	0.0095	0.1024	0.1344	0.0949	0.0950	5.5060	8.6797	0.111	2979	4422
444	5289	0.0099	0.1004	0.1391	0.1058	0.0784	5.5139	6.6636	0.109	2982	3706
446	5313	0.0104	0.0966	0.1429	0.0936	0.0727	5.5590	8.2415	0.105	2997	4267
447	5325	0.0095	0.0965	0.1448	0.0952	0.0644	6.0771	7.8119	0.105	3178	4114
449	5349	0.0104	0.0951	0.1472	0.0920	0.0734	5.6390	8.4299	0.104	3025	4334
450	5361	0.0134	0.0950	0.1431	0.1246	0.0896	5.4619	6.6487	0.104	2964	3701
451	5373	0.0121	0.0995	0.1739	0.1062	0.0666	5.9655	8.3937	0.108	3139	4321
452	5385	0.0083	0.0860	0.1527	0.1156	0.0831	5.4810	8.1024	0.096	2970	4217
453	5397	0.0102	0.0927	0.1861	0.0956	0.0714	6.2498	8.0534	0.102	3238	4200
454	5409	0.0105	0.0959	0.1459	0.1033	0.0994	5.4226	7.0703	0.105	2950	3851
455	5421	0.0107	0.0992	0.1327	0.0996	0.0701	5.6551	7.4188	0.108	3031	3974

**Table F.2.6 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
456	5433	0.0104	0.1014	0.1497	0.1133	0.0726	6.1752	7.8735	0.110	3212	4136
457	5445	0.0124	0.1073	0.1499	0.1006	0.0639	5.4301	7.1898	0.115	2953	3893
458	5457	0.0116	0.1098	0.1588	0.1069	0.0628	5.9551	8.6192	0.117	3135	4401
459	5469	0.0116	0.1055	0.1295	0.1085	0.0826	5.9563	9.1011	0.113	3136	4572
460	5480	0.0105	0.1018	0.1426	0.1312	0.0615	5.7610	8.4721	0.110	3068	4349
461	5492	0.0098	0.1063	0.1496	0.0988	0.0666	5.8665	8.8528	0.114	3104	4484
463	5516	0.0109	0.1235	0.1532	0.1184	0.0518	6.7610	9.2617	0.130	3415	4629
464	5528	0.0128	0.1325	0.1606	0.1297	0.0615	6.4563	9.2824	0.138	3309	4637
465	5540	0.0108	0.1184	0.1532	0.1047	0.0553	6.3377	9.1793	0.125	3268	4600
466	5552	0.0103	0.1273	0.1411	0.1155	0.0759	7.1802	8.2182	0.133	3561	4258
467	5564	0.0103	0.1122	0.1293	0.1024	0.0517	7.4300	9.3419	0.120	3648	4658
468	5576	0.0121	0.1184	0.1472	0.0938	0.0499	6.6077	8.8466	0.125	3362	4482
469	5588	0.0117	0.1073	0.1379	0.0951	0.0743	6.0527	9.4789	0.115	3169	4707
470	5600	0.0110	0.1115	0.1307	0.1031	0.0595	6.5734	8.6823	0.119	3350	4423
471	5612	0.0111	0.1291	0.1295	0.1052	0.0693	6.6428	8.6206	0.135	3374	4401
472	5624	0.0117	0.1212	0.1234	0.0983	0.0697	7.2676	9.0225	0.128	3591	4544
473	5636	0.0101	0.1184	0.1546	0.0914	0.0646	6.4407	9.0202	0.125	3304	4543
474	5648	0.0122	0.1181	0.1531	0.1066	0.0623	6.5279	10.0089	0.125	3334	4895
475	5660	0.0099	0.1149	0.1296	0.0952	0.0662	5.9479	9.2815	0.122	3133	4636
476	5671	0.0098	0.1162	0.1328	0.0913	0.0515	6.0952	7.8236	0.123	3184	4118
477	5683	0.0096	0.1013	0.1234	0.0920	0.0630	6.4900	8.5589	0.110	3321	4380
478	5695	0.0098	0.1167	0.1237	0.0853	0.0557	6.0154	7.9389	0.124	3156	4159
479	5707	0.0094	0.0921	0.1401	0.0955	0.0839	6.1016	8.2790	0.101	3186	4280
480	5719	0.0110	0.0937	0.1307	0.0817	0.0648	6.0280	9.0257	0.103	3160	4545
481	5731	0.0088	0.1055	0.1325	0.0884	0.0574	5.6415	9.4387	0.114	3026	4692
482	5743	0.0086	0.1004	0.1578	0.1127	0.0670	6.0786	10.1611	0.109	3178	4949
483	5755	0.0103	0.1023	0.1141	0.0837	0.0529	5.4617	7.4904	0.111	2964	4000
484	5767	0.0097	0.1080	0.1266	0.1042	0.0650	6.1959	7.1156	0.116	3219	3867
486	5791	0.0076	0.0942	0.1138	0.1091	0.0636	5.8646	9.4760	0.103	3104	4705
487	5803	0.0099	0.1095	0.1454	0.0927	0.0571	6.0999	8.6571	0.117	3185	4414
488	5815	0.0106	0.1089	0.1503	0.0968	0.0718	7.0852	8.6784	0.117	3528	4422
489	5827	0.0163	0.1093	0.1531	0.0986	0.0690	7.0775	8.7690	0.117	3525	4454
490	5839	0.0139	0.1048	0.1312	0.1116	0.0606	6.7004	9.7287	0.113	3394	4795
491	5851	0.0113	0.1148	0.1485	0.0957	0.0659	6.2289	9.8215	0.122	3230	4828
492	5863	0.0106	0.1212	0.1460	0.0925	0.0774	6.1729	8.3084	0.128	3211	4291
493	5874	0.0099	0.1038	0.1366	0.0927	0.0640	5.7439	9.6933	0.112	3062	4783
494	5886	0.0100	0.1199	0.1336	0.0998	0.0626	6.6774	7.4247	0.127	3386	3976
496	5910	0.0107	0.1108	0.1493	0.0957	0.0524	7.0397	7.5111	0.118	3512	4007
497	5922	0.0164	0.1113	0.1423	0.0948	0.0581	5.8993	7.9793	0.119	3116	4174
498	5934	0.0095	0.1119	0.1562	0.0937	0.0529	6.7815	7.1492	0.119	3422	3879
499	5946	0.0103	0.1167	0.1322	0.0909	0.0718	6.8927	7.8224	0.124	3461	4118
500	5958	0.0093	0.1002	0.1226	0.0966	0.0585	6.1938	7.9759	0.109	3218	4172
501	5970	0.0094	0.1155	0.1219	0.1002	0.0754	6.1920	7.0885	0.123	3217	3857
502	5982	0.0122	0.1148	0.1435	0.1051	0.0728	6.6969	8.8332	0.122	3393	4477
503	5994	0.0124	0.1209	0.1658	0.0963	0.0635	6.5612	8.8060	0.128	3346	4467



**Table F.2.6 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
504	6006	0.0099	0.1041	0.1330	0.1076	0.0656	7.0118	8.7399	0.112	3502	4444
505	6018	0.0122	0.1134	0.1422	0.0882	0.0739	6.6108	9.4417	0.121	3363	4693
506	6030	0.0124	0.1058	0.1308	0.0996	0.0618	7.0344	10.3155	0.114	3510	5004
507	6042	0.0101	0.1143	0.1442	0.1158	0.0713	6.7505	9.8143	0.122	3412	4826
508	6054	0.0093	0.1094	0.1390	0.1029	0.0602	6.6094	8.5065	0.117	3363	4361
509	6066	0.0100	0.1099	0.1368	0.0959	0.0616	6.8730	9.1072	0.118	3454	4574
510	6077	0.0123	0.1069	0.1321	0.0986	0.0670	5.7119	9.0867	0.115	3051	4567
511	6089	0.0125	0.1095	0.1428	0.1106	0.0738	6.4100	8.5544	0.117	3293	4378
513	6113	0.0116	0.0994	0.1496	0.1007	0.0681	7.1852	8.1295	0.108	3563	4227
514	6125	0.0105	0.1086	0.1580	0.0821	0.0510	5.5242	7.2177	0.116	2985	3903
515	6137	0.0113	0.1040	0.1346	0.0843	0.0674	6.3259	8.5270	0.112	3264	4368
516	6149	0.0102	0.1092	0.1241	0.0851	0.0672	6.1064	7.7425	0.117	3188	4089
517	6161	0.0094	0.0997	0.1256	0.0936	0.0606	6.2443	7.4233	0.108	3236	3976
518	6173	0.0096	0.1054	0.1306	0.0815	0.0703	6.3446	7.7462	0.113	3271	4091
519	6185	0.0118	0.1079	0.1289	0.0880	0.0581	6.2577	9.7966	0.116	3240	4819
520	6197	0.0117	0.1238	0.1453	0.1161	0.0629	6.6972	9.3023	0.130	3393	4644
521	6209	0.0203	0.1162	0.1400	0.1271	0.0819	7.4081	8.7978	0.123	3640	4464
522	6221	0.0382	0.1253	0.1976	0.1219	0.0736	7.5274	9.4401	0.132	3682	4693
523	6233	0.0430	0.1140	0.1742	0.1343	0.0782	7.5744	9.1512	0.121	3698	4590
524	6245	0.0386	0.1187	0.1753	0.1162	0.0722	7.0292	7.1910	0.126	3508	3893
525	6257	0.0458	0.1187	0.1483	0.1078	0.0759	6.6639	8.2533	0.126	3381	4271
526	6268	0.0288	0.1045	0.1391	0.1012	0.0574	5.9828	8.8967	0.113	3145	4500
527	6280	0.0234	0.1004	0.1652	0.0845	0.0694	6.5290	8.8858	0.109	3335	4496
528	6292	0.0184	0.1047	0.1399	0.0936	0.0669	5.7844	9.6965	0.113	3076	4784
529	6304	0.0146	0.1044	0.1396	0.1078	0.0685	5.9286	9.1479	0.112	3126	4589
530	6316	0.0162	0.1020	0.1286	0.0875	0.0905	6.2247	9.0490	0.110	3229	4554
531	6328	0.0111	0.1066	0.1356	0.1126	0.0793	6.0719	8.5002	0.115	3176	4359
532	6340	0.0129	0.1039	0.1292	0.1217	0.0651	6.7985	10.1233	0.112	3428	4935
533	6352	0.0127	0.1274	0.1432	0.1176	0.0863	6.8314	10.8949	0.134	3440	5210
534	6364	0.0118	0.1106	0.1308	0.0985	0.0784	6.6790	9.1294	0.118	3387	4582
535	6376	0.0104	0.1277	0.1422	0.0941	0.0749	7.6135	8.8619	0.134	3712	4487
537	6400	0.0110	0.1232	0.1336	0.1171	0.0807	8.4772	9.4168	0.130	4012	4684
538	6412	0.0106	0.1252	0.1360	0.0884	0.0788	6.9982	9.2184	0.132	3498	4614
539	6424	0.0106	0.1156	0.1536	0.1015	0.1051	7.4179	8.8803	0.123	3644	4494
540	6436	0.0102	0.1231	0.1606	0.0934	0.0635	7.8121	9.2449	0.130	3781	4623
541	6448	0.0089	0.1241	0.1548	0.1032	0.0951	7.7683	8.8207	0.131	3765	4473
542	6460	0.0131	0.1183	0.1481	0.1137	0.0787	7.8571	10.3206	0.125	3796	5006
543	6471	0.0118	0.1316	0.1627	0.1156	0.0729	8.0652	10.3103	0.138	3869	5002
544	6483	0.0137	0.1373	0.1683	0.1192	0.0709	8.1589	13.8711	0.143	3901	6267
545	6495	0.1159	0.1360	0.1909	0.1321	0.0803	7.4109	10.0680	0.142	3641	4916
570	6794	0.1438	0.1357	0.2451	0.1431	0.0964	8.2908	12.6957	0.141	3947	5850
571	6806	0.1057	0.1413	0.2286	0.1554	0.1066	9.9045	14.1654	0.146	4508	6372
572	6818	0.0674	0.1548	0.1978	0.1445	0.1004	8.9861	12.8781	0.159	4189	5915
573	6830	0.0516	0.1426	0.1836	0.1631	0.0958	8.7720	12.0272	0.148	4114	5612
574	6842	0.0374	0.1492	0.1818	0.1297	0.1069	9.6115	12.6308	0.154	4406	5827

**Table F.2.6 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
575	6854	0.0321	0.1494	0.1785	0.1399	0.0967	9.0678	12.7360	0.154	4217	5864
576	6865	0.0301	0.1429	0.1931	0.1482	0.0928	9.5572	11.9019	0.148	4387	5568
577	6877	0.0193	0.1644	0.1822	0.1416	0.1194	9.1079	13.0071	0.168	4231	5960
578	6889	0.0179	0.1405	0.1914	0.1305	0.0903	9.4850	11.7756	0.146	4362	5523
579	6901	0.2249	0.1407	0.1833	0.1357	0.0945	8.1573	11.3647	0.146	3901	5377
580	6913	0.0142	0.1404	0.1877	0.1262	0.0836	8.4060	11.3207	0.146	3987	5361
581	6925	0.0189	0.1344	0.1717	0.1308	0.0895	8.3061	11.9151	0.140	3952	5572
582	6937	0.0161	0.1357	0.1695	0.1362	0.0870	9.1374	11.7966	0.141	4241	5530
583	6949	0.0122	0.1276	0.1641	0.1133	0.0923	8.0069	10.5748	0.134	3848	5096
584	6961	0.0135	0.1399	0.1988	0.1333	0.0890	8.0108	14.1625	0.145	3850	6371
585	6973	0.0135	0.1406	0.1794	0.1315	0.0956	8.5725	10.5272	0.146	4045	5079
586	6985	0.0141	0.1315	0.1580	0.1322	0.0984	8.4986	11.2544	0.137	4019	5337
587	6997	0.0122	0.1403	0.1764	0.1470	0.0957	8.3431	11.2813	0.146	3965	5347
588	7009	0.0140	0.1364	0.1730	0.1288	0.1287	8.0406	10.3415	0.142	3860	5013
589	7021	0.0136	0.1272	0.1544	0.0977	0.0780	7.9875	10.1245	0.133	3842	4936

\* Analyses that were below background levels are left blank.

**Table F.2.7: Section eb05042b2 Scan 2 Rim to Core Transect by LA-ICP-MS**Step size: 11.94  $\mu\text{m}$  $n =$  La-ICP-MS analysis number

$n$	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
5	7164	0.0062	0.0802	7.3268	0.0698	0.0548	5.6453	7.3238	0.090	3027	3941
6	7152	0.0084	0.0870	6.7925	0.0745	0.2867	5.8073	6.7895	0.096	3084	3751
7	7140	0.0078	0.0859	6.6671	0.0750	0.0468	5.1670	6.6642	0.095	2861	3706
8	7128	0.0101	0.0922	8.2070	0.0832	0.0849	6.3204	8.2041	0.101	3262	4253
9	7116	0.0088	0.0900	10.1875	0.1012	0.0890	6.7092	10.1845	0.099	3397	4957
10	7104	0.0105	0.0952	7.7938	0.0890	0.0565	5.9141	7.7909	0.104	3121	4107
11	7092	0.0092	0.1040	8.3491	0.0879	0.2917	5.4736	8.3462	0.112	2968	4304
12	7080	0.0096	0.0994	8.0861	0.1101	0.1118	6.5173	8.0832	0.108	3331	4210
13	7068	0.0106	0.0995	9.2865	0.0956	0.0930	6.3894	9.2835	0.108	3286	4637
14	7057	0.0100	0.1006	8.7476	0.0981	0.0692	6.2984	8.7447	0.109	3254	4446
15	7045	0.0089	0.0909	9.1155	0.0959	0.0811	6.9710	9.1126	0.100	3488	4576
16	7033	0.0092	0.0901	8.0993	0.0987	0.0792	6.5678	8.0964	0.099	3348	4215
17	7021	0.0097	0.0821	8.1370	0.0969	0.0777	6.5176	8.1341	0.092	3331	4229
18	7009	0.0090	0.0871	8.2307	0.0930	0.0763	5.4421	8.2278	0.097	2957	4262
19	6997	0.0099	0.0994	9.2213	0.0946	0.0927	6.5465	9.2184	0.108	3341	4614
28	6889	0.0134	0.1192	9.6164	0.1026	0.0580	6.7510	9.6134	0.126	3412	4754
29	6877	0.0326	0.1052	8.1605	0.1136	0.0733	6.8392	8.1575	0.113	3442	4237
30	6865	0.0109	0.1083	9.0193	0.0997	0.0785	6.4863	9.0163	0.116	3320	4542
31	6854	0.0124	0.1087	8.6496	0.1045	0.0729	7.1567	8.6467	0.116	3553	4411
32	6842	0.0114	0.1143	10.1859	0.1026	0.0586	6.5902	10.1829	0.122	3356	4957
33	6830	0.0142	0.1062	8.6626	0.1033	0.0531	6.8651	8.6597	0.114	3451	4415
34	6818	0.0146	0.1113	9.3188	0.0931	0.0610	7.8622	9.3158	0.119	3798	4649
35	6806	0.0215	0.1187	8.2922	0.1113	0.0638	6.7946	8.2893	0.126	3427	4284
36	6794	0.0184	0.1168	9.2368	0.1220	0.0682	6.7624	9.2339	0.124	3416	4619
64	6460	0.3674	0.1190	8.6466	0.1234	0.0778	5.8359	8.6437	0.126	3094	4410
65	6448	0.2318	0.1073	8.9057	0.1031	0.0629	6.2342	8.9028	0.115	3232	4502
66	6436	0.1538	0.1018	8.6822	0.1047	0.0503	5.6137	8.6793	0.110	3016	4422
67	6424	0.1094	0.1015	7.5262	0.0826	0.0590	5.8785	7.5233	0.110	3109	4012
68	6412	0.0692	0.1026	8.0990	0.0845	0.0718	6.4493	8.0960	0.111	3307	4215
69	6400	0.0486	0.0925	9.6700	0.0988	0.0543	6.6609	9.6670	0.102	3380	4773
70	6388	0.0319	0.1031	7.9205	0.0941	0.0711	5.2504	7.9175	0.111	2890	4152
71	6376	0.0333	0.0900	7.1885	0.0777	0.0685	5.6635	7.1856	0.099	3034	3891
72	6364	0.0279	0.1038	9.1443	0.0988	0.0715	6.3992	9.1414	0.112	3289	4587
73	6352	0.0520	0.1087	9.4774	0.1310	0.0833	7.3499	9.4745	0.116	3620	4705
74	6340	0.0504	0.1077	8.5686	0.1248	0.0746	6.3608	8.5657	0.116	3276	4382
75	6328	0.0454	0.1054	7.9872	0.1133	0.0815	5.6907	7.9842	0.113	3043	4175
76	6316	0.0413	0.1001	8.9438	0.1112	0.0918	6.0234	8.9409	0.109	3159	4515
77	6304	0.0433	0.0924	8.8146	0.1309	0.0755	6.4129	8.8117	0.101	3294	4469
78	6292	0.0523	0.1012	8.1698	0.1513	0.0733	5.8463	8.1669	0.109	3097	4240
79	6280	0.0516	0.0943	7.5043	0.1420	0.0765	5.5496	7.5014	0.103	2994	4004
80	6268	0.0442	0.1025	8.1514	0.1196	0.0655	5.3885	8.1486	0.111	2938	4234
81	6257	0.0384	0.0956	9.9768	0.1233	0.0757	6.2342	9.9739	0.104	3232	4882

**Table F.2.7 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
82	6245	0.0344	0.1156	9.5527	0.1100	0.0733	7.0705	9.5497	0.123	3523	4732
83	6233	0.0263	0.1061	8.5251	0.1156	0.0651	6.9475	8.5222	0.114	3480	4367
84	6221	0.0215	0.1111	8.5334	0.1066	0.0649	5.9881	8.5305	0.119	3147	4369
85	6209	0.0187	0.1157	8.2557	0.0922	0.0660	6.0056	8.2528	0.123	3153	4271
86	6197	0.0177	0.1131	9.1325	0.1079	0.0820	6.7883	9.1296	0.120	3425	4582
87	6185	0.0152	0.1096	9.2356	0.1089	0.0684	7.4786	9.2327	0.117	3665	4619
88	6173	0.0172	0.1122	12.3378	0.1170	0.0941	7.7866	12.3348	0.120	3772	5721
89	6161	0.0158	0.1224	10.1919	0.1163	0.0740	7.6799	10.1890	0.129	3735	4959
90	6149	0.0142	0.1142	10.1018	0.1198	0.0921	6.5989	10.0989	0.121	3359	4927
91	6137	0.0126	0.1184	9.2108	0.1241	0.0784	7.3946	9.2079	0.125	3635	4610
92	6125	0.0128	0.1220	10.1162	0.1092	0.0704	7.0281	10.1132	0.129	3508	4932
93	6113	0.0104	0.1241	11.5242	0.1013	0.0762	6.9848	11.5212	0.131	3493	5432
94	6101	0.0122	0.1115	9.9436	0.1039	0.0931	7.8842	9.9406	0.119	3806	4871
95	6089	0.0117	0.1226	8.6744	0.1170	0.0735	6.5291	8.6715	0.129	3335	4420
96	6077	0.0118	0.1109	8.8077	0.0957	0.0615	6.8289	8.8048	0.118	3439	4467
97	6066	0.0118	0.1204	8.7051	0.1135	0.0671	6.4553	8.7022	0.127	3309	4430
98	6054	0.0095	0.1099	8.2238	0.1018	0.0625	6.9284	8.2208	0.118	3473	4259
99	6042	0.0130	0.1133	8.6057	0.1041	0.0683	7.5871	8.6028	0.121	3702	4395
100	6030	0.0140	0.1171	10.3553	0.0983	0.0721	6.4495	10.3523	0.124	3307	5017
101	6018	0.0106	0.1243	9.5898	0.0926	0.0578	6.5399	9.5868	0.131	3338	4745
102	6006	0.0105	0.1051	8.0556	0.0940	0.0517	6.7948	8.0527	0.113	3427	4200
103	5994	0.0118	0.1186	7.8046	0.0860	0.0535	7.0290	7.8017	0.126	3508	4110
104	5982	0.0115	0.1170	10.1068	0.0855	0.0620	6.8695	10.1038	0.124	3453	4929
105	5970	0.0109	0.1118	8.9156	0.0943	0.0668	7.5398	8.9127	0.119	3686	4505
106	5958	0.0157	0.1066	8.3537	0.1037	0.0729	6.2813	8.3508	0.114	3248	4306
107	5946	0.0188	0.1254	8.3701	0.0993	0.0800	6.5064	8.3672	0.132	3327	4311
108	5934	0.0191	0.1221	9.5953	0.1074	0.0822	6.9965	9.5924	0.129	3497	4747
109	5922	0.0198	0.1249	9.4748	0.1198	0.0933	7.2518	9.4719	0.131	3586	4704
110	5910	0.0163	0.1280	9.2584	0.1037	0.0666	6.8900	9.2554	0.134	3460	4627
111	5898	0.0170	0.1225	9.1336	0.0845	0.0746	7.9615	9.1307	0.129	3832	4583
112	5886	0.0124	0.1224	7.9917	0.0928	0.0777	7.3616	7.9887	0.129	3624	4177
113	5874	0.0118	0.1051	8.4550	0.0999	0.0805	6.6265	8.4520	0.113	3368	4342
114	5863	0.0109	0.1215	8.6335	0.0977	0.0599	6.2808	8.6306	0.128	3248	4405
115	5851	0.0126	0.1118	9.0660	0.0916	0.0807	6.7144	9.0631	0.119	3399	4559
116	5839	0.0109	0.1172	9.2184	0.0962	0.0522	6.6915	9.2155	0.124	3391	4613
117	5827	0.0128	0.1097	9.2602	0.1103	0.0749	6.8588	9.2572	0.117	3449	4628
118	5815	0.0140	0.1140	8.9086	0.1093	0.0824	7.4642	8.9056	0.121	3660	4503
119	5803	0.0136	0.1185	10.4792	0.1170	0.0890	7.2775	10.4762	0.125	3595	5061
120	5791	0.0141	0.1176	11.6955	0.1250	0.0913	7.9861	11.6925	0.125	3841	5493
121	5779	0.0123	0.0985	9.9771	0.1259	0.1081	6.8849	9.9742	0.107	3458	4883
122	5767	0.0112	0.1092	10.8935	0.1088	0.0873	6.6897	10.8906	0.117	3390	5208
123	5755	0.0111	0.1071	10.9945	0.1297	0.0871	5.7846	10.9917	0.115	3076	5244
124	5743	0.0101	0.0915	9.6585	0.0940	0.1014	6.1958	9.6557	0.101	3219	4769
125	5731	0.0128	0.0981	10.5696	0.1222	0.0761	5.7197	10.5667	0.107	3053	5093
126	5719	0.0108	0.0936	10.8566	0.1187	0.0790	6.8140	10.8536	0.103	3434	5195

**Table F.2.7 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
127	5707	0.0101	0.0995	10.7935	0.0987	0.1151	6.6899	10.7906	0.108	3391	5173
128	5695	0.0123	0.0994	9.9078	0.0925	0.1128	6.7498	9.9049	0.108	3411	4858
129	5683	0.0137	0.1035	9.6916	0.0940	0.0661	6.4040	9.6887	0.112	3291	4781
130	5671	0.0116	0.1297	9.8200	0.1355	0.0685	6.4533	9.8171	0.136	3308	4827
131	5660	0.0107	0.1239	9.5595	0.1034	0.0733	7.9077	9.5566	0.130	3814	4734
132	5648	0.0138	0.1226	9.1828	0.1127	0.0666	6.7251	9.1799	0.129	3403	4600
133	5636	0.0114	0.1387	10.6559	0.1242	0.0731	7.2650	10.6530	0.144	3590	5124
134	5624	0.0118	0.1341	9.6822	0.1249	0.0775	7.6886	9.6792	0.140	3738	4778
135	5612	0.0117	0.1255	10.2779	0.1201	0.0658	6.9315	10.2749	0.132	3475	4989
136	5600	0.0111	0.1254	9.6756	0.1206	0.0648	7.1473	9.6727	0.132	3550	4775
137	5588	0.0120	0.1289	8.2844	0.1294	0.0807	8.1121	8.2814	0.135	3885	4281
138	5576	0.0120	0.1320	9.8087	0.1049	0.0819	6.2987	9.8057	0.138	3255	4823
139	5564	0.0119	0.1113	8.8022	0.1045	0.0722	5.9243	8.7994	0.119	3124	4465
140	5552	0.0115	0.1120	8.8526	0.3137	0.0774	6.5725	8.8497	0.119	3350	4483
141	5540	0.0116	0.1103	8.9822	0.1284	0.1095	6.5109	8.9793	0.118	3328	4529
142	5528	0.0130	0.1158	10.2908	0.1181	0.0892	6.7648	10.2878	0.123	3417	4994
143	5516	0.0128	0.1250	9.5747	0.1159	0.3177	6.0634	9.5717	0.131	3173	4739
144	5504	0.0118	0.1194	9.9956	0.1091	0.1037	6.9915	9.9927	0.126	3495	4889
145	5492	0.0125	0.1160	8.9660	0.1321	0.0976	6.9847	8.9630	0.123	3493	4523
146	5480	0.0126	0.1087	9.2674	0.1129	0.0843	6.7056	9.2645	0.116	3396	4630
147	5469	0.0118	0.1097	9.8392	0.1261	0.0992	6.6720	9.8362	0.117	3384	4833
148	5457	0.0124	0.1185	8.7301	0.1513	0.0962	6.8064	8.7272	0.125	3431	4439
149	5445	0.0132	0.1229	10.4102	0.1544	0.1057	7.0313	10.4072	0.130	3509	5036
150	5433	0.0129	0.1047	11.2820	0.1293	0.1145	7.1278	11.2790	0.113	3543	5346
151	5421	0.0137	0.1276	10.1940	0.1261	0.0921	6.4526	10.1911	0.134	3308	4960
152	5409	0.0145	0.1079	10.8622	0.1259	0.0889	7.0054	10.8593	0.116	3500	5197
153	5397	0.0124	0.1053	10.4587	0.1355	0.0823	6.5586	10.4558	0.113	3345	5054
154	5385	0.0120	0.0949	10.0415	0.1103	0.2872	6.1000	10.0386	0.104	3186	4905
155	5373	0.0110	0.1093	9.8892	0.1070	0.0989	5.6501	9.8862	0.117	3029	4851
156	5361	0.0115	0.1102	9.8240	0.1283	0.3041	6.7473	9.8210	0.118	3410	4828
157	5349	0.0130	0.1039	8.7824	0.1041	0.0865	5.7797	8.7794	0.112	3074	4458
158	5337	0.0137	0.0970	8.8267	0.1150	0.0941	5.6627	8.8238	0.106	3034	4474
159	5325	0.0327	0.1126	9.0985	0.1368	0.0902	6.0561	9.0956	0.120	3170	4570
160	5313	0.0776	0.1073	8.5416	0.1773	0.1013	6.3097	8.5387	0.115	3258	4372
161	5301	0.1276	0.1140	9.4509	0.2182	0.1147	5.3077	9.4480	0.121	2910	4696
162	5289	0.1783	0.1195	8.7137	0.2344	0.1380	6.1260	8.7107	0.126	3195	4434
163	5277	0.1879	0.1074	8.9498	0.2505	0.1386	5.6354	8.9468	0.115	3024	4517
164	5266	0.1640	0.1199	9.5049	0.2278	0.1264	5.8507	9.5020	0.127	3099	4715
165	5254	0.1387	0.1122	8.3535	0.1933	0.1045	5.0452	8.3505	0.120	2819	4306
166	5242	0.1101	0.1075	8.5210	0.1903	0.1130	6.1854	8.5181	0.115	3215	4365
167	5230	0.0800	0.1149	9.9182	0.1845	0.0963	6.3016	9.9152	0.122	3256	4862
168	5218	0.0579	0.1159	8.4971	0.1418	0.0924	5.8025	8.4941	0.123	3082	4357
169	5206	0.0426	0.1066	9.1454	0.1279	0.0940	5.7576	9.1424	0.115	3066	4587
170	5194	0.0331	0.1115	8.4557	0.1375	0.1003	6.2713	8.4527	0.119	3245	4342
171	5182	0.0226	0.1107	10.5562	0.1163	0.0752	6.1790	10.5533	0.118	3213	5088

**Table F.2.7 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
172	5170	0.0188	0.1020	9.7823	0.1263	0.0747	6.3041	9.7793	0.110	3256	4813
173	5158	0.0174	0.1024	9.3517	0.1488	0.1041	6.0001	9.3487	0.111	3151	4660
174	5146	0.0146	0.1180	9.9482	0.1217	0.0986	6.8555	9.9452	0.125	3448	4872
175	5134	0.0135	0.1073	9.1320	0.1289	0.0979	6.9351	9.1291	0.115	3476	4582
176	5122	0.0122	0.1055	8.4625	0.0991	0.1069	6.0120	8.4596	0.113	3155	4344
177	5110	0.0129	0.1104	9.7218	0.1103	0.0717	6.7949	9.7188	0.118	3427	4792
178	5098	0.0129	0.1117	7.7423	0.1336	0.0897	5.7495	7.7393	0.119	3064	4088
179	5086	0.0105	0.1068	7.8420	0.1305	0.0788	6.3952	7.8390	0.115	3288	4124
180	5074	0.0131	0.1088	8.2548	0.1183	0.3116	7.1495	8.2519	0.117	3550	4270
181	5063	0.0133	0.1074	9.8021	0.1456	0.3088	7.5516	9.7992	0.115	3690	4820
182	5051	0.0130	0.1163	8.3462	0.1143	0.0920	6.5432	8.3433	0.123	3340	4303
183	5039	0.0118	0.1320	8.9115	0.1291	0.1011	6.5793	8.9085	0.138	3352	4504
184	5027	0.0120	0.1315	10.1998	0.1230	0.1110	7.1328	10.1968	0.137	3544	4962
185	5015	0.0115	0.1215	10.3502	0.1187	0.0994	7.3275	10.3473	0.128	3612	5015
186	5003	0.0121	0.1215	10.4034	0.1302	0.0892	7.1526	10.4005	0.128	3551	5034
187	4991	0.0121	0.1339	15.8148	0.1068	0.0920	6.9038	15.8118	0.140	3465	6957
188	4979	0.0140	0.1255	11.6821	0.1218	0.0684	6.8958	11.6791	0.132	3462	5488
189	4967	0.0124	0.1356	11.3778	0.1166	0.0773	6.8920	11.3747	0.141	3461	5380
190	4955	0.0119	0.1326	11.0824	0.1133	0.0817	6.9413	11.0793	0.138	3478	5275
191	4943	0.0111	0.1141	9.9477	0.1105	0.0894	6.7443	9.9448	0.121	3409	4872
192	4931	0.0119	0.1252	10.3979	0.1237	0.0725	6.6493	10.3950	0.132	3376	5032
193	4919	0.0126	0.1270	8.1438	0.1234	0.0715	6.4202	8.1408	0.133	3297	4231
194	4907	0.0111	0.1192	9.0826	0.1027	0.0497	6.2487	9.0797	0.126	3237	4565
195	4895	0.0098	0.1236	9.5664	0.1167	0.0747	6.6823	9.5634	0.130	3388	4737
196	4883	0.0107	0.1178	9.1109	0.1238	0.0563	6.8172	9.1079	0.125	3435	4575
197	4872	0.0108	0.1197	9.5706	0.1037	0.0800	7.5446	9.5677	0.127	3688	4738
198	4860	0.0143	0.1194	9.9423	0.1203	0.0682	6.6302	9.9394	0.126	3370	4870
199	4848	0.0150	0.1308	8.6930	0.1151	0.0754	7.0483	8.6901	0.137	3515	4426
200	4836	0.0116	0.1286	9.3227	0.1271	0.0772	7.6036	9.3197	0.135	3708	4650
201	4824	0.0138	0.1255	10.6797	0.1391	0.0784	7.6649	10.6767	0.132	3729	5132
202	4812	0.0110	0.1280	10.4084	0.1320	0.0677	7.8925	10.4054	0.134	3809	5036
203	4800	0.0122	0.1228	10.2062	0.1113	0.0546	7.8684	10.2032	0.129	3800	4964
204	4788	0.0137	0.1267	8.4528	0.1265	0.0771	8.3992	8.4499	0.133	3985	4341
205	4776	0.0374	0.1346	8.8900	0.1850	0.0947	7.6629	8.8871	0.140	3729	4496
206	4764	0.1696	0.1362	7.6503	0.2876	0.1612	7.7549	7.6474	0.142	3761	4056
207	4752	0.4082	0.1379	7.5926	0.5088	0.2554	6.6659	7.5896	0.143	3382	4035
217	4633	0.6600	0.1310	7.5385	0.5603	0.2664	6.0169	7.5355	0.137	3157	4016
218	4621	0.4660	0.1470	10.5188	0.4451	0.2049	7.2287	10.5158	0.152	3578	5075
219	4609	0.3179	0.1378	10.0756	0.3281	0.1559	7.1028	10.0727	0.143	3534	4918
220	4597	0.2254	0.1469	10.5834	0.2508	0.1215	7.7184	10.5805	0.152	3748	5098
221	4585	0.1511	0.1293	10.2021	0.2210	0.1032	7.9999	10.1992	0.135	3846	4962
222	4573	0.1029	0.1347	9.7955	0.1657	0.0917	8.2354	9.7925	0.140	3928	4818
223	4561	0.0716	0.1345	9.6576	0.1520	0.0806	8.5097	9.6547	0.140	4023	4769
224	4549	0.0480	0.1446	11.4612	0.1340	0.0791	8.0598	11.4582	0.149	3867	5410
225	4537	0.0391	0.1412	10.5299	0.1530	0.0772	8.3679	10.5269	0.146	3974	5079

**Table F.2.7 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
226	4525	0.0261	0.1455	10.2819	0.1275	0.0647	8.3465	10.2789	0.150	3966	4991
227	4513	0.0206	0.1413	10.9181	0.1261	0.0570	9.7460	10.9152	0.146	4453	5217
228	4501	0.0186	0.1453	10.6825	0.1295	0.0608	7.9682	10.6796	0.150	3835	5133
229	4489	0.0166	0.1393	11.3804	0.1203	0.0811	8.7591	11.3774	0.145	4110	5381
230	4478	0.0150	0.1341	10.1590	0.1256	0.0704	7.6850	10.1560	0.140	3736	4947
231	4466	0.0127	0.1240	10.6631	0.1200	0.0714	8.4511	10.6601	0.130	4003	5126
232	4454	0.0150	0.1353	11.9072	0.1202	0.0793	8.9167	11.9042	0.141	4164	5568
233	4442	0.0156	0.1370	12.6904	0.1215	0.0908	7.9036	12.6874	0.142	3812	5847
234	4430	0.0136	0.1404	13.7846	0.1387	0.1132	9.2845	13.7816	0.146	4292	6236
235	4418	0.0154	0.1492	13.5225	0.1481	0.0949	9.7588	13.5195	0.154	4457	6142
236	4406	0.0126	0.1352	13.1726	0.1512	0.0998	8.6596	13.1697	0.141	4075	6018
237	4394	0.0139	0.1407	13.0148	0.1357	0.0923	9.0726	13.0119	0.146	4219	5962
238	4382	0.0130	0.1348	11.1721	0.1326	0.0785	8.6924	11.1692	0.140	4087	5307
239	4370	0.0129	0.1365	11.5718	0.1339	0.0803	8.8861	11.5689	0.142	4154	5449
240	4358	0.0124	0.1534	11.1750	0.1319	0.0730	9.5038	11.1719	0.158	4369	5308
241	4346	0.0139	0.1572	10.5976	0.1361	0.0668	8.6812	10.5946	0.161	4083	5103
242	4334	0.0123	0.1373	11.9803	0.1164	0.0609	8.6257	11.9773	0.143	4063	5594
243	4322	0.0136	0.1536	11.6237	0.1355	0.0556	8.6578	11.6207	0.158	4075	5468
244	4310	0.0146	0.1499	12.1549	0.1208	0.0497	9.5061	12.1519	0.154	4369	5656
245	4298	0.0130	0.1536	12.7222	0.1310	0.0553	8.9038	12.7192	0.158	4160	5858
246	4286	0.0149	0.1696	11.0493	0.1393	0.0530	9.2863	11.0463	0.172	4293	5264
247	4275	0.0148	0.1662	11.2911	0.1216	0.0505	8.6655	11.2882	0.169	4077	5349
248	4263	0.0164	0.1699	12.4512	0.1313	0.0489	9.7028	12.4482	0.173	4438	5762
249	4251	0.0136	0.1647	10.1399	0.1279	0.0609	8.0232	10.1369	0.168	3854	4940
250	4239	0.0133	0.1527	11.5241	0.1264	0.0485	8.5010	11.5211	0.157	4020	5432
251	4227	0.0137	0.1432	9.5188	0.1091	0.0495	8.8281	9.5158	0.148	4134	4720
252	4215	0.0113	0.1555	11.2339	0.1105	0.0480	9.4593	11.2309	0.160	4353	5329
253	4203	0.0147	0.1518	10.1392	0.1319	0.0553	8.0653	10.1363	0.156	3869	4940
254	4191	0.0154	0.1440	10.5480	0.1108	0.0538	8.8740	10.5450	0.149	4150	5085
255	4179	0.0143	0.1577	11.9961	0.1217	0.0640	9.8028	11.9932	0.162	4472	5600
256	4167	0.0147	0.1562	11.6732	0.1281	0.0633	8.9759	11.6703	0.160	4185	5485
257	4155	0.0155	0.1617	11.1443	0.1310	0.0577	9.0289	11.1413	0.165	4203	5297
258	4143	0.0159	0.1651	12.3442	0.1192	0.0581	8.4903	12.3411	0.168	4016	5724
259	4131	0.0141	0.1524	10.1719	0.1344	0.0791	10.0550	10.1690	0.157	4560	4952
260	4119	0.0396	0.1533	11.0763	0.1960	0.0979	8.5166	11.0733	0.157	4025	5273
261	4107	0.1203	0.1510	10.5111	0.2877	0.1227	8.6001	10.5081	0.155	4054	5072
262	4095	0.2154	0.1616	9.9025	0.3570	0.1438	8.8915	9.8995	0.165	4156	4856
263	4083	0.2508	0.1653	9.8835	0.3650	0.1492	8.3126	9.8805	0.168	3955	4849
264	4072	0.2256	0.1622	9.1872	0.3193	0.1304	8.3811	9.1842	0.166	3978	4602
265	4060	0.1923	0.1486	11.0317	0.2914	0.1203	8.1390	11.0287	0.153	3894	5257
266	4048	0.1419	0.1620	10.0599	0.2438	0.0987	8.4493	10.0570	0.165	4002	4912
267	4036	0.1107	0.1564	10.0743	0.2060	0.0768	9.0544	10.0713	0.160	4212	4917
268	4024	0.0816	0.1912	9.6018	0.1777	0.0816	9.2050	9.5988	0.192	4265	4749
269	4012	0.0560	0.1608	10.4301	0.1788	0.0731	8.4815	10.4272	0.164	4013	5044
270	4000	0.0399	0.1571	9.3035	0.1552	0.0813	9.5557	9.3006	0.161	4387	4643

**Table F.2.7 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
271	3988	0.0333	0.1642	11.1397	0.1534	0.0628	9.2866	11.1367	0.167	4293	5296
272	3976	0.0247	0.1652	10.8273	0.1722	0.0656	9.2897	10.8242	0.168	4294	5185
273	3964	0.0198	0.1537	11.9650	0.1262	0.0749	9.2825	11.9620	0.158	4292	5589
274	3952	0.0199	0.1486	11.6612	0.1406	0.0812	9.3446	11.6582	0.153	4313	5481
275	3940	0.0176	0.1509	12.2169	0.1316	0.0814	8.4820	12.2139	0.155	4013	5678
276	3928	0.0177	0.1633	12.8519	0.1436	0.0926	10.1181	12.8489	0.167	4582	5904
277	3916	0.0162	0.1570	12.9749	0.1482	0.0755	9.6772	12.9720	0.161	4429	5948
278	3904	0.0178	0.1718	11.2707	0.1402	0.0698	10.3948	11.2677	0.174	4678	5342
279	3892	0.2364	0.1742	11.6258	0.1457	0.0628	9.6765	11.6228	0.177	4429	5468
280	3881	0.0143	0.1811	9.5720	0.1431	0.0568	10.0873	9.5690	0.183	4571	4739
281	3869	0.0198	0.1667	10.4681	0.1423	0.0563	8.4849	10.4652	0.170	4014	5057
282	3857	0.0136	0.1393	12.1745	0.1130	0.0800	8.0893	12.1715	0.145	3877	5663
283	3845	0.0160	0.1499	11.7162	0.1280	0.0769	9.0421	11.7133	0.154	4208	5501
284	3833	0.0161	0.1455	11.3097	0.1383	0.0718	9.6290	11.3067	0.150	4412	5356
285	3821	0.0164	0.1487	11.9550	0.1212	0.0700	10.1226	11.9521	0.153	4584	5585
286	3809	0.0160	0.1481	11.0130	0.1410	0.0743	9.2716	11.0101	0.153	4288	5251
287	3797	0.0164	0.1508	11.7183	0.1458	0.1002	9.5492	11.7153	0.155	4384	5501
288	3785	0.0155	0.1581	11.7759	0.1364	0.0688	9.7338	11.7730	0.162	4448	5522
289	3773	0.0157	0.1438	11.3183	0.1407	0.0779	9.1216	11.3154	0.149	4236	5359
290	3761	0.0145	0.1361	12.0691	0.1359	0.0831	9.5103	12.0661	0.142	4371	5626
291	3749	0.0141	0.1445	13.5065	0.1263	0.0763	10.3225	13.5035	0.149	4653	6137
292	3737	0.0174	0.1380	11.8829	0.1288	0.1027	9.1995	11.8800	0.143	4263	5560
293	3725	0.0150	0.1242	9.9541	0.1242	0.0650	8.7369	9.9512	0.131	4102	4874
294	3713	0.0125	0.1353	9.6199	0.1186	0.0765	8.7612	9.6169	0.141	4110	4756
295	3701	0.0127	0.1387	10.7047	0.1154	0.0775	8.0431	10.7017	0.144	3861	5141
296	3689	0.0145	0.1390	12.3513	0.1099	0.0764	8.4604	12.3483	0.144	4006	5726
297	3678	0.0131	0.1413	10.2241	0.1215	0.0751	8.5260	10.2211	0.146	4029	4970
298	3666	0.0152	0.1354	10.8763	0.1124	0.0677	9.1081	10.8734	0.141	4231	5202
299	3654	0.0128	0.1432	11.3774	0.1353	0.0653	9.1661	11.3745	0.148	4251	5380
300	3642	0.0148	0.1540	11.1407	0.1106	0.0540	9.0273	11.1378	0.158	4203	5296
301	3630	0.0147	0.1478	10.7661	0.1153	0.0568	9.5174	10.7632	0.152	4373	5163
302	3618	0.0158	0.1564	11.5099	0.1166	0.0641	9.9008	11.5069	0.160	4507	5427
303	3606	0.0134	0.1562	13.1631	0.1296	0.0543	9.4902	13.1601	0.160	4364	6015
304	3594	0.0148	0.1676	12.3559	0.1288	0.0552	8.7837	12.3529	0.171	4118	5728
305	3582	0.0148	0.1687	12.1708	0.1116	0.0544	9.5097	12.1678	0.172	4371	5662
306	3570	0.0116	0.1688	11.4113	0.1216	0.0619	10.7734	11.4084	0.172	4810	5392
307	3558	0.0127	0.1594	11.1199	0.1133	0.0556	9.7287	11.1170	0.163	4447	5289
308	3546	0.0138	0.1576	12.0219	0.1203	0.0550	9.2196	12.0189	0.161	4270	5609
309	3534	0.0151	0.1443	12.2083	0.1237	0.0577	9.7624	12.2054	0.149	4458	5675
310	3522	0.0138	0.1647	11.0903	0.1237	0.0641	8.9834	11.0873	0.168	4188	5278
311	3510	0.0131	0.1489	10.7055	0.1147	0.0594	9.5615	10.7026	0.153	4389	5141
312	3498	0.0150	0.1502	12.2167	0.1046	0.0632	9.2948	12.2137	0.155	4296	5678
313	3486	0.0143	0.1325	11.1219	0.1458	0.0545	9.4041	11.1190	0.138	4334	5289
314	3475	0.0142	0.1408	9.7164	0.1163	0.0466	8.9665	9.7135	0.146	4182	4790
315	3463	0.2313	0.1374	9.5993	0.1102	0.0612	8.7760	9.5963	0.143	4116	4748



**Table F.2.7 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
316	3451	0.0127	0.1300	10.9482	0.1066	0.0596	8.3577	10.9452	0.136	3970	5228
317	3439	0.0120	0.1353	10.8948	0.1084	0.0435	8.0559	10.8918	0.141	3865	5209
318	3427	0.0118	0.1202	9.4057	0.1067	0.0568	8.5531	9.4028	0.127	4038	4679
319	3415	0.0125	0.1515	8.8960	0.1178	0.0467	8.5332	8.8931	0.156	4031	4498
320	3403	0.0128	0.1274	9.9170	0.1196	0.0576	8.7840	9.9140	0.134	4118	4861
321	3391	0.0102	0.1209	10.2954	0.1046	0.0404	7.8578	10.2924	0.128	3796	4996
322	3379	0.0123	0.1366	10.1719	0.0940	0.0347	8.5295	10.1689	0.142	4030	4952
323	3367	0.0128	0.1457	11.7098	0.1043	0.0448	8.1347	11.7069	0.150	3893	5498
324	3355	0.0125	0.1320	9.2184	0.1286	0.0495	8.5315	9.2154	0.138	4031	4613
325	3343	0.0127	0.1269	9.7252	0.0929	0.0542	8.7989	9.7222	0.133	4124	4793
326	3331	0.0108	0.1318	9.9896	0.1024	0.0494	7.7705	9.9867	0.138	3766	4887
327	3319	0.0123	0.1280	10.4868	0.1009	0.0369	9.0817	10.4838	0.134	4222	5064
328	3307	0.0104	0.1323	8.9620	0.1066	0.0525	9.0040	8.9590	0.138	4195	4522
329	3295	0.0131	0.1396	11.1159	0.1143	0.0423	8.6849	11.1130	0.145	4084	5287
330	3284	0.0126	0.1454	10.1918	0.1165	0.0517	8.4894	10.1888	0.150	4016	4959
331	3272	0.0123	0.1336	9.5157	0.1130	0.0441	8.6318	9.5127	0.139	4065	4719
332	3260	0.0131	0.1379	9.5615	0.1092	0.0361	9.4081	9.5584	0.143	4335	4735
333	3248	0.0124	0.1186	8.0989	0.1021	0.0365	8.1116	8.0960	0.126	3885	4215
334	3236	0.0104	0.1229	8.5291	0.0943	0.0556	7.7365	8.5262	0.130	3754	4368
335	3224	0.0124	0.1127	9.3792	0.1020	0.0386	7.2077	9.3763	0.120	3571	4670
336	3212	0.0111	0.1079	8.5451	0.0841	0.0581	6.8264	8.5421	0.116	3438	4374
337	3200	0.0098	0.1153	8.8731	0.0823	0.0424	7.0404	8.8701	0.123	3512	4490
338	3188	0.0096	0.1009	9.0845	0.0874	0.0536	8.3574	9.0815	0.109	3970	4565
339	3176	0.0255	0.1069	9.5242	0.1231	0.0508	7.0307	9.5212	0.115	3509	4722
340	3164	0.0587	0.1032	9.8956	0.1510	0.0745	6.6838	9.8926	0.111	3388	4854
341	3152	0.0860	0.0994	8.1643	0.1733	0.0867	6.8143	8.1613	0.108	3434	4238
342	3140	0.0930	0.0970	9.3949	0.1805	0.0833	7.0377	9.3918	0.106	3511	4676
343	3128	0.0812	0.0997	9.9323	0.1586	0.0671	6.7674	9.9294	0.108	3417	4867
344	3116	0.0669	0.1142	8.6363	0.1353	0.0642	7.1563	8.6333	0.122	3553	4406
345	3104	0.0527	0.1032	8.3291	0.1146	0.0615	7.1999	8.3261	0.111	3568	4297
346	3092	0.0417	0.1160	7.0623	0.1273	0.0580	7.0817	7.0593	0.123	3527	3847
347	3081	0.0313	0.1021	8.9075	0.1086	0.0364	7.3920	8.9045	0.110	3635	4502
348	3069	0.0243	0.1135	8.0791	0.0886	0.0368	8.4188	8.0760	0.121	3991	4208
349	3057	0.0190	0.1172	7.9400	0.1021	0.0404	6.5811	7.9370	0.124	3353	4159
350	3045	0.0156	0.1239	8.5152	0.0981	0.0335	8.1512	8.5122	0.130	3898	4363
351	3033	0.0143	0.1136	8.6675	0.0882	0.0381	7.4210	8.6646	0.121	3645	4417
352	3021	0.0141	0.1220	8.5081	0.0902	0.0391	7.7689	8.5051	0.129	3766	4360
353	3009	0.0134	0.1365	8.3550	0.0984	0.0438	8.1606	8.3520	0.142	3902	4306
354	2997	0.0140	0.1243	7.2205	0.1111	0.0418	8.6648	7.2175	0.131	4077	3903
355	2985	0.0114	0.1166	8.7303	0.1095	0.0560	8.2843	8.7274	0.124	3945	4439
356	2973	0.0112	0.1092	7.5081	0.0778	0.0430	7.0654	7.5052	0.117	3521	4005
357	2961	0.0104	0.1014	7.2362	0.0952	0.0392	8.1644	7.2332	0.110	3903	3908
358	2949	0.0101	0.1073	8.2848	0.0788	0.0376	6.8288	8.2818	0.115	3439	4281
359	2937	0.0096	0.1068	6.7292	0.0804	0.0413	6.8291	6.7262	0.115	3439	3728
360	2925	0.0119	0.0993	8.5197	0.0896	0.0451	6.7807	8.5167	0.108	3422	4365

**Table F.2.7 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
361	2913	0.0095	0.0950	7.8735	0.1046	0.0414	7.5232	7.8706	0.104	3680	4135
362	2901	0.0102	0.1104	8.8240	0.0890	0.0467	7.7138	8.8210	0.118	3746	4473
363	2889	0.0094	0.1180	8.0763	0.0839	0.0477	6.9142	8.0733	0.125	3468	4207
364	2878	0.0098	0.1046	9.0174	0.0851	0.0368	7.2123	9.0143	0.113	3572	4541
365	2866	0.0104	0.1119	7.8308	0.1005	0.0433	7.4038	7.8278	0.119	3639	4120
366	2854	0.0099	0.1214	9.0501	0.0950	0.0363	7.9802	9.0471	0.128	3839	4553
367	2842	0.0104	0.1038	7.4420	0.0729	0.0387	7.6524	7.4390	0.112	3725	3982
368	2830	0.0101	0.0959	6.9075	0.0890	0.0339	6.1328	6.9044	0.105	3197	3792
369	2818	0.0101	0.1006	7.7601	0.0744	0.0290	6.9809	7.7570	0.109	3492	4095
370	2806	0.0095	0.0956	6.7410	0.0632	0.0421	6.1591	6.7380	0.104	3206	3732
371	2794	0.0105	0.0939	6.3954	0.0694	0.0294	5.3782	6.3925	0.103	2935	3610
372	2782	0.0099	0.0955	7.1344	0.0620	0.0283	5.2333	7.1314	0.104	2884	3872
373	2770	0.0088	0.0832	5.8184	0.0555	0.0289	5.0503	5.8154	0.093	2821	3405
374	2758	0.0073	0.0862	5.8915	0.0468	0.0332	5.4502	5.8886	0.096	2960	3431
375	2746	0.0080	0.0869	5.6330	0.0525	0.0300	5.2208	5.6300	0.096	2880	3339
376	2734	0.0077	0.0792	4.2559	0.0594	0.0422	5.2950	4.2528	0.089	2906	2849
377	2722	0.0080	0.0728	5.4108	0.0586	0.0302	5.6474	5.4078	0.083	3028	3260
378	2710	0.0083	0.0809	5.6908	0.0741	0.0375	5.7609	5.6878	0.091	3068	3359
379	2698	0.0079	0.0977	5.5221	0.0623	0.0332	5.4788	5.5191	0.106	2970	3299
380	2687	0.0100	0.0990	5.8392	0.0714	0.0591	6.4281	5.8363	0.108	3300	3412
381	2675	0.0086	0.0978	6.2488	0.0725	0.0372	7.0527	6.2458	0.106	3517	3558
382	2663	0.0104	0.1102	6.5485	0.0811	0.0393	6.7409	6.5455	0.118	3408	3664
383	2651	0.0103	0.1009	5.9197	0.0778	0.0302	7.0288	5.9167	0.109	3508	3441
384	2639	0.0114	0.1134	6.8972	0.0771	0.0407	6.7949	6.8943	0.121	3427	3788
385	2627	0.0090	0.1198	7.2433	0.0692	0.0380	6.8527	7.2404	0.127	3447	3911
386	2615	0.0108	0.1121	7.7696	0.0777	0.0333	5.7436	7.7667	0.120	3062	4098
387	2603	0.0102	0.1029	6.9082	0.0825	0.0324	6.4337	6.9052	0.111	3301	3792
388	2591	0.0097	0.0918	5.7728	0.0764	0.0279	6.6528	5.7698	0.101	3378	3388
389	2579	0.0085	0.0942	5.9447	0.0621	0.0271	5.6623	5.9417	0.103	3033	3449
390	2567	0.0127	0.0848	6.2255	0.0647	0.0283	5.1610	6.2226	0.094	2859	3549
391	2555	0.0075	0.0881	7.0721	0.0508	0.0244	5.3177	7.0692	0.097	2914	3850
392	2543	0.0085	0.1050	6.7329	0.0531	0.0259	5.7436	6.7299	0.113	3062	3730
393	2531	0.0074	0.0810	5.9258	0.0673	0.0292	5.3142	5.9228	0.091	2912	3443
394	2519	0.0077	0.0868	6.9150	0.0645	0.0242	5.2497	6.9120	0.096	2890	3794
395	2507	0.0102	0.0951	6.0795	0.0631	0.0229	5.2809	6.0764	0.104	2901	3497
396	2495	0.0089	0.0809	5.7825	0.0738	0.0271	6.2226	5.7795	0.091	3228	3392
397	2484	0.0080	0.0849	4.3965	0.0550	0.0282	5.8878	4.3935	0.095	3112	2899
398	2472	0.0075	0.0896	5.6543	0.0563	0.0274	5.1368	5.6512	0.099	2851	3346
399	2460	0.0080	0.0713	5.8773	0.0622	0.0295	4.1000	5.8743	0.082	2490	3425
400	2448	0.0106	0.0822	4.7813	0.0596	0.0261	4.5889	4.7784	0.092	2660	3036
401	2436	0.0086	0.0733	5.1267	0.0523	0.0207	3.6925	5.1237	0.084	2349	3159
402	2424	0.0074	0.0703	4.8829	0.0601	0.0257	5.1749	4.8799	0.081	2864	3072
403	2412	0.0119	0.0857	4.7959	0.0767	0.0293	5.4295	4.7930	0.095	2952	3041
404	2400	0.0211	0.0797	5.0907	0.0728	0.0426	4.7528	5.0877	0.090	2717	3146
405	2388	0.0178	0.0782	5.9951	0.0727	0.0315	5.7015	5.9922	0.088	3047	3467

**Table F.2.7 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
406	2376	0.0149	0.0864	8.0377	0.0725	0.0486	5.9143	8.0347	0.096	3121	4193
407	2364	0.0136	0.0923	6.4065	0.0810	0.0556	6.1297	6.4035	0.101	3196	3614
408	2352	0.0123	0.1053	8.6301	0.0771	0.0386	6.1052	8.6270	0.113	3187	4404
409	2340	0.0137	0.1230	7.0561	0.0815	0.0347	7.0259	7.0531	0.130	3507	3844
410	2328	0.0110	0.1049	6.4800	0.0887	0.0430	5.8958	6.4770	0.113	3115	3640
411	2316	0.0097	0.0987	7.2937	0.0819	0.0388	6.4909	7.2907	0.107	3321	3929
412	2304	0.0105	0.0978	7.1657	0.0653	0.0326	6.5910	7.1627	0.106	3356	3883
413	2292	0.0120	0.0959	7.4529	0.0688	0.0293	6.4719	7.4498	0.105	3315	3985
414	2281	0.0093	0.0908	5.8918	0.0757	0.0412	5.6429	5.8887	0.100	3027	3431
415	2269	0.0104	0.1056	5.2218	0.0894	0.0357	5.3060	5.2188	0.114	2910	3193
416	2257	0.0097	0.0976	5.5275	0.0640	0.0226	5.5095	5.5245	0.106	2980	3301
417	2245	0.0079	0.0885	5.1344	0.0736	0.0205	5.6721	5.1315	0.098	3037	3161
418	2233	0.0091	0.0821	6.4382	0.0763	0.0229	5.6212	6.4352	0.092	3019	3625
419	2221	0.0090	0.0797	6.0536	0.0570	0.0208	5.2074	6.0506	0.090	2875	3488
420	2209	0.0074	0.0784	6.2918	0.0675	0.0293	5.7682	6.2888	0.089	3070	3573
421	2197	0.0091	0.1008	6.1027	0.0544	0.0249	6.1154	6.0996	0.109	3191	3506
422	2185	0.0097	0.0901	6.6167	0.0747	0.0280	5.7321	6.6137	0.099	3058	3688
423	2173	0.0084	0.0925	5.6540	0.0767	0.0320	5.0390	5.6509	0.102	2817	3346
424	2161	0.0078	0.0867	6.0079	0.0788	0.0355	5.5871	6.0049	0.096	3007	3472
425	2149	0.0104	0.0875	6.0966	0.0730	0.0360	5.4978	6.0936	0.097	2976	3503
426	2137	0.0083	0.0951	6.0354	0.0713	0.0256	5.1155	6.0323	0.104	2843	3482
427	2125	0.0114	0.1031	6.2242	0.0709	0.0342	6.6071	6.2212	0.111	3362	3549
428	2113	0.0089	0.0986	7.0301	0.0734	0.0280	6.2002	7.0272	0.107	3220	3835
429	2101	0.0126	0.1019	6.8071	0.0718	0.0439	6.0048	6.8042	0.110	3152	3756
430	2090	0.0098	0.0976	7.6239	0.0783	0.0392	5.7173	7.6208	0.106	3052	4046
431	2078	0.0080	0.0853	5.5302	0.0650	0.0270	4.9840	5.5272	0.095	2798	3302
432	2066	0.0095	0.0840	6.4739	0.0629	0.0359	5.5037	6.4708	0.094	2978	3637
433	2054	0.0079	0.0785	5.0329	0.0596	0.0328	3.8484	5.0299	0.089	2403	3125
434	2042	0.0078	0.0856	5.1821	0.0707	0.0473	4.9466	5.1791	0.095	2785	3178
435	2030	0.0093	0.0852	7.4280	0.0804	0.0391	5.4840	7.4250	0.095	2971	3977
436	2018	0.0098	0.0847	6.5618	0.0865	0.0499	7.0265	6.5588	0.094	3508	3669
437	2006	0.0103	0.0960	7.6466	0.0872	0.0436	6.1245	7.6436	0.105	3194	4054
438	1994	0.0087	0.1077	7.6610	0.0696	0.0462	6.7289	7.6580	0.116	3404	4059
439	1982	0.0091	0.0941	8.3832	0.0988	0.0675	6.4985	8.3803	0.103	3324	4316
440	1970	0.0081	0.0980	5.7186	0.0955	0.0488	5.8062	5.7156	0.107	3083	3369
441	1958	0.0085	0.0940	8.1134	0.0768	0.0562	5.6413	8.1104	0.103	3026	4220
442	1946	0.0104	0.0931	6.3922	0.0720	0.0527	6.0117	6.3892	0.102	3155	3608
443	1934	0.0098	0.0885	7.1671	0.0682	0.0527	6.0536	7.1641	0.098	3169	3884
444	1922	0.0079	0.0889	7.2764	0.0712	0.0357	5.3287	7.2735	0.098	2917	3923
445	1910	0.0090	0.0924	6.1256	0.0633	0.0472	5.8131	6.1227	0.101	3086	3514
446	1898	0.0096	0.0862	5.9970	0.0780	0.0491	5.1442	5.9940	0.096	2853	3468
447	1887	0.0089	0.0889	6.3808	0.0616	0.0528	5.5535	6.3778	0.098	2996	3604
448	1875	0.0082	0.0825	5.8750	0.0709	0.0370	4.9480	5.8720	0.092	2785	3425
449	1863	0.0093	0.0797	6.7347	0.0609	0.0359	5.1571	6.7317	0.090	2858	3730
450	1851	0.0071	0.0840	5.9075	0.0562	0.0317	4.9851	5.9046	0.094	2798	3436

**Table F.2.7 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
451	1839	0.0073	0.0776	6.8167	0.0728	0.0337	4.8448	6.8137	0.088	2749	3759
452	1827	0.0092	0.0735	7.2042	0.0714	0.0299	5.9804	7.2012	0.084	3144	3897
453	1815	0.0101	0.0711	5.8490	0.0603	0.0279	4.4603	5.8460	0.082	2616	3415
454	1803	0.0086	0.0922	5.7778	0.0647	0.0285	4.0865	5.7748	0.101	2486	3390
455	1791	0.0075	0.0888	5.8786	0.0546	0.0228	5.1636	5.8755	0.098	2860	3426
456	1779	0.0083	0.0807	5.1980	0.0603	0.0304	5.3515	5.1950	0.091	2925	3184
457	1767	0.0085	0.0763	5.2024	0.0598	0.0371	5.0954	5.1994	0.087	2836	3186
458	1755	0.0085	0.0736	5.9186	0.0718	0.0371	6.6040	5.9156	0.084	3361	3440
459	1743	0.0074	0.0800	6.1963	0.0729	0.0260	5.9221	6.1932	0.090	3124	3539
460	1731	0.0075	0.0899	5.2245	0.2829	0.0457	5.3561	5.2215	0.099	2927	3193
461	1719	0.0092	0.0897	6.1183	0.0677	0.0384	5.5581	6.1153	0.099	2997	3511
462	1707	0.0073	0.0827	6.4731	0.0653	0.0351	4.6833	6.4700	0.093	2693	3637
463	1695	0.0105	0.0844	7.6661	0.0909	0.0424	5.7832	7.6630	0.094	3075	4061
464	1684	0.0071	0.0916	7.6490	0.0725	0.0328	5.5512	7.6460	0.101	2995	4055
465	1672	0.0099	0.0881	8.1302	0.0826	0.0324	5.8965	8.1272	0.098	3115	4226
466	1660	0.0084	0.0911	6.4238	0.0690	0.0351	5.4699	6.4207	0.100	2966	3620
467	1648	0.0092	0.0874	5.1756	0.0701	0.0412	5.5006	5.1725	0.097	2977	3176
468	1636	0.0089	0.0774	6.4618	0.0805	0.0346	5.9397	6.4588	0.088	3130	3633
469	1624	0.0087	0.0759	7.2481	0.0669	0.0390	5.5242	7.2451	0.086	2985	3913
470	1612	0.0083	0.0815	5.9001	0.0635	0.0265	4.5163	5.8970	0.091	2635	3434
471	1600	0.0084	0.0766	4.7208	0.0640	0.0492	4.0805	4.7178	0.087	2484	3014
472	1588	0.0100	0.0766	4.6224	0.0849	0.0309	4.3583	4.6195	0.087	2580	2980
473	1576	0.0087	0.0729	4.7423	0.0702	0.0404	4.9844	4.7394	0.084	2798	3022
474	1564	0.0113	0.0749	6.1449	0.0600	0.0510	5.9078	6.1420	0.085	3119	3521
475	1552	0.0219	0.0895	5.9208	0.0561	0.0417	5.7685	5.9178	0.099	3070	3441
476	1540	0.0269	0.0794	7.4243	0.0723	0.0381	5.6780	7.4213	0.089	3039	3975
477	1528	0.0301	0.0883	5.8743	0.0994	0.0402	5.4330	5.8714	0.098	2954	3424
478	1516	0.0400	0.0939	5.7464	0.0633	0.0443	5.6584	5.7436	0.103	3032	3379
479	1504	0.0189	0.0791	5.8774	0.0797	0.0314	4.8091	5.8744	0.089	2737	3426
480	1493	0.0209	0.0812	5.1376	0.0601	0.0355	4.4361	5.1347	0.091	2607	3163
481	1481	0.0153	0.0725	5.4615	0.0566	0.0408	4.2024	5.4586	0.083	2526	3278
482	1469	0.0155	0.0773	5.5486	0.0535	0.0330	3.8920	5.5457	0.088	2418	3309
483	1457	0.0097	0.0642	5.8356	0.0666	0.0281	5.4751	5.8327	0.075	2968	3411
484	1445	0.0080	0.0677	5.5501	0.0657	0.0339	4.3088	5.5472	0.079	2563	3309
485	1433	0.0090	0.0827	6.3644	0.0693	0.0350	4.7539	6.3614	0.093	2718	3599
486	1421	0.0085	0.0714	5.9385	0.0655	0.0394	5.9690	5.9355	0.082	3140	3447
487	1409	0.0078	0.0804	6.8033	0.0605	0.0330	5.0666	6.8003	0.090	2826	3755
488	1397	0.0071	0.0767	5.4345	0.0621	0.0317	4.3707	5.4316	0.087	2584	3268
489	1385	0.0084	0.0817	6.2090	0.0622	0.0327	4.9166	6.2061	0.092	2774	3543
490	1373	0.0074	0.0930	5.0741	0.0670	0.0388	5.2420	5.0712	0.102	2887	3140
491	1361	0.0074	0.0867	7.6665	0.0645	0.0421	5.6792	7.6635	0.096	3039	4061
492	1349	0.0092	0.0852	6.0846	0.0626	0.0318	5.6166	6.0816	0.095	3017	3499
493	1337	0.0070	0.0920	6.6188	0.0624	0.0408	5.3335	6.6158	0.101	2919	3689
494	1325	0.0098	0.0740	6.2104	0.0661	0.0511	5.4964	6.2075	0.085	2976	3544
495	1313	0.0082	0.0776	4.9350	0.0606	0.0381	4.7252	4.9320	0.088	2708	3091

**Table F.2.7 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
496	1301	0.0069	0.0806	5.6026	0.0699	0.0520	4.9266	5.5996	0.091	2778	3328
497	1290	0.0074	0.0731	5.2633	0.0558	0.0380	4.7271	5.2603	0.084	2708	3207
498	1278	0.0059	0.0702	5.8944	0.0488	0.0416	3.6630	5.8915	0.081	2338	3432
499	1266	0.0059	0.0659	5.4434	0.0538	0.0340	3.9622	5.4405	0.077	2442	3271
500	1254	0.0054	0.0594	4.6796	0.0673	0.0409	3.2091	4.6767	0.071	2181	3000
501	1242	0.0082	0.0530	4.0063	0.0449	0.0356	3.8914	4.0033	0.065	2418	2761
502	1230	0.0081	0.0559	3.7590	0.0480	0.0239	3.6733	3.7560	0.068	2342	2673
503	1218	0.0058	0.0549	3.1743	0.0521	0.0230	3.6217	3.1714	0.067	2324	2465
504	1206	0.0062	0.0654	4.8712	0.0487	0.0261	3.4041	4.8682	0.077	2248	3068
505	1194	0.0061	0.0632	3.8299	0.0467	0.0192	3.8861	3.8270	0.075	2416	2698
506	1182	0.0064	0.0660	3.1561	0.0419	0.0204	2.3948	3.1531	0.077	1898	2458
507	1170	0.0067	0.0574	4.5360	0.0482	0.0251	3.1077	4.5331	0.069	2145	2949
508	1158	0.0049	0.0562	4.7836	0.0489	0.0209	3.2510	4.7806	0.068	2195	3037
509	1146	0.0063	0.0604	4.1819	0.0501	0.0287	5.4521	4.1790	0.072	2960	2823
510	1134	0.0066	0.0749	6.3794	0.0684	0.0428	4.0698	6.3765	0.085	2480	3604
511	1122	0.0072	0.0772	6.2837	0.0635	0.0236	5.2865	6.2808	0.087	2903	3570
512	1110	0.0095	0.0848	4.9032	0.0629	0.0325	5.0538	4.9003	0.094	2822	3079
513	1098	0.0109	0.0802	4.2379	0.0607	0.0342	5.3372	4.2349	0.090	2920	2843
514	1087	0.0091	0.0736	5.7424	0.0679	0.0282	4.3154	5.7394	0.084	2565	3378
515	1075	0.0101	0.0630	4.3828	0.0468	0.0256	3.9592	4.3798	0.074	2441	2894
516	1063	0.0106	0.0688	3.6154	0.0416	0.0253	4.0971	3.6124	0.080	2489	2622
517	1051	0.0067	0.0817	5.0920	0.0498	0.0211	3.0104	5.0891	0.092	2112	3146
518	1039	0.0078	0.0715	3.3080	0.0572	0.0283	3.8312	3.3051	0.082	2397	2512
519	1027	0.0060	0.0672	4.5439	0.2661	0.0263	3.7325	4.5410	0.078	2363	2952
520	1015	0.0059	0.0603	5.6098	0.0443	0.0293	4.1201	5.6069	0.072	2497	3330
521	1003	0.0064	0.0673	5.9020	0.0533	0.0271	3.3648	5.8991	0.078	2235	3434
522	991	0.0073	0.0761	4.2484	0.0546	0.0371	5.1566	4.2454	0.086	2858	2847
523	979	0.0068	0.0741	5.1639	0.0755	0.0244	5.3115	5.1610	0.085	2911	3172
524	967	0.0065	0.0764	4.3891	0.0716	0.0284	5.3391	4.3862	0.087	2921	2897
525	955	0.0061	0.0849	5.0157	0.0589	0.0333	4.9012	5.0127	0.095	2769	3119
526	943	0.0060	0.0741	5.6190	0.0603	0.0360	3.1631	5.6161	0.085	2165	3334
527	931	0.0071	0.0631	6.2287	0.0657	0.0263	5.0489	6.2258	0.074	2820	3550
528	919	0.0079	0.0770	6.1260	0.0503	0.0303	4.5822	6.1231	0.087	2658	3514
529	907	0.0060	0.0684	3.8438	0.0490	0.2432	4.5957	3.8409	0.079	2663	2703
530	896	0.0075	0.0698	5.0465	0.0512	0.0259	4.7237	5.0436	0.081	2707	3130
531	884	0.0067	0.0701	4.0899	0.0595	0.0423	4.4351	4.0871	0.081	2607	2790
532	872	0.0056	0.0812	7.0415	0.0622	0.0223	4.6020	7.0386	0.091	2665	3839
533	860	0.0081	0.0634	4.6729	0.0564	0.0408	4.5599	4.6700	0.075	2650	2998
534	848	0.0081	0.0735	5.4031	0.0521	0.0301	4.6275	5.4001	0.084	2674	3257
535	836	0.0070	0.0680	5.6985	0.0648	0.0256	4.2907	5.6954	0.079	2557	3362
536	824	0.0063	0.0754	6.2716	0.0580	0.0340	4.3078	6.2686	0.086	2563	3566
537	812	0.0084	0.0689	5.2851	0.0624	0.0249	4.4056	5.2822	0.080	2597	3215
538	800	0.0058	0.0698	4.6466	0.0482	0.0442	4.3079	4.6437	0.081	2563	2988
539	788	0.0064	0.0681	6.2744	0.0624	0.0465	4.7317	6.2715	0.079	2710	3567
540	776	0.0074	0.0651	7.2143	0.0633	0.0414	3.8237	7.2113	0.076	2394	3901

**Table F.2.7 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
541	764	0.0456	0.0737	5.6941	0.1279	0.0794	3.4066	5.6912	0.084	2249	3360
542	752	0.1628	0.0617	5.3324	0.3016	0.1532	3.4591	5.3295	0.073	2268	3232
543	740	0.3703	0.0613	4.7725	0.4885	0.2120	2.9580	4.7696	0.073	2093	3033
544	728	0.4746	0.0655	4.7125	0.5565	0.2392	2.8708	4.7096	0.077	2063	3012
545	716	0.4831	0.0625	4.0617	0.5646	0.2516	2.0645	4.0588	0.074	1783	2780
546	704	0.5442	0.0675	4.9519	0.6335	0.3048	2.2433	4.9489	0.079	1845	3097
547	693	0.6732	0.0683	3.7107	0.7537	0.3751	3.0598	3.7077	0.079	2129	2656
548	681	0.7206	0.0656	3.3899	0.7307	0.3488	1.8176	3.3869	0.077	1697	2542
549	669	0.6158	0.0641	3.2454	0.6395	0.2997	1.4202	3.2425	0.075	1559	2490
550	657	0.5248	0.0628	5.9787	0.4962	0.2514	2.7438	5.9758	0.074	2019	3462
551	645	0.3906	0.0583	3.9063	0.3971	0.1864	3.3193	3.9034	0.070	2219	2725
552	633	0.2777	0.0631	5.5171	0.2877	0.1480	2.4510	5.5141	0.075	1917	3297
553	621	0.2018	0.0734	6.0579	0.2168	0.1038	3.7484	6.0549	0.084	2368	3490
554	609	0.1340	0.0758	6.5642	0.1675	0.0816	5.6144	6.5612	0.086	3017	3670
555	597	0.0937	0.0784	6.7469	0.1414	0.0713	5.4119	6.7439	0.089	2946	3735
556	585	0.0812	0.0893	7.5983	0.1296	0.0598	4.9974	7.5954	0.099	2802	4037
557	573	0.0659	0.0823	8.2431	0.1101	0.0483	4.5776	8.2402	0.092	2656	4266
558	561	0.0491	0.0749	7.6702	0.1101	0.0441	4.7831	7.6673	0.085	2728	4063
559	549	0.0379	0.0855	8.3881	0.1028	0.0354	4.6654	8.3852	0.095	2687	4318
560	537	0.0307	0.0894	7.0824	0.0887	0.0374	5.1300	7.0795	0.099	2848	3854
561	525	0.0212	0.0789	7.1046	0.0862	0.0446	5.5481	7.1016	0.089	2994	3862
562	513	0.0157	0.0860	8.9754	0.0906	0.0427	5.4990	8.9725	0.096	2977	4527
563	501	0.0128	0.0802	7.3359	0.0813	0.0338	5.2578	7.3329	0.090	2893	3944
564	490	0.0115	0.0810	8.6164	0.0799	0.0398	5.6704	8.6134	0.091	3036	4399
565	478	0.0098	0.0885	7.0096	0.0912	0.0444	5.2473	7.0067	0.098	2889	3828
566	466	0.0098	0.0876	8.1251	0.0761	0.0363	5.7576	8.1221	0.097	3067	4224
567	454	0.0085	0.0698	6.8464	0.0796	0.0312	4.8952	6.8435	0.081	2767	3770
568	442	0.0065	0.0712	7.7010	0.0824	0.0396	5.1509	7.6981	0.082	2856	4074
569	430	0.0069	0.0708	9.6887	0.0598	0.0464	5.2530	9.6858	0.082	2891	4780
570	418	0.0087	0.0828	10.1735	0.0781	0.0517	5.0735	10.1706	0.093	2829	4952
571	406	0.0113	0.0729	8.7327	0.0742	0.0834	4.9634	8.7297	0.084	2790	4440
572	394	0.0136	0.0813	9.0007	0.0993	0.0520	5.2970	8.9978	0.091	2906	4536
573	382	0.0162	0.0871	7.5495	0.1025	0.0622	6.0767	7.5465	0.097	3177	4020
574	370	0.0654	0.0869	7.8002	0.1430	0.0775	5.4798	7.7972	0.096	2970	4109
575	358	0.1555	0.0882	7.0496	0.2563	0.1296	4.0496	7.0466	0.098	2473	3842
576	346	0.4134	0.0853	5.1959	0.4848	0.2582	3.4170	5.1930	0.095	2253	3183
577	334	0.6938	0.0887	5.1047	0.7255	0.4186	2.9880	5.1017	0.098	2104	3151
578	322	0.9406	0.0925	3.5451	0.9165	0.5105	2.1224	3.5421	0.102	1803	2597
579	310	1.0744	0.0987	4.7561	0.9796	0.5485	2.7201	4.7531	0.107	2011	3027
580	299	1.0226	0.0871	4.3305	0.9115	0.4890	2.5216	4.3276	0.097	1942	2876
581	287	0.8489	0.0854	5.4809	0.7505	0.3940	3.6091	5.4780	0.095	2320	3285
582	275	0.6665	0.0902	5.4105	0.5849	0.5330	4.1157	5.4075	0.099	2496	3260
583	263	0.4969	0.0828	7.5235	0.4375	0.2464	4.8803	7.5205	0.093	2762	4011
584	251	0.3412	0.0802	5.5717	0.3206	0.1704	4.5069	5.5688	0.090	2632	3317
585	239	0.2369	0.0764	5.2714	0.2246	0.1262	3.8965	5.2685	0.087	2420	3210

**Table F.2.7 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
586	227	0.1623	0.0723	7.5183	0.1877	0.0928	5.4306	7.5153	0.083	2953	4009
587	215	0.1177	0.0870	7.1492	0.1371	0.0801	5.4946	7.1462	0.096	2975	3878
588	203	0.0785	0.0882	7.6639	0.1191	0.0573	6.0094	7.6609	0.098	3154	4060
589	191	0.0562	0.0816	7.1767	0.0978	0.0644	5.5582	7.1737	0.092	2997	3887
590	179	0.0419	0.0760	6.8767	0.0791	0.0558	5.5268	6.8738	0.086	2986	3781
591	167	0.0269	0.0778	6.1830	0.0667	0.0375	3.5278	6.1800	0.088	2291	3534

\* Analyses that were below background levels are left blank.

**Table F.2.8: Section eb05042b3 Rim to Rim Transect by LA-ICP-MS**Step size: 11.94  $\mu\text{m}$  $n =$  La-ICP-MS analysis number

$n$	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
18	203	0.2249	0.0571	0.4873	0.2138	0.1182	3.1831	5.1166	0.069	2172	3156
19	215	0.1455	0.0605	0.2169	0.1532	0.0874	4.7146	6.1373	0.072	2704	3519
20	227	0.0917	0.0666	0.1893	0.1144	0.0626	3.2740	6.1170	0.078	2203	3512
21	239	0.0565	0.0717	0.1379	0.1024	0.0617	4.8822	6.4342	0.082	2762	3624
22	251	0.0390	0.0736	0.1195	0.0711	0.0523	4.2574	7.2290	0.084	2545	3907
23	263	0.0262	0.0720	0.1050	0.0925	0.0485	4.5883	6.5380	0.083	2660	3661
24	275	0.0169	0.0824	0.1057	0.0673	0.0397	4.4366	6.0534	0.092	2607	3489
25	287	0.0163	0.0769	0.1037	0.0692	0.0451	4.0213	6.6918	0.087	2463	3716
26	299	0.0090	0.0738	0.0786	0.0669	0.0353	4.7027	4.9499	0.084	2700	3097
27	310	0.0079	0.0643	0.0799	0.0538	0.0371	4.0393	5.2244	0.076	2469	3195
28	322	0.0062	0.0596	0.0811	0.0483	0.0341	3.9991	3.5018	0.071	2455	2582
29	334	0.0064	0.0706	0.0759	0.0615	0.0352	3.9344	5.2594	0.081	2433	3207
30	346	0.0081	0.0730	0.0695	0.0580	0.0414	4.0847	6.1215	0.084	2485	3513
31	358	0.0070	0.0651	0.0873	0.0536	0.0353	4.5661	5.3090	0.076	2652	3225
32	370	0.0062	0.0884	0.1109	0.0613	0.0465	4.8074	5.9793	0.098	2736	3463
33	382	0.0083	0.0812	0.1192	0.0831	0.0390	5.3292	7.1017	0.091	2918	3862
34	394	0.0091	0.0865	0.0970	0.0888	0.0444	5.7336	6.4919	0.096	3058	3645
35	406	0.0090	0.0962	0.1091	0.0767	0.2608	5.7739	7.1840	0.105	3072	3891
36	418	0.0064	0.0828	0.1135	0.0765	0.0449	5.6440	6.9862	0.093	3027	3821
37	430	0.0075	0.0796	0.1177	0.0853	0.0474	5.8282	7.0273	0.090	3091	3835
38	442	0.0077	0.0760	0.1103	0.0745	0.0393	5.9270	8.4047	0.086	3125	4325
39	454	0.0091	0.0821	0.0972	0.0737	0.0575	5.9249	7.5438	0.092	3125	4019
40	466	0.0094	0.0848	0.0939	0.0946	0.0467	5.7888	8.4704	0.094	3077	4348
41	478	0.0081	0.0949	0.1055	0.0986	0.0474	5.9486	6.6028	0.104	3133	3684
42	490	0.0095	0.0916	0.0942	0.0742	0.0477	6.0547	8.2312	0.101	3170	4263
43	501	0.0075	0.0998	0.1092	0.0667	0.0390	6.2570	9.0869	0.108	3240	4567
44	513	0.0076	0.0902	0.1148	0.0878	0.0389	5.5490	7.2696	0.099	2994	3921
45	525	0.0081	0.1029	0.1073	0.0865	0.0526	5.5906	6.5614	0.111	3008	3670
46	537	0.0070	0.0946	0.0817	0.0702	0.0488	4.4899	6.5324	0.103	2626	3659
47	549	0.0081	0.0819	0.0883	0.0625	0.0425	6.0813	7.4663	0.092	3179	3991
48	561	0.0083	0.0827	0.1023	0.0689	0.0368	5.2505	6.1555	0.093	2890	3525
49	573	0.0075	0.0719	0.0698	0.0601	0.0234	4.4775	5.4498	0.083	2622	3275
50	585	0.0051	0.0650	0.0864	0.0565	0.0290	4.8444	6.8890	0.076	2749	3786
51	597	0.0066	0.0643	0.0771	0.0526	0.0486	4.0284	5.9707	0.076	2465	3460
52	609	0.0067	0.0607	0.0667	0.0526	0.0331	4.3745	5.5486	0.072	2586	3310
53	621	0.0069	0.0713	0.0788	0.0446	0.0371	4.1361	6.4875	0.082	2503	3643
54	633	0.0050	0.0657	0.0798	0.0735	0.0418	4.9076	5.1253	0.077	2771	3159
55	645	0.0070	0.0856	0.0968	0.0815	0.0418	5.9130	6.6480	0.095	3121	3700
56	657	0.0063	0.0700	0.0995	0.0587	0.0467	4.7404	5.2979	0.081	2713	3221
57	669	0.0053	0.0762	0.0964	0.0641	0.0451	4.4106	5.5650	0.087	2598	3316
58	681	0.0069	0.0772	0.0943	0.0684	0.0511	4.5929	5.7711	0.087	2662	3389
59	693	0.0067	0.0731	0.0793	0.0690	0.0377	4.9049	7.1038	0.084	2770	3862



**Table F.2.8 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
60	704	0.0080	0.0896	0.1114	0.0661	0.0502	5.4729	8.5622	0.099	2968	4381
61	716	0.0075	0.0831	0.1069	0.0756	0.0745	4.9519	7.0422	0.093	2786	3841
62	728	0.0093	0.0758	0.1253	0.0640	0.0491	5.5672	7.2264	0.086	3000	3906
63	740	0.0083	0.0696	0.1126	0.0732	0.0452	4.8320	7.3720	0.080	2745	3958
64	752	0.0072	0.0788	0.0899	0.0775	0.0617	5.6079	7.9706	0.089	3014	4170
65	764	0.0072	0.0836	0.1148	0.0788	0.0571	5.0481	7.9695	0.093	2820	4170
86	1015	0.0671	0.0928	0.1338	0.0993	0.0599	6.2370	7.6237	0.102	3233	4047
87	1027	0.0381	0.0987	0.1231	0.0878	0.0629	5.6798	8.4790	0.107	3039	4351
88	1039	0.0289	0.0900	0.1330	0.0760	0.0679	5.7544	7.7725	0.099	3065	4100
89	1051	0.0225	0.0782	0.1262	0.0825	0.0627	5.6285	9.2066	0.088	3022	4610
90	1063	0.0156	0.0906	0.1248	0.0885	0.0673	4.8676	10.4200	0.100	2757	5041
91	1075	0.0130	0.0875	0.1197	0.0917	0.0763	6.0241	7.0871	0.097	3159	3856
92	1087	0.0108	0.0823	0.1187	0.0957	0.0548	5.6436	8.2094	0.092	3027	4255
93	1098	0.0083	0.0898	0.1208	0.0966	0.0685	5.8092	8.5712	0.099	3084	4384
94	1110	0.0086	0.0799	0.1147	0.1031	0.0846	5.7618	9.2419	0.090	3068	4622
95	1122	0.0100	0.0830	0.1234	0.0880	0.0730	6.2195	9.1348	0.093	3227	4584
96	1134	0.0095	0.0987	0.1317	0.0955	0.0625	6.3092	9.3147	0.107	3258	4648
97	1146	0.0075	0.0841	0.1335	0.0796	0.0631	6.5293	10.1711	0.094	3335	4953
98	1158	0.0075	0.0813	0.1232	0.1005	0.0702	6.5342	7.9640	0.091	3336	4168
99	1170	0.0083	0.0849	0.1150	0.0811	0.0639	6.1443	9.3306	0.095	3201	4654
100	1182	0.0096	0.0845	0.1372	0.0924	0.0563	6.2148	8.8884	0.094	3225	4497
101	1194	0.0102	0.0854	0.1351	0.1022	0.0576	5.8518	7.8374	0.095	3099	4123
102	1206	0.0088	0.0903	0.1187	0.1090	0.0629	6.8012	9.7295	0.100	3429	4796
103	1218	0.0091	0.0957	0.1361	0.0866	0.0614	7.1132	8.9399	0.104	3538	4515
104	1230	0.0080	0.1049	0.1297	0.1027	0.0787	6.8675	9.4609	0.113	3452	4700
105	1242	0.0095	0.0937	0.1723	0.1081	0.2967	7.5711	9.1079	0.103	3697	4575
106	1254	0.0111	0.1107	0.1361	0.0899	0.0806	6.4012	9.6990	0.118	3290	4785
107	1266	0.0086	0.0945	0.1340	0.1035	0.0592	7.6635	8.8500	0.103	3729	4483
108	1278	0.0089	0.1049	0.1345	0.0981	0.0644	7.7141	9.1092	0.113	3747	4575
109	1290	0.0086	0.1059	0.1291	0.0849	0.0759	7.0570	9.9741	0.114	3518	4882
110	1301	0.0072	0.0997	0.1296	0.0919	0.0663	7.1042	8.7764	0.108	3535	4457
111	1313	0.0086	0.1015	0.1405	0.1013	0.0634	6.8499	11.1360	0.110	3446	5295
112	1325	0.0075	0.0954	0.1340	0.0968	0.0561	6.9902	9.7824	0.104	3495	4814
113	1337	0.0105	0.0966	0.1314	0.0860	0.0622	7.0141	11.6476	0.105	3503	5477
114	1349	0.0087	0.1128	0.1394	0.0961	0.0576	7.3670	12.6078	0.120	3626	5818
115	1361	0.0095	0.1158	0.1298	0.1049	0.0507	8.3256	10.5518	0.123	3959	5088
116	1373	0.0107	0.1119	0.1165	0.0867	0.0668	7.7618	8.7865	0.119	3763	4460
117	1385	0.0101	0.1038	0.1234	0.0869	0.0525	6.9643	8.2491	0.112	3486	4269
118	1397	0.0086	0.1007	0.1164	0.0951	0.0500	5.8919	8.8077	0.109	3113	4468
119	1409	0.0100	0.0967	0.1175	0.0918	0.0526	6.6237	8.8596	0.105	3368	4486
120	1421	0.0065	0.0837	0.1226	0.0797	0.0811	6.5795	7.9476	0.093	3352	4162
121	1433	0.0094	0.0952	0.1147	0.0678	0.0601	4.4673	8.8676	0.104	2618	4489
122	1445	0.0095	0.0884	0.1218	0.0848	0.0622	6.8904	7.2688	0.098	3460	3921
123	1457	0.0109	0.1070	0.1385	0.0990	0.0579	6.4903	8.6418	0.115	3321	4409
124	1469	0.0077	0.1029	0.1506	0.1004	0.0782	7.3195	9.9135	0.111	3609	4861

**Table F.2.8 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
125	1481	0.0067	0.1043	0.1533	0.1064	0.0692	7.5653	10.4872	0.112	3695	5065
126	1493	0.0118	0.0929	0.1492	0.0872	0.0606	7.8168	10.3007	0.102	3782	4999
127	1504	0.0104	0.1035	0.1439	0.0960	0.0953	7.1056	11.5607	0.112	3535	5446
128	1516	0.0080	0.0985	0.1555	0.0842	0.0722	6.2984	10.0086	0.107	3254	4895
129	1528	0.0081	0.0976	0.1589	0.0848	0.0678	6.2955	8.2253	0.106	3253	4261
130	1540	0.0070	0.0845	0.1027	0.0774	0.0646	6.3358	7.9675	0.094	3267	4169
131	1552	0.0066	0.0834	0.1076	0.0806	0.0556	6.2323	8.8926	0.093	3231	4498
132	1564	0.0074	0.0899	0.1348	0.0811	0.0625	6.2673	8.7905	0.099	3244	4462
133	1576	0.0078	0.0932	0.1340	0.0897	0.0479	7.1895	8.9749	0.102	3564	4527
134	1588	0.0084	0.1127	0.1295	0.1046	0.0673	7.3377	9.2680	0.120	3616	4632
135	1600	0.0090	0.1177	0.1334	0.1062	0.0504	6.3853	7.5570	0.125	3285	4023
136	1612	0.0087	0.1103	0.1312	0.0995	0.0609	6.2556	7.9748	0.118	3240	4172
137	1624	0.0084	0.0984	0.1329	0.0991	0.0634	6.8266	8.6621	0.107	3438	4416
138	1636	0.0082	0.0994	0.1290	0.0991	0.0514	6.7559	8.3123	0.108	3413	4292
139	1648	0.0101	0.1107	0.1387	0.1239	0.0767	8.6248	8.7185	0.118	4063	4436
140	1660	0.0091	0.1029	0.1282	0.0824	0.0554	6.7698	8.6322	0.111	3418	4406
168	1994	0.0269	0.1130	0.1769	0.1165	0.0771	7.8427	10.4480	0.120	3791	5051
169	2006	0.0219	0.1031	0.1907	0.1259	0.0835	6.9307	9.7725	0.111	3474	4811
170	2018	0.0261	0.0978	0.1769	0.1460	0.0782	6.8348	10.9614	0.106	3441	5233
171	2030	0.0152	0.1050	0.1804	0.1319	0.0858	7.4820	10.2941	0.113	3666	4996
174	2066	0.0102	0.1008	0.1504	0.1239	0.0734	7.8876	11.7703	0.109	3807	5521
175	2078	0.0122	0.1050	0.1579	0.1077	0.0624	7.1702	9.1166	0.113	3557	4578
176	2090	0.0109	0.1111	0.1324	0.1049	0.0809	7.0747	8.9720	0.119	3524	4526
177	2101	0.0099	0.1090	0.1242	0.1093	0.0684	5.7994	9.0556	0.117	3081	4556
178	2113	0.0124	0.1033	0.1448	0.1091	0.0632	6.9515	9.3977	0.111	3481	4678
179	2125	0.0117	0.0946	0.1359	0.1093	0.0627	6.9925	10.0795	0.103	3496	4920
180	2137	0.0086	0.1070	0.1665	0.0996	0.0894	6.7747	10.4768	0.115	3420	5061
181	2149	0.0103	0.1084	0.1576	0.1064	0.0704	7.8923	10.8260	0.116	3808	5185
182	2161	0.0109	0.1145	0.1317	0.1130	0.0754	7.8727	11.2044	0.122	3802	5320
183	2173	0.0109	0.1156	0.1494	0.1046	0.0627	8.3761	11.1128	0.123	3977	5287
184	2185	0.0104	0.1166	0.1637	0.1205	0.0808	7.2304	9.8338	0.124	3578	4833
185	2197	0.0110	0.1133	0.1405	0.1183	0.2826	6.6291	10.8720	0.121	3369	5202
186	2209	0.0097	0.1092	0.1279	0.0982	0.0793	8.0251	14.9204	0.117	3855	6640
187	2221	0.0100	0.1215	0.1383	0.1052	0.0733	6.7263	9.3104	0.128	3403	4647
188	2233	0.0110	0.1100	0.1259	0.0964	0.0595	7.3545	10.5848	0.118	3622	5100
189	2245	0.0096	0.1165	0.1320	0.0962	0.0736	7.4514	10.5410	0.124	3655	5084
190	2257	0.0082	0.1171	0.1452	0.1061	0.0594	7.0817	10.4057	0.124	3527	5036
191	2269	0.0087	0.1098	0.1538	0.0915	0.0653	6.9709	8.5209	0.117	3488	4366
192	2281	0.0092	0.1143	0.1456	0.1006	0.0759	7.2795	9.8732	0.122	3595	4847
193	2292	0.0096	0.1300	0.1590	0.1075	0.0629	6.8462	9.0583	0.136	3445	4557
194	2304	0.0095	0.1188	0.1341	0.1064	0.0662	6.9474	9.2241	0.126	3480	4616
195	2316	0.0094	0.1149	0.1586	0.0906	0.0709	7.3353	9.8811	0.122	3615	4849
196	2328	0.0102	0.1252	0.1460	0.0888	0.0691	7.7659	11.0275	0.132	3764	5257
197	2340	0.0102	0.1293	0.1501	0.1100	0.0725	7.7374	10.4047	0.135	3755	5036
198	2352	0.0115	0.1317	0.1291	0.0971	0.0790	7.8444	9.3736	0.138	3792	4669

**Table F.2.8 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
199	2364	0.0115	0.1269	0.1568	0.0985	0.0793	7.9348	10.4608	0.133	3823	5055
200	2376	0.0106	0.1124	0.1664	0.1211	0.0827	7.9100	9.4323	0.120	3815	4690
201	2388	0.0091	0.1335	0.1371	0.1038	0.0673	7.4710	9.7732	0.139	3662	4811
202	2400	0.0097	0.1370	0.1512	0.1121	0.0571	8.0552	9.2634	0.142	3865	4630
203	2412	0.0104	0.1212	0.1079	0.1158	0.0746	8.1682	9.7375	0.128	3904	4798
204	2424	0.0128	0.1242	0.1458	0.1134	0.0761	8.0126	12.5648	0.131	3850	5803
205	2436	0.0112	0.1356	0.1403	0.1205	0.0599	8.1224	9.1122	0.141	3888	4576
206	2448	0.0176	0.1445	0.1989	0.1124	0.0654	9.3772	9.7429	0.149	4325	4800
235	2794	0.0238	0.1383	0.1822	0.1305	0.0751	9.1392	11.8178	0.144	4242	5538
236	2806	0.0231	0.1482	0.1690	0.1200	0.0847	9.5310	13.1264	0.153	4378	6003
237	2818	0.0155	0.1382	0.1677	0.1124	0.0888	8.9529	11.8635	0.144	4177	5554
238	2830	0.0134	0.1334	0.1696	0.1205	0.0877	9.9881	12.1512	0.139	4537	5656
239	2842	0.0133	0.1350	0.1772	0.1264	0.0831	8.5582	11.0736	0.141	4040	5273
240	2854	0.0113	0.1340	0.1659	0.1244	0.0785	9.0140	11.7052	0.140	4198	5498
241	2866	0.0112	0.1370	0.1689	0.1242	0.0821	9.3087	10.5305	0.142	4301	5080
251	2985	0.0740	0.1231	0.2267	0.1632	0.0812	7.2722	9.0682	0.130	3593	4561
252	2997	0.0529	0.1224	0.2019	0.1415	0.0844	8.1255	12.2891	0.129	3890	5705
253	3009	0.0307	0.1315	0.1809	0.1563	0.0938	9.2941	12.0100	0.137	4296	5606
254	3021	0.0224	0.1275	0.2003	0.1358	0.0740	7.7102	9.4201	0.134	3745	4686
255	3033	0.0195	0.1419	0.1857	0.1183	0.0784	9.2894	9.9619	0.147	4294	4878
256	3045	0.0132	0.1441	0.1947	0.1265	0.0997	8.2656	12.3369	0.149	3938	5722
257	3057	0.0126	0.1358	0.1627	0.1426	0.0809	9.1395	9.5008	0.141	4242	4714
258	3069	0.0124	0.1316	0.1587	0.1308	0.0683	8.5379	9.8416	0.138	4033	4835
259	3081	0.0108	0.1265	0.1566	0.1123	0.0659	8.7130	9.3928	0.133	4094	4676
260	3092	0.0091	0.1335	0.1671	0.1023	0.0819	8.5154	11.0391	0.139	4025	5261
261	3104	0.0111	0.1253	0.1569	0.1040	0.2892	8.2623	9.4703	0.132	3937	4703
262	3116	0.0096	0.1320	0.1698	0.1308	0.0665	7.4366	10.1142	0.138	3650	4932
263	3128	0.0082	0.1268	0.1512	0.1015	0.0794	7.9025	10.1148	0.133	3812	4932
264	3140	0.0120	0.1385	0.1545	0.1151	0.0858	8.0098	9.9473	0.144	3849	4873
265	3152	0.0105	0.1254	0.1531	0.1138	0.0787	8.9085	13.3109	0.132	4162	6068
266	3164	0.0126	0.1373	0.1577	0.1230	0.0756	9.1318	10.2178	0.143	4239	4969
267	3176	0.0116	0.1396	0.1676	0.1141	0.0832	9.6768	10.7224	0.145	4429	5148
268	3188	0.0086	0.1424	0.1754	0.1227	0.0773	8.6815	11.3455	0.147	4083	5370
269	3200	0.0112	0.1400	0.1601	0.1117	0.0761	8.3913	11.4403	0.145	3982	5404
270	3212	0.0124	0.1487	0.1805	0.1091	0.0629	8.9074	10.7572	0.153	4161	5161
271	3224	0.0099	0.1352	0.1640	0.1122	0.0656	8.2198	10.8205	0.141	3922	5183
272	3236	0.0119	0.1321	0.1658	0.1133	0.0763	8.7664	10.9645	0.138	4112	5234
273	3248	0.0102	0.1456	0.1739	0.1423	0.3128	9.1384	11.6409	0.150	4242	5475
274	3260	0.0112	0.1473	0.1766	0.1274	0.0646	9.5765	12.6561	0.152	4394	5836
275	3272	0.0117	0.1587	0.1757	0.1325	0.0671	9.9565	11.8655	0.162	4526	5555
276	3284	0.0141	0.1564	0.1721	0.1178	0.0736	10.3422	13.0189	0.160	4660	5965
277	3295	0.0110	0.1466	0.1814	0.1136	0.0718	9.5959	13.2861	0.151	4401	6060
278	3307	0.0112	0.1388	0.1646	0.1115	0.0579	9.8504	12.0134	0.144	4489	5607
279	3319	0.0141	0.1408	0.1842	0.1159	0.0597	9.0437	13.1329	0.146	4209	6005
280	3331	0.0139	0.1414	0.1668	0.1094	0.0662	10.0097	13.7167	0.147	4544	6213

**Table F.2.8 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
311	3701	0.0369	0.1451	0.1815	0.1326	0.0755	9.3842	11.6606	0.150	4327	5482
312	3713	0.0264	0.1310	0.1947	0.1384	0.0790	8.1585	12.8763	0.137	3901	5914
313	3725	0.0192	0.1464	0.1622	0.1389	0.0833	8.1853	10.7750	0.151	3910	5167
314	3737	0.0175	0.1489	0.1743	0.1310	0.0735	9.0773	12.8525	0.153	4220	5905
315	3749	0.0125	0.1495	0.1707	0.1231	0.0723	9.4675	13.4210	0.154	4356	6107
316	3761	0.0114	0.1525	0.1688	0.1520	0.0697	8.8724	11.0224	0.157	4149	5255
317	3773	0.0126	0.1531	0.1918	0.1422	0.0726	9.3942	13.8369	0.157	4330	6255
318	3785	0.0120	0.1403	0.1795	0.1299	0.0761	9.1326	12.5524	0.145	4240	5799
319	3797	0.0124	0.1404	0.1685	0.1245	0.0870	8.6368	10.5137	0.146	4067	5074
320	3809	0.0104	0.1438	0.1965	0.1314	0.0652	9.0243	9.9448	0.149	4202	4872
321	3821	0.0130	0.1418	0.1990	0.1251	0.0937	8.6113	10.2060	0.147	4058	4965
322	3833	0.0110	0.1576	0.1741	0.1460	0.0786	8.0411	10.9930	0.161	3860	5245
323	3845	0.0106	0.1443	0.1725	0.1298	0.0780	9.2830	11.6051	0.149	4292	5462
324	3857	0.0119	0.1667	0.1731	0.1212	0.0737	8.6078	10.4277	0.170	4057	5044
325	3869	0.0125	0.1556	0.1869	0.1158	0.0841	9.6298	10.0015	0.160	4412	4892
326	3881	0.0112	0.1479	0.1888	0.1305	0.0761	8.7076	11.2007	0.152	4092	5318
327	3892	0.0110	0.1440	0.1791	0.1154	0.0935	8.5818	10.4309	0.149	4048	5045
328	3904	0.0103	0.1295	0.1443	0.1226	0.0669	8.2237	10.0060	0.136	3924	4894
329	3916	0.0115	0.1372	0.1647	0.1102	0.0642	7.6948	11.6833	0.143	3740	5490
330	3928	0.0107	0.1528	0.1564	0.1116	0.0742	8.3380	10.4425	0.157	3963	5049
331	3940	0.0108	0.1438	0.1586	0.1212	0.0954	8.1361	10.8117	0.149	3893	5180
332	3952	0.0097	0.1421	0.1546	0.1170	0.0774	8.2841	12.1964	0.147	3945	5672
333	3964	0.0091	0.1477	0.1579	0.1140	0.0776	8.5234	13.1184	0.152	4028	6000
334	3976	0.0104	0.1339	0.1609	0.1359	0.1016	8.9366	10.6701	0.140	4171	5130
335	3988	0.0118	0.1322	0.1715	0.1213	0.0876	8.7056	12.1083	0.138	4091	5641
336	4000	0.0107	0.1334	0.1563	0.1061	0.0954	8.3503	11.9806	0.139	3968	5596
337	4012	0.0108	0.1270	0.1741	0.1319	0.0737	7.5653	10.6787	0.133	3695	5133
338	4024	0.0160	0.1295	0.1668	0.1107	0.0914	6.8212	11.2216	0.136	3436	5326
339	4036	0.0416	0.1189	0.2098	0.1494	0.1005	8.5572	11.2840	0.126	4040	5348
340	4048	0.0660	0.1428	0.2465	0.1827	0.1092	8.4732	10.6654	0.148	4010	5128
341	4060	0.0655	0.1352	0.2396	0.1805	0.1077	8.7056	11.6179	0.141	4091	5467
342	4072	0.0536	0.1535	0.2096	0.1645	0.1069	7.8627	12.1570	0.158	3798	5658
343	4083	0.0410	0.1450	0.1965	0.1491	0.0964	9.3440	12.2901	0.150	4313	5706
344	4095	0.0293	0.1403	0.1864	0.1540	0.0916	8.9543	11.3942	0.145	4178	5387
345	4107	0.0243	0.1504	0.1826	0.1267	0.1042	9.5016	11.9440	0.155	4368	5583
346	4119	0.0200	0.1386	0.1812	0.1340	0.0819	8.7807	11.1408	0.144	4117	5297
347	4131	0.0171	0.1583	0.1734	0.1329	0.0789	8.3215	12.6829	0.162	3958	5845
348	4143	0.0161	0.1498	0.1760	0.1492	0.0840	9.2185	10.7903	0.154	4269	5173
349	4155	0.0130	0.1455	0.1514	0.3449	0.0851	9.3227	11.2727	0.150	4306	5344
350	4167	0.0126	0.1508	0.1875	0.1407	0.0899	8.7903	10.9667	0.155	4121	5235
351	4179	0.0117	0.1456	0.1741	0.1323	0.2886	9.7089	14.1561	0.150	4440	6369
352	4191	0.0115	0.1409	0.1861	0.1403	0.0993	9.8121	12.8373	0.146	4476	5900
353	4203	0.0104	0.1396	0.1915	0.1544	0.1045	8.7637	12.0772	0.145	4111	5630
354	4215	0.0120	0.1494	0.1856	0.1342	0.0758	8.3824	13.3151	0.154	3979	6070
355	4227	0.0124	0.1408	0.1611	0.1440	0.0949	8.7514	12.7877	0.146	4107	5882

**Table F.2.8 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
356	4239	0.0115	0.1465	0.1857	0.1362	0.0847	8.8539	13.5614	0.151	4143	6157
357	4251	0.0132	0.1482	0.1798	0.1270	0.0934	9.1155	10.4368	0.153	4234	5047
358	4263	0.0126	0.1500	0.1889	0.1393	0.0794	9.9236	12.8640	0.154	4514	5910
359	4275	0.0121	0.1560	0.1661	0.1419	0.0757	8.3735	11.6124	0.160	3976	5465
360	4286	0.0126	0.1578	0.1619	0.1472	0.0980	8.3669	13.7706	0.162	3973	6232
361	4298	0.0133	0.1453	0.1762	0.1143	0.0832	8.2036	11.1067	0.150	3917	5285
362	4310	0.0114	0.1374	0.1726	0.1315	0.0734	8.8055	11.9711	0.143	4126	5592
363	4322	0.0127	0.1312	0.1662	0.1201	0.1060	8.6106	11.2695	0.137	4058	5343
364	4334	0.0144	0.1305	0.1868	0.1191	0.0904	9.3647	11.9295	0.136	4320	5577
365	4346	0.0103	0.1246	0.1724	0.1235	0.0878	8.7514	12.2144	0.131	4107	5679
366	4358	0.0112	0.1429	0.1761	0.1236	0.0748	8.8383	12.0468	0.148	4137	5619
367	4370	0.0109	0.1411	0.1582	0.1245	0.0822	8.3307	10.6329	0.146	3961	5117
368	4382	0.0128	0.1275	0.1498	0.1183	0.0873	7.4820	11.3375	0.134	3666	5367
373	4442	0.0716	0.1072	0.2022	0.3771	0.1283	8.0841	12.5519	0.115	3875	5799
374	4454	0.0508	0.1093	0.2002	0.1491	0.1002	8.6900	10.9446	0.117	4086	5227
375	4466	0.0356	0.1108	0.1803	0.1344	0.1036	8.0144	13.9075	0.118	3851	6280
376	4478	0.0281	0.1060	0.1789	0.1231	0.0875	7.3055	10.8446	0.114	3604	5192
377	4489	0.0180	0.1231	0.1861	0.1166	0.0929	8.3061	13.5275	0.130	3952	6145
378	4501	0.0159	0.1302	0.1641	0.1432	0.0858	8.9181	12.0064	0.136	4165	5605
379	4513	0.0156	0.1161	0.1718	0.1162	0.1086	7.5932	11.1629	0.123	3704	5305
380	4525	0.0124	0.1303	0.1845	0.1175	0.1128	7.6391	10.8484	0.136	3720	5193
381	4537	0.0116	0.1313	0.1424	0.1097	0.0864	8.1300	11.6883	0.137	3891	5492
382	4549	0.0097	0.1244	0.1677	0.1128	0.0733	8.5098	10.6989	0.131	4023	5140
383	4561	0.0110	0.1211	0.1790	0.1108	0.0828	8.3470	11.4578	0.128	3966	5410
384	4573	0.0167	0.1243	0.1775	0.1184	0.1062	7.8697	10.9626	0.131	3801	5234
385	4585	0.0100	0.1208	0.1465	0.1033	0.2887	7.1272	11.4917	0.128	3543	5422
393	4680	0.0306	0.1251	0.1878	0.1298	0.0837	8.3725	13.2140	0.132	3975	6034
394	4692	0.0207	0.1255	0.1872	0.1353	0.0740	7.7358	12.9272	0.132	3754	5932
395	4704	0.0179	0.1251	0.1917	0.1292	0.0836	7.3812	12.2414	0.131	3631	5688
396	4716	0.0165	0.1204	0.1650	0.1276	0.0815	7.9201	12.2100	0.127	3818	5677
397	4728	0.0141	0.1144	0.1552	0.1219	0.0862	7.6179	10.8671	0.122	3713	5200
398	4740	0.0124	0.1181	0.1505	0.1158	0.0891	7.0555	11.5087	0.125	3518	5428
399	4752	0.0101	0.1168	0.1502	0.1133	0.0692	7.7765	10.3634	0.124	3768	5021
400	4764	0.0091	0.1217	0.1810	0.1084	0.0906	7.5608	10.7976	0.128	3693	5175
401	4776	0.0107	0.1292	0.1536	0.1130	0.0750	7.8209	11.9827	0.135	3784	5596
402	4788	0.0109	0.1363	0.1674	0.1332	0.0722	8.6654	10.4499	0.142	4077	5052
403	4800	0.0106	0.1172	0.1612	0.1031	0.0890	8.0208	11.9230	0.124	3853	5575
404	4812	0.0103	0.1267	0.1814	0.1154	0.0844	7.5982	10.9860	0.133	3706	5242
405	4824	0.0102	0.1216	0.1459	0.1133	0.1015	7.9538	9.8486	0.128	3830	4838
406	4836	0.0092	0.1357	0.1479	0.1118	0.0833	7.1972	10.2181	0.141	3567	4969
407	4848	0.0119	0.1263	0.1708	0.1317	0.0728	8.5517	11.6947	0.133	4038	5494
408	4860	0.0122	0.1222	0.1609	0.1164	0.0919	7.9286	10.4307	0.129	3821	5045
409	4872	0.0115	0.1292	0.1740	0.1209	0.0860	8.6401	12.4724	0.135	4068	5770
410	4883	0.0129	0.1273	0.1790	0.1219	0.0805	7.8445	11.3240	0.134	3792	5362
411	4895	0.0111	0.1386	0.1516	0.1045	0.0866	8.3239	11.5574	0.144	3958	5445

**Table F.2.8 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
412	4907	0.0106	0.1282	0.1877	0.1120	0.0816	8.0855	11.7747	0.134	3876	5522
413	4919	0.0111	0.1283	0.1528	0.1343	0.0735	8.5685	13.1123	0.134	4043	5998
414	4931	0.0115	0.1160	0.1701	0.1145	0.0698	8.9816	10.9965	0.123	4187	5246
415	4943	0.0125	0.1168	0.1577	0.1263	0.0791	8.2414	9.8265	0.124	3930	4830
416	4955	0.0129	0.1307	0.1605	0.1228	0.0778	8.1026	10.9213	0.137	3882	5219
417	4967	0.0123	0.1310	0.1460	0.1246	0.3009	8.4584	10.5552	0.137	4005	5089
418	4979	0.0121	0.1246	0.1565	0.1179	0.1004	7.2535	9.9626	0.131	3586	4878
419	4991	0.0105	0.1225	0.1432	0.1142	0.0645	7.2976	9.7157	0.129	3602	4791
420	5003	0.0106	0.1172	0.1646	0.1216	0.0864	7.1878	11.6141	0.124	3564	5465
421	5015	0.0105	0.1181	0.1807	0.1207	0.1005	7.4120	10.2993	0.125	3642	4998
422	5027	0.0092	0.1207	0.1700	0.1099	0.0963	6.7049	10.1856	0.127	3396	4958
423	5039	0.0081	0.1168	0.1427	0.1150	0.0829	7.0345	9.9799	0.124	3510	4885
424	5051	0.0084	0.1080	0.1551	0.1203	0.0864	6.5117	8.7770	0.116	3329	4457
425	5063	0.0084	0.1019	0.1629	0.1192	0.0908	6.9148	10.1779	0.110	3469	4955
426	5074	0.0087	0.1043	0.1485	0.1091	0.0666	6.8720	10.1320	0.112	3454	4939
427	5086	0.0084	0.1103	0.1402	0.1005	0.0748	7.1483	8.6302	0.118	3550	4405
428	5098	0.0099	0.1123	0.1380	0.0899	0.1072	6.8353	11.7112	0.120	3441	5500
429	5110	0.0088	0.1134	0.1431	0.1236	0.0770	6.8848	9.2750	0.121	3458	4634
430	5122	0.0106	0.1085	0.1466	0.1032	0.0682	7.2263	10.8450	0.116	3577	5192
431	5134	0.0133	0.1183	0.1592	0.1189	0.0829	7.0849	10.8424	0.125	3528	5191
432	5146	0.0221	0.1124	0.1823	0.1329	0.1039	7.4290	9.8477	0.120	3647	4838
433	5158	0.0244	0.1193	0.1697	0.1305	0.0917	7.0485	9.2668	0.126	3515	4631
434	5170	0.0622	0.1096	0.2071	0.1600	0.0951	6.1914	8.2951	0.117	3217	4286
435	5182	0.0963	0.1049	0.2661	0.1838	0.1111	6.3766	11.0844	0.113	3282	5277
436	5194	0.1002	0.1101	0.2512	0.1894	0.1237	6.6764	8.5878	0.118	3386	4390
437	5206	0.0849	0.1000	0.2337	0.1741	0.1129	7.4646	11.0826	0.108	3660	5276
438	5218	0.0626	0.1065	0.2224	0.1441	0.0971	7.5285	10.1391	0.114	3682	4941
439	5230	0.0449	0.1170	0.1815	0.1340	0.0984	7.3875	10.0095	0.124	3633	4895
440	5242	0.0329	0.1153	0.1569	0.1275	0.1014	7.0670	9.2995	0.123	3522	4643
441	5254	0.0245	0.1156	0.1620	0.1243	0.0928	7.6777	8.9604	0.123	3734	4522
442	5266	0.0154	0.1147	0.1449	0.1266	0.0838	7.1393	10.2148	0.122	3547	4968
443	5277	0.0144	0.1202	0.1898	0.1180	0.0757	7.7752	8.6252	0.127	3768	4403
444	5289	0.0130	0.1143	0.1728	0.1124	0.0817	7.2271	9.8481	0.122	3577	4838
445	5301	0.0098	0.1121	0.1811	0.1239	0.0999	7.1980	10.5442	0.120	3567	5085
446	5313	0.0106	0.1033	0.1620	0.1200	0.0822	7.5699	9.5098	0.111	3696	4717
447	5325	0.0111	0.1139	0.1743	0.1048	0.0804	7.2734	7.8256	0.121	3593	4119
448	5337	0.0099	0.1139	0.1508	0.1137	0.0840	8.2133	9.6760	0.121	3920	4777
449	5349	0.0093	0.1185	0.1658	0.1083	0.0802	6.9842	9.1807	0.125	3493	4601
450	5361	0.0094	0.1170	0.1232	0.1021	0.0962	7.1098	8.6948	0.124	3536	4428
451	5373	0.0095	0.1104	0.1525	0.1134	0.0717	7.3772	10.2058	0.118	3629	4965
452	5385	0.0112	0.1131	0.1563	0.1047	0.0735	7.4835	9.4802	0.120	3666	4707
453	5397	0.0099	0.1266	0.1558	0.1124	0.0724	8.2951	10.3102	0.133	3948	5002
454	5409	0.0107	0.1351	0.1574	0.1099	0.0688	7.5557	9.6353	0.141	3691	4762
455	5421	0.0110	0.1363	0.1426	0.0990	0.2759	7.5509	9.3562	0.142	3690	4663
456	5433	0.0144	0.1333	0.1565	0.1084	0.0667	8.0461	9.2600	0.139	3862	4629

**Table F.2.8 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
457	5445	0.0117	0.1417	0.1675	0.1108	0.0548	8.3277	9.9087	0.147	3960	4859
458	5457	0.0119	0.1268	0.1476	0.1149	0.0726	7.6211	8.3252	0.133	3714	4297
459	5469	0.0093	0.1273	0.1437	0.1100	0.0749	7.7919	9.8998	0.134	3774	4856
460	5480	0.0109	0.1323	0.1529	0.1102	0.0548	7.7166	10.5203	0.138	3747	5077
487	5803	0.0118	0.1055	0.1148	0.0777	0.0494	7.1132	7.8908	0.114	3538	4142
488	5815	0.0126	0.1117	0.1249	0.0875	0.0513	6.9027	7.1192	0.119	3464	3868
489	5827	0.0134	0.1107	0.1263	0.1080	0.0465	7.3591	9.7453	0.118	3623	4801
490	5839	0.0113	0.1261	0.1565	0.0965	0.0680	8.1201	9.3095	0.132	3888	4646
491	5851	0.0127	0.1275	0.1392	0.0874	0.0609	8.5458	10.4132	0.134	4036	5039
492	5863	0.0108	0.1302	0.1341	0.1049	0.0576	8.2502	9.5746	0.136	3933	4741
493	5874	0.0104	0.1206	0.1269	0.1143	0.0671	8.2065	9.0623	0.127	3918	4558
494	5886	0.0100	0.1200	0.1424	0.0909	0.0574	7.2589	9.9711	0.127	3588	4881
495	5898	0.0099	0.1177	0.1532	0.1059	0.0566	7.7508	9.5656	0.125	3759	4737
496	5910	0.0101	0.1119	0.1268	0.1045	0.0580	7.4082	9.5067	0.119	3640	4716
497	5922	0.0098	0.1282	0.1376	0.1091	0.0649	6.8284	8.0745	0.134	3439	4207
498	5934	0.0139	0.1209	0.1425	0.1181	0.0630	8.2555	9.3796	0.128	3935	4671
499	5946	0.0220	0.1315	0.1698	0.1328	0.0748	7.6990	8.1489	0.137	3741	4234
500	5958	0.0213	0.1264	0.1392	0.1137	0.0625	7.8794	8.3027	0.133	3804	4289
501	5970	0.0210	0.1362	0.1684	0.1198	0.0589	8.8671	9.1008	0.142	4147	4572
502	5982	0.0197	0.1373	0.1991	0.1115	0.0638	9.0932	10.5537	0.143	4226	5088
503	5994	0.0176	0.1312	0.1719	0.1206	0.0594	8.2866	8.7957	0.137	3945	4464
504	6006	0.0324	0.1271	0.2036	0.1410	0.0821	7.4933	9.2668	0.133	3670	4631
505	6018	0.0398	0.1376	0.2009	0.1496	0.0757	8.4986	10.4547	0.143	4019	5053
506	6030	0.0384	0.1266	0.1781	0.1403	0.0781	8.6561	9.1914	0.133	4074	4604
507	6042	0.0317	0.1311	0.1925	0.1471	0.0725	7.9816	10.0015	0.137	3839	4892
508	6054	0.0253	0.1309	0.2031	0.1319	0.0692	7.6439	9.9425	0.137	3722	4871
509	6066	0.0204	0.1291	0.1665	0.1293	0.0705	7.6025	10.4245	0.135	3708	5043
510	6077	0.0193	0.1451	0.1969	0.1155	0.0871	8.4603	10.7712	0.150	4006	5166
511	6089	0.0144	0.1349	0.1558	0.1121	0.0734	8.4633	10.4335	0.141	4007	5046
512	6101	0.0132	0.1391	0.1477	0.1191	0.0679	8.7067	10.0549	0.144	4091	4911
513	6113	0.0132	0.1281	0.1705	0.1207	0.0703	8.8800	10.1244	0.134	4152	4936
514	6125	0.0111	0.1331	0.1505	0.1013	0.0711	7.7203	9.3116	0.139	3749	4647
515	6137	0.0116	0.1397	0.1825	0.1103	0.0626	8.0578	9.9674	0.145	3866	4880
516	6149	0.0104	0.1227	0.1369	0.1024	0.0782	7.8779	10.5555	0.129	3803	5089
517	6161	0.0109	0.1308	0.1453	0.1239	0.2726	8.0037	11.2271	0.137	3847	5328
518	6173	0.0189	0.1297	0.1758	0.1158	0.2958	7.9203	9.1765	0.136	3818	4599
519	6185	0.0217	0.1214	0.1719	0.1200	0.0844	9.0038	10.1927	0.128	4195	4960
520	6197	0.0201	0.1458	0.1694	0.1042	0.0775	9.3105	10.3118	0.151	4301	5002
521	6209	0.0194	0.1229	0.1737	0.1184	0.0708	9.1057	10.4231	0.129	4230	5042
522	6221	0.0154	0.1331	0.1653	0.1237	0.0715	8.2465	9.3623	0.139	3932	4665
523	6233	0.0126	0.1266	0.1305	0.0999	0.0726	8.2836	10.2173	0.133	3944	4969
524	6245	0.0113	0.1231	0.1512	0.1062	0.0569	7.3774	11.1090	0.130	3629	5286
525	6257	0.0110	0.1289	0.1616	0.0936	0.0732	7.6953	12.1157	0.135	3740	5644
526	6268	0.0114	0.1380	0.1441	0.0994	0.0621	7.7173	10.4260	0.143	3748	5043
527	6280	0.0098	0.1316	0.1327	0.1129	0.0558	8.4994	12.5454	0.138	4019	5796

**Table F.2.8 cont.**

<i>n</i>	Distance ( $\mu\text{m}$ )	Mg <sup>26</sup> /In <sup>115</sup> (int.)	Ca <sup>43</sup> /In <sup>115</sup> (int.)	Ti <sup>47</sup> /In <sup>115</sup> (int.)	Ti <sup>49</sup> /In <sup>115</sup> (int.)	Rb <sup>85</sup> /In <sup>115</sup> (int.)	Sr <sup>88</sup> /In <sup>115</sup> (int.)	Ba <sup>138</sup> /In <sup>115</sup> (int.)	X <sub>An</sub>	SrO (ppm)	BaO (ppm)
528	6292	0.0097	0.1151	0.1491	0.0980	0.0665	8.3701	10.1489	0.122	3975	4945
529	6304	0.0094	0.1308	0.1714	0.0977	0.0754	8.3177	12.6495	0.137	3956	5833
530	6316	0.0108	0.1295	0.1625	0.1023	0.0623	8.8477	11.8773	0.136	4141	5559
531	6328	0.0094	0.1349	0.1749	0.1179	0.0665	8.1166	11.0259	0.141	3886	5256
532	6340	0.0102	0.1351	0.1789	0.1105	0.0669	8.2076	10.8155	0.141	3918	5182
533	6352	0.0088	0.1289	0.1606	0.1102	0.0551	8.4566	11.3309	0.135	4005	5365
534	6364	0.0193	0.1106	0.1520	0.1115	0.2760	8.1953	11.1546	0.118	3914	5302
535	6376	0.0087	0.1265	0.1535	0.1041	0.0686	9.0001	9.9927	0.133	4193	4889
536	6388	0.0100	0.1330	0.1527	0.1179	0.0659	8.3719	9.1082	0.139	3975	4575
537	6400	0.0119	0.1419	0.1722	0.1158	0.0634	8.6162	10.0997	0.147	4060	4927
538	6412	0.0111	0.1574	0.1561	0.1210	0.0543	8.5798	9.7392	0.161	4047	4799
539	6424	0.0098	0.1414	0.1522	0.1015	0.0651	8.9906	11.0657	0.146	4190	5270
540	6436	0.0114	0.1353	0.1605	0.1066	0.0649	8.8788	9.8826	0.141	4151	4850
541	6448	0.0113	0.1415	0.1553	0.1112	0.0605	8.5532	11.0427	0.147	4038	5262
542	6460	0.0095	0.1272	0.1644	0.1058	0.0879	8.5475	10.3567	0.133	4036	5018
543	6471	0.0100	0.1412	0.1874	0.0957	0.0691	8.5046	12.0932	0.146	4021	5636
544	6483	0.0089	0.1289	0.1585	0.1151	0.0706	8.3624	10.3183	0.135	3972	5005
545	6495	0.0087	0.1245	0.1421	0.1068	0.0607	8.0251	10.6369	0.131	3855	5118
546	6507	0.0094	0.1251	0.1492	0.1031	0.0535	7.2051	9.4682	0.132	3570	4703
547	6519	0.0116	0.1131	0.1461	0.1128	0.0626	7.2203	10.5223	0.120	3575	5077
548	6531	0.0099	0.1213	0.1457	0.1168	0.0774	8.1344	10.3650	0.128	3893	5021
549	6543	0.0113	0.1228	0.1528	0.1111	0.0635	8.4176	11.8794	0.129	3991	5560
550	6555	0.0102	0.1339	0.1531	0.1120	0.0592	8.0363	9.1709	0.140	3858	4597
551	6567	0.0096	0.1183	0.1433	0.1068	0.0636	7.5297	10.1987	0.125	3682	4962
552	6579	0.0091	0.1149	0.1308	0.1018	0.0499	7.3255	9.3660	0.122	3611	4666
553	6591	0.0115	0.1151	0.1494	0.1064	0.0743	6.6391	9.8593	0.122	3373	4842
554	6603	0.0085	0.1132	0.1418	0.1028	0.0696	7.5158	8.6261	0.121	3678	4403
555	6615	0.0082	0.1147	0.1517	0.1073	0.0651	7.1639	10.5624	0.122	3555	5092
556	6627	0.0099	0.1194	0.1600	0.1113	0.0727	8.3654	9.9776	0.126	3973	4884
557	6639	0.0069	0.1163	0.1355	0.1139	0.0732	7.7497	11.0021	0.123	3759	5248
559	6663	0.2231	0.1145	0.1339	0.0876	0.0639	8.1664	10.7500	0.122	3904	5158
560	6674	0.0108	0.1218	0.1461	0.1209	0.0629	8.1286	9.5304	0.128	3891	4725
561	6686	0.0100	0.1145	0.1470	0.1108	0.0731	8.1511	10.5666	0.122	3898	5093
562	6698	0.0128	0.1265	0.1243	0.1175	0.0935	7.4714	13.0461	0.133	3662	5974
563	6710	0.0109	0.1202	0.1794	0.1226	0.2899	8.4513	10.9607	0.127	4003	5233
564	6722	0.0112	0.1260	0.1436	0.1033	0.0655	7.8435	8.5318	0.132	3791	4370
565	6734	0.0102	0.1276	0.1464	0.1027	0.0672	8.3725	9.9718	0.134	3975	4882
566	6746	0.0110	0.1318	0.1325	0.1047	0.0526	8.4484	11.0256	0.138	4002	5256
567	6758	0.0100	0.1244	0.1545	0.1065	0.0771	7.6541	11.2179	0.131	3726	5325
568	6770	0.0120	0.1280	0.1374	0.1077	0.0638	8.4481	9.5241	0.134	4002	4723
569	6782	0.0107	0.1196	0.1351	0.1071	0.0521	6.9897	9.2120	0.126	3495	4612
570	6794	0.0094	0.1285	0.1512	0.1186	0.0783	7.6541	10.8340	0.135	3726	5188
572	6818	0.2315	0.1212	0.1511	0.1222	0.0604	8.0664	11.4238	0.128	3869	5398
573	6830	0.0117	0.1255	0.1360	0.1165	0.0508	9.6148	11.0701	0.132	4407	5272
574	6842	0.0115	0.1394	0.1395	0.1206	0.0569	8.7263	12.3533	0.145	4098	5728
575	6854	0.0109	0.1387	0.1779	0.1103	0.0658	8.2193	10.7112	0.144	3922	5144
576	6865	0.0109	0.1368	0.1532	0.1267	0.0719	8.8164	11.6371	0.142	4130	5474

\* Analyses that were below background levels are left blank.



## Appendix G: Binary Element Diffusion Model (BEDM) Input Data

**Table G.1: Ideal SrO & BaO profiles – Points used for BEDM**

n = point number

n	SrO (ppm)	BaO (ppm)	n	SrO (ppm)	BaO (ppm)	n	SrO (ppm)	BaO (ppm)	n	SrO (ppm)	BaO (ppm)
1	44072	56176	51	4201	2365	101	3000	2000	151	4291	2403
2	41292	51021	52	4117	2330	102	3003	2003	152	4388	2446
3	38701	46356	53	4039	2299	103	3006	2003	153	4491	2493
4	36285	42135	54	3966	2270	104	3009	2004	154	4602	2545
5	34032	38316	55	3898	2245	105	3013	2004	155	4722	2602
6	31931	34860	56	3835	2221	106	3017	2004	156	4849	2665
7	29972	31733	57	3775	2200	107	3021	2005	157	4986	2735
8	28146	28903	58	3720	2181	108	3025	2005	158	5133	2812
9	26443	26343	59	3669	2164	109	3030	2006	159	5291	2898
10	24856	24026	60	3621	2148	110	3035	2007	160	5460	2992
11	23375	21930	61	3576	2134	111	3041	2007	161	5641	3097
12	21995	20034	62	3535	2122	112	3047	2008	162	5836	3212
13	20708	18318	63	3496	2110	113	3053	2009	163	6044	3339
14	19508	16765	64	3460	2099	114	3060	2010	164	6268	3480
15	18390	15360	65	3426	2090	115	3067	2011	165	6507	3636
16	17346	14088	66	3394	2081	116	3075	2012	166	6765	3808
17	16374	12938	67	3365	2074	117	3083	2013	167	7041	3998
18	15467	11897	68	3337	2067	118	3092	2015	168	7337	4208
19	14621	10955	69	3312	2060	119	3102	2016	169	7654	4441
20	13833	10103	70	3288	2055	120	3112	2018	170	7994	4697
21	13098	9332	71	3266	2049	121	3123	2020	171	8359	4981
22	12412	8634	72	3245	2045	122	3135	2022	172	8751	5294
23	11773	8003	73	3226	2040	123	3147	2025	173	9171	5641
24	11178	7432	74	3208	2037	124	3161	2027	174	9621	6024
25	10622	6915	75	3191	2033	125	3176	2030	175	10104	6447
26	10104	6447	76	3176	2030	126	3191	2033	176	10622	6915
27	9621	6024	77	3161	2027	127	3208	2037	177	11178	7432
28	9171	5641	78	3147	2025	128	3226	2040	178	11773	8003
29	8751	5294	79	3135	2022	129	3245	2045	179	12412	8634
30	8359	4981	80	3123	2020	130	3266	2049	180	13098	9332
31	7994	4697	81	3112	2018	131	3288	2055	181	13833	10103
32	7654	4441	82	3102	2016	132	3312	2060	182	14621	10955
33	7337	4208	83	3092	2015	133	3337	2067	183	15467	11897
34	7041	3998	84	3083	2013	134	3365	2074	184	16374	12938
35	6765	3808	85	3075	2012	135	3394	2081	185	17346	14088
36	6507	3636	86	3067	2011	136	3426	2090	186	18390	15360
37	6268	3480	87	3060	2010	137	3460	2099	187	19508	16765
38	6044	3339	88	3053	2009	138	3496	2110	188	20708	18318
39	5836	3212	89	3047	2008	139	3535	2122	189	21995	20034
40	5641	3097	90	3041	2007	140	3576	2134	190	23375	21930
41	5460	2992	91	3035	2007	141	3621	2148	191	24856	24026
42	5291	2898	92	3030	2006	142	3669	2164	192	26443	26343
43	5133	2812	93	3025	2005	143	3720	2181	193	28146	28903
44	4986	2735	94	3021	2005	144	3775	2200	194	29972	31733
45	4849	2665	95	3017	2004	145	3835	2221	195	31931	34860
46	4722	2602	96	3013	2004	146	3898	2245	196	34032	38316
47	4602	2545	97	3009	2004	147	3966	2270	197	36285	42135
48	4491	2493	98	3006	2003	148	4039	2299	198	38701	46356
49	4388	2446	99	3003	2003	149	4117	2330	199	41292	51021
50	4291	2403	100	3000	2000	150	4201	2365	200	44072	56176

**Table G.2: One to One SrO & BaO profiles – Points used for BEDM**

n = point number

n	SrO (ppm)	BaO (ppm)	n	SrO (ppm)	BaO (ppm)	n	SrO (ppm)	BaO (ppm)	n	SrO (ppm)	BaO (ppm)
1	3064	3064	51	3416	3416	101	3405	3405	151	3349	3349
2	2669	2669	52	3589	3589	102	3391	3391	152	3420	3420
3	2805	2805	53	3407	3407	103	3499	3499	153	3363	3363
4	3170	3170	54	3022	3022	104	3390	3390	154	3343	3343
5	3302	3302	55	3382	3382	105	3703	3703	155	3530	3530
6	3156	3156	56	3449	3449	106	3433	3433	156	3335	3335
7	3186	3186	57	3546	3546	107	3230	3230	157	3278	3278
8	3402	3402	58	3507	3507	108	3555	3555	158	2893	2893
9	2971	2971	59	3293	3293	109	3427	3427	159	3357	3357
10	3184	3184	60	3927	3927	110	3132	3132	160	3161	3161
11	3164	3164	61	3581	3581	111	3267	3267	161	3247	3247
12	3240	3240	62	3432	3432	112	3361	3361	162	3474	3474
13	3109	3109	63	3154	3154	113	3610	3610	163	3302	3302
14	3589	3589	64	3098	3098	114	3531	3531	164	2933	2933
15	3292	3292	65	3477	3477	115	3352	3352	165	3156	3156
16	2996	2996	66	3207	3207	116	3485	3485	166	2939	2939
17	3203	3203	67	2937	2937	117	3607	3607	167	3207	3207
18	3440	3440	68	3291	3291	118	3572	3572	168	3028	3028
19	3436	3436	69	3447	3447	119	3633	3633	169	3123	3123
20	3512	3512	70	3468	3468	120	3018	3018	170	2970	2970
21	3092	3092	71	3521	3521	121	3395	3395	171	3342	3342
22	3434	3434	72	3078	3078	122	3782	3782	172	3345	3345
23	3586	3586	73	3042	3042	123	3569	3569	173	3015	3015
24	3288	3288	74	2921	2921	124	3201	3201	174	3087	3087
25	3613	3613	75	3085	3085	125	3559	3559	175	3052	3052
26	3673	3673	76	3630	3630	126	3457	3457	176	3172	3172
27	3519	3519	77	3269	3269	127	3403	3403	177	3079	3079
28	3232	3232	78	2553	2553	128	3443	3443	178	3017	3017
29	3376	3376	79	3417	3417	129	3043	3043	179	3426	3426
30	3598	3598	80	3493	3493	130	3559	3559	180	3336	3336
31	3530	3530	81	3074	3074	131	3669	3669	181	3332	3332
32	3340	3340	82	3501	3501	132	3230	3230	182	3100	3100
33	3612	3612	83	3285	3285	133	3685	3685	183	3149	3149
34	3819	3819	84	3053	3053	134	3124	3124	184	3231	3231
35	3219	3219	85	3519	3519	135	3797	3797	185	3446	3446
36	3726	3726	86	3053	3053	136	3004	3004	186	3151	3151
37	3741	3741	87	3386	3386	137	3429	3429	187	3446	3446
38	3411	3411	88	2883	2883	138	3143	3143	188	3500	3500
39	3392	3392	89	3178	3178	139	3630	3630	189	3149	3149
40	3390	3390	90	3695	3695	140	3293	3293	190	3181	3181
41	3504	3504	91	3363	3363	141	3050	3050	191	3835	3835
42	3207	3207	92	3400	3400	142	3709	3709	192	3278	3278
43	3809	3809	93	3230	3230	143	3501	3501	193	3204	3204
44	3645	3645	94	3510	3510	144	3456	3456	194	2995	2995
45	3300	3300	95	2913	2913	145	3764	3764	195	3716	3716
46	3212	3212	96	3152	3152	146	3748	3748			
47	3639	3639	97	3854	3854	147	3476	3476			
48	3545	3545	98	3437	3437	148	3092	3092			
49	3551	3551	99	3684	3684	149	3579	3579			
50	3876	3876	100	3571	3571	150	3129	3129			

**Table G.3: Section eb05019b – Points used for BEDM**

*n* = LA-ICP-MS analysis number

<i>n</i>	Point Values		5 pt. moving average		20 pt. moving average		<i>n</i>	Point Values		5 pt. moving average		20 pt. moving average	
	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)		SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
652	3089	3079	2614	2786	2492	2858	699	3113	3799	2653	2986	2439	2813
653	2785	3010	2450	2677	2466	2812	700	2838	2864	2565	2827	2400	2765
654	2514	2982	2215	2556	2482	2813	701	2400	2869	2520	2787	2390	2784
655	2496	2501	2148	2430	2520	2820	702	2499	2923	2492	2754	2408	2783
656	2184	2357	2109	2534	2527	2863	703	2415	2474	2533	2770	2426	2783
657	2272	2535	2137	2601	2556	2942	704	2675	3006	2586	2796	2446	2802
658	1607	2406	2153	2664	2584	2980	705	2611	2663	2379	2752	2472	2829
659	2182	2349	2312	2906	2655	3023	706	2262	2701	2299	2592	2521	2860
660	2302	3022	2329	2991	2685	3089	707	2702	3003	2298	2551	2568	2880
661	2320	2691	2406	2985	2714	3094	708	2678	2607	2205	2544	2588	2871
662	2353	2849	2510	3013	2732	3132	709	1642	2786	2098	2489	2590	2900
663	2405	3618	2557	3188	2779	3161	710	2213	1863	2258	2518	2650	2936
664	2263	2774	2580	3042	2816	3174	711	2257	2494	2314	2816	2680	2976
665	2688	2991	2682	3080	2893	3201	712	2236	2971	2354	2881	2698	2999
666	2844	2832	2678	3017	2925	3221	713	2142	2333	2399	2890	2720	2982
667	2586	3725	2707	3033	2934	3271	714	2442	2931	2418	2981	2730	2994
668	2522	2890	2705	2719	2934	3239	715	2495	3351	2398	2960	2719	2987
669	2768	2960	2821	2746	2939	3235	716	2456	2819	2425	2942	2717	2959
670	2669	2678	2923	2782	2880	3178	717	2458	3014	2487	2948	2720	2951
671	2991	2910	2913	2916	2855	3170	718	2240	2789	2568	2927	2727	2958
672	2572	2159	2871	3120	2811	3114	719	2339	2828	2682	2942	2746	2972
673	3102	3023	2924	3349	2790	3124	720	2634	3258	2853	3085	2773	3010
674	3283	3139	2907	3397	2756	3133	721	2765	2850	3045	3091	2808	3015
675	2618	3349	2805	3503	2734	3157	722	2860	2913	3132	3141	2814	3051
676	2780	3931	2860	3459	2750	3213	723	2810	2863	3182	3125	2820	3056
677	2835	3305	2838	3361	2806	3229	724	3195	3541	3164	3187	2820	3088
678	3017	3260	2932	3389	2867	3331	725	3594	3290	3090	3180	2814	3054
679	2776	3672	2957	3510	2915	3367	726	3201	3097	2936	3056	2769	3057
680	2891	3128	3160	3438	2932	3373	727	3109	2832	2817	3027	2756	3072
681	2669	3440	3249	3492	2930	3360	728	2719	3176	2733	2985	2772	3131
682	3309	3447	3319	3571	2916	3332	729	2825	3505	2656	2865	2852	3163
683	3141	3866	3177	3498	2876	3305	730	2825	2672	2536	2724	2898	3168
684	3791	3311	3072	3287	2839	3236	731	2607	2948	2460	2746	2900	3189
685	3336	3395	2630	2988	2784	3221	732	2687	2625	2443	2689	2913	3203
686	3018	3833	2397	2811	2747	3184	733	2335	2573	2427	2793	2951	3239
687	2598	3084	2216	2405	2709	3127	734	2227	2801	2484	2894	2965	3257
688	2618	2812	2126	2260	2715	3123	735	2445	2784	2612	3052	2972	3259
689	1578	1815	2089	2338	2718	3113	736	2522	2664	2791	3167	2961	3269
690	2176	2512	2342	2699	2721	3162	737	2606	3144	2862	3346	2968	3282
691	2110	1802	2492	3091	2723	3129	738	2622	3078	2937	3320	2965	3266
692	2149	2359	2852	3580	2730	3164	739	2868	3592	2976	3407	2981	3269
693	2434	3202	3232	4175	2734	3194	740	3337	3360	3017	3261	2993	3254
694	2842	3618	3543	4332	2720	3151	741	2878	3556	2889	3257	2987	3271
695	2928	4475	3597	4368	2700	3117	742	2981	3012	2903	3227	2999	3243
696	3909	4246	3579	4046	2678	3060	743	2814	3517	2991	3427	2980	3241
697	4049	5332	3278	3771	2606	2989	744	3073	2860	3293	3487	2971	3199
698	3989	3990	2968	3289	2526	2873	745	2698	3339	3428	3637	2948	3191

**Table G.3 cont.**

<i>n</i>	Point Values		5 pt. moving average		20 pt. moving average	
	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
746	2948	3409	3458	3586	2948	3170
747	3423	4009	3445	3550	2916	3139
748	4322	3816	3449	3416	2868	3087
749	3748	3611	3106	3241	2787	3048
750	2848	3084	2833	3084	2759	3034
751	2882	3227	2706	3064	2773	3064
752	3446	3344	2662	3006	2798	3079
753	2605	2941	2484	2901	2767	3064
754	2382	2825	2550	2939	2798	3096
755	2213	2983	2695	3032	2827	3121
756	2662	2940	2896	3177	2882	3155
757	2556	2816	2987	3187	2894	3198
758	2936	3131	2997	3221	2936	3242
759	3110	3293	2935	3128	2953	3265
760	3214	3708	2837	3010	2955	3300
761	3119	2988	2732	2853	2946	3329
762	2606	2984	2572	2815	2965	3381
763	2627	2670	2541	2810	2987	3420
764	2618	2700	2558	2884	3027	3472
765	2690	2923	2673	3011	3049	3548
766	2320	2796	2757	3162	3076	3574
767	2453	2963	2971	3308	3131	3664
768	2707	3038	3045	3323	3169	3702
769	3195	3335	3149	3431	3195	3728
770	3111	3677	3101	3430	3213	3772
771	3390	3528	3142	3427	3228	3818
772	2822	3038	3044	3481	3254	3829
773	3228	3580	3163	3616	3297	3877
774	2955	3326	3171	3617	3310	3892
775	3316	3665	3207	3749	3323	3932
776	2900	3797	3153	3874		
777	3413	3711	3271	3919		
778	3270	3587	3198	3931		
779	3137	3986	3230	3954		
780	3047	4290	3214	4001		
781	3486	4023	3251	3831		
782	3049	3770	3238	3947		
783	3430	3701	3271	3939		
784	3060	4224	3230	3909		
785	3232	3437	3330	3907		
786	3420	4601	3365	4139		
787	3213	3731	3462	3970		
788	3226	3554	3558	4022		
789	3558	4213	3609	4087		
790	3406	4596	3539	4071		
791	3906	3757				
792	3692	3988				
793	3484	3880				
794	3206	4132				

**Table G.4: Section eb05027a1 – Points used for BEDM**

*n* = LA-ICP-MS analysis number

<i>n</i>	Point Values		5 pt. moving average		20 pt. moving average		<i>n</i>	Point Values		5 pt. moving average		20 pt. moving average	
	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)		SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
137	3142	3797	3188	4294	3334	4239	186	3566	4821	3518	4523	3680	4715
138	3253	4313	3259	4412	3329	4264	187	3802	4140	3493	4498	3693	4759
139	2987	3988	3321	4365	3332	4249	188	3324	4424	3458	4654	3706	4855
140	3182	4600	3374	4395	3366	4238	189	3440	4480	3497	4683	3736	4869
141	3377	4770	3377	4365	3376	4199	190	3457	4750	3498	4629	3756	4886
142	3496	4389	3383	4182	3369	4201	191	3441	4699	3509	4561	3768	4872
143	3563	4079	3337	4286	3353	4194	192	3630	4920	3516	4558	3771	4857
144	3252	4139	3289	4251	3341	4214	193	3519	4569	3546	4525	3749	4853
145	3196	4449	3281	4237	3352	4233	194	3441	4210	3600	4461	3744	4838
146	3405	3856	3375	4199	3357	4239	195	3513	4406	3650	4619	3735	4870
147	3269	4907	3390	4314	3365	4283	196	3477	4685	3701	4740	3744	4875
148	3321	3902	3428	4156	3381	4276	197	3779	4757	3785	4889	3760	4893
149	3215	4072	3448	4279	3402	4286	198	3790	4249	3845	4916	3753	4910
150	3666	4260	3458	4276	3422	4288	199	3692	5000	3885	5104	3748	4959
151	3481	4427	3392	4206	3423	4269	200	3769	5011	3980	5081	3765	4965
152	3459	4118	3375	4166	3425	4252	201	3897	5429	3992	5035	3766	4973
153	3417	4516	3292	4203	3453	4262	202	4078	4889	3976	5090	3747	4965
154	3269	4061	3272	4101	3467	4265	203	3991	5189	3975	5324	3726	4973
155	3332	3910	3352	4042	3505	4289	204	4164	4887	3960	5228	3715	4967
156	3397	4223	3361	4024	3508	4326	205	3832	4779	3895	5213	3692	4976
157	3047	4305	3327	4142	3536	4318	206	3816	5709	3870	5151	3707	5000
158	3317	4005	3356	4130	3573	4316	207	4074	6059	3808	4892	3724	4985
159	3667	3767	3356	4226	3587	4354	208	3914	4707	3628	4648	3726	4954
160	3379	3819	3315	4375	3583	4381	209	3836	4812	3531	4561	3734	4972
161	3227	4815	3298	4525	3594	4420	210	3709	4470	3415	4566	3741	4986
162	3190	4242	3366	4510	3613	4413	211	3506	4414	3412	4575	3754	5015
163	3317	4485	3446	4614	3633	4440	212	3173	4840	3472	4698	3767	5063
164	3461	4515	3533	4539	3653	4434	213	3431	4269	3565	4752	3804	5096
165	3297	4566	3564	4459	3662	4439	214	3258	4837	3617	4943	3831	5145
166	3567	4744	3641	4319	3672	4443	215	3692	4516	3772	5000	3854	5164
167	3586	4761	3633	4191	3672	4447	216	3805	5029	3790	5131	3850	5175
168	3755	4107	3718	4100	3683	4416	217	3640	5107	3731	5181	3847	5168
169	3618	4116	3706	4196	3661	4432	218	3689	5226	3735	5168	3851	5148
170	3679	3869	3788	4278	3653	4450	219	4033	5124	3751	5137	3853	5125
171	3528	4100	3733	4434	3641	4494	220	3785	5168	3686	5125	3845	5102
172	4011	4310	3818	4429	3637	4524	221	3507	5280	3756	5144	3852	5076
173	3695	4582	3772	4420	3618	4555	222	3660	5043	3884	5170	3844	5054
174	4029	4531	3752	4454	3609	4554	223	3770	5070	3977	5246	3855	5095
175	3403	4649	3666	4411	3580	4538	224	3710	5066	4037	5247	3853	5076
176	3951	4075	3702	4403	3585	4526	225	4133	5261	4092	5252	3857	5086
177	3782	4264	3634	4523	3562	4556	226	4149	5408	4056	5210	3832	5082
178	3598	4753	3595	4625	3562	4581	227	4123	5426	3982	5205	3811	5047
179	3598	4315	3619	4549	3571	4556	228	4070	5076	3938	5220	3798	5059
180	3585	4610	3627	4606	3576	4590	229	3985	5090	3918	5253	3792	5043
181	3611	4674	3613	4616	3585	4610	230	3953	5051	3868	5278	3787	5029
182	3582	4773	3604	4646	3599	4648	231	3777	5380	3798	5217	3772	5008
183	3721	4373	3647	4519	3624	4654	232	3903	5503	3792	5116	3763	4977
184	3638	4600	3568	4529	3638	4694	233	3973	5240	3757	4959	3747	4952
185	3510	4660	3528	4505	3664	4709	234	3734	5218	3706	4863	3736	4936

**Table G.4 cont.**

Point Values			5 pt. moving average		20 pt. moving average		Point Values			5 pt. moving average		20 pt. moving average	
<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
235	3604	4742	3735	4753	3742	4933	284	3729	4699	3546	4508		
236	3747	4879	3799	4735	3748	4949	285	3748	4403	3489	4440		
237	3726	4718	3720	4724	3744	4970	286	3363	4550	3468	4410		
238	3721	4760	3749	4955	3762	4980	287	3338	4376	3530	4440		
239	3879	4665	3752	4940	3759	4981	288	3550	4509	3608	4471		
240	3924	4651	3733	5062	3759	5015	289	3445	4364	3704	4586		
241	3349	4829	3673	5168	3760	5044	290	3643	4251	3766	4751		
242	3871	5870	3751	5144	3776	5069	291	3674	4700	3942	4940		
243	3734	4684	3748	5101	3759	5041	292	3727	4531	3977	5075		
244	3788	5275	3793	5118	3747	5048	293	4029	5083	4016	5125		
245	3621	5184	3812	5023	3730	5042	294	3755	5191	3988	5145		
246	3740	4709	3816	4913	3739	5016	295	4524	5193				
247	3857	5653	3788	4923	3726	5036	296	3848	5375				
248	3960	4766	3735	4793	3725	4989	297	3924	4784				
249	3884	4803	3691	4823	3708	5045	298	3888	5183				
250	3640	4631	3686	4893	3706	5088							
251	3597	4763	3704	4980	3705	5113							
252	3592	5001	3718	5087	3718	5148							
253	3742	4914	3815	5072	3723	5171							
254	3858	5153	3801	5046	3717	5186							
255	3731	5067	3804	5082	3709	5182							
256	3669	5300	3848	5117	3738	5173							
257	4074	4928	3846	5120	3753	5170							
258	3673	4782	3738	5196	3739	5195							
259	3874	5334	3702	5207	3735	5187							
260	3950	5241	3618	5169	3734	5121							
261	3661	5317	3586	5055	3702	5092							
262	3530	5305	3551	5015	3707	5061							
263	3495	4841	3615	4895	3735	5052							
264	3452	5143	3637	5105	3746	5039							
265	3794	4670	3719	5206	3760	5017							
266	3487	5116	3680	5302	3757	5003							
267	3845	4706	3754	5370	3751	4975							
268	3608	5888	3724	5522	3726	4959							
269	3859	5652	3726	5385	3723	4890							
270	3600	5148	3697	5269	3702	4825							
271	3859	5455	3837	5218	3704	4780							
272	3692	5470	3860	5175	3695	4743							
273	3621	5201	3880	5168	3697	4696							
274	3712	5070	3874	5050	3717	4690							
275	4301	4896	3901	4840	3719	4696							
276	3973	5237	3703	4793	3730	4711							
277	3792	5436	3664	4685	3724	4718							
278	3589	4611	3721	4623	3731	4685							
279	3850	4021	3746	4616	3746	4714							
280	3311	4663	3722	4752									
281	3776	4695	3809	4700									
282	4079	5128	3726	4671									
283	3713	4576	3578	4521									

**Table G.5: Section eb05027a2 – Points used for BEDM**

*n* = LA-ICP-MS analysis number

Point Values			5 pt. moving average		20 pt. moving average		Point Values			5 pt. moving average		20 pt. moving average	
<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
234	3292	3802	3045	3652	2847	3919	283	3119	4055	3265	4504	3543	4275
235	3071	4059	2911	3638	2817	3918	284	3080	4398	3323	4620	3560	4279
236	3272	3945	2863	3540	2784	3907	285	3242	4255	3460	4731	3574	4258
237	2638	3525	2744	3458	2735	3883	286	3329	4319	3519	4738	3562	4241
238	2953	2930	2756	3526	2728	3867	287	3553	5494	3506	4776	3554	4207
239	2621	3732	2754	3791	2701	3869	288	3412	4634	3476	4519	3540	4105
240	2830	3569	2840	3867	2694	3875	289	3762	4954	3544	4447	3545	4056
241	2679	3535	2834	3938	2676	3859	290	3540	4289	3557	4258	3541	4006
242	2698	3864	2837	4069	2680	3870	291	3262	4511	3550	4212	3547	3996
243	2941	4254	2850	4103	2683	3872	292	3403	4207	3663	4097	3548	3953
244	3051	4115	2832	4132	2675	3868	293	3755	4275	3694	3979	3539	3923
245	2801	3923	2760	4173	2658	3862	294	3823	4007	3642	3942	3518	3886
246	2693	4188	2741	4201	2654	3847	295	3509	4058	3637	3933	3490	3878
247	2761	4034	2740	4170	2658	3858	296	3823	3938	3690	3954	3472	3858
248	2854	4403	2771	4151	2644	3838	297	3560	3618	3731	3997	3438	3869
249	2689	4317	2758	4101	2638	3822	298	3496	4088	3737	4099	3437	3871
250	2707	4064	2759	3994	2656	3826	299	3797	3962	3732	4107	3426	3856
251	2686	4031	2698	3950	2667	3822	300	3774	4165	3642	4108	3397	3857
252	2919	3943	2621	3834	2678	3830	301	4030	4153	3487	4059	3369	3836
253	2789	4149	2536	3687	2673	3830	302	3589	4127	3318	3956	3328	3800
254	2691	3785	2459	3450	2680	3821	303	3471	4128	3254	3822	3311	3800
255	2402	3842	2419	3464	2676	3829	304	3345	3968	3259	3728	3295	3793
256	2303	3452	2430	3348	2686	3838	305	3001	3920	3331	3727	3306	3823
257	2494	3204	2523	3408	2716	3912	306	3182	3635	3461	3760	3315	3878
258	2406	2966	2577	3548	2743	3957	307	3272	3458	3479	3764	3335	3905
259	2492	3853	2648	3788	2780	4024	308	3497	3658	3470	3792	3366	3972
260	2454	3264	2693	3816	2807	4041	309	3701	3965	3440	3768	3386	4016
261	2768	3753	2747	3889	2828	4072	310	3653	4082	3349	3745	3381	4029
262	2765	3902	2750	4019	2852	4104	311	3274	3655	3249	3660	3387	4038
263	2764	4168	2694	3966	2875	4142	312	3227	3598	3225	3759	3403	4053
264	2714	3992	2685	3950	2893	4137	313	3343	3541	3286	3772	3410	4082
265	2724	3628	2753	4028	2911	4157	314	3248	3850	3271	3820	3403	4119
266	2782	4404	2795	4102	2937	4188	315	3153	3655	3267	3846	3417	4112
267	2484	3638	2819	4059	2964	4184	316	3152	4151	3280	3866	3429	4141
268	2720	4085	2885	4118	3018	4277	317	3531	3664	3291	3722	3430	4135
269	3057	4387	2929	4096	3052	4304	318	3272	3782	3233	3815	3427	4157
270	2931	3997	2837	4008	3088	4333	319	3229	3979	3211	3857	3446	4205
271	2901	4190	2773	4015	3118	4347	320	3216	3755	3277	3972	3456	4229
272	2818	3931	2772	4160	3136	4363	321	3207	3430	3271	4227	3470	4289
273	2939	3977	2816	4195	3165	4377	322	3238	4129	3347	4377	3488	4330
274	2593	3945	2859	4261	3206	4392	323	3164	3991	3475	4508	3503	4315
275	2612	4030	2945	4314	3268	4395	324	3560	4554	3622	4617	3507	4340
276	2896	4919	2998	4281	3313	4396	325	3188	5030	3629	4555	3513	4334
277	3040	4104	3066	4178	3359	4347	326	3582	4179	3748	4401	3533	4311
278	3155	4308	3105	4290	3385	4323	327	3880	4787	3748	4353	3510	4301
279	3024	4208	3098	4239	3402	4312	328	3898	4537	3647	4232	3477	4275
280	2877	3865	3109	4277	3441	4300	329	3595	4240	3508	4181	3464	4269
281	3236	4403	3182	4355	3485	4315	330	3784	4263	3493	4074	3468	4274
282	3233	4666	3201	4339	3525	4302	331	3584	3938	3418	4071	3463	4289

**Table G.5 cont.**

<i>n</i>	Point Values		5 pt. moving average		20 pt. moving average	
	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
332	3376	4182	3335	4087	3456	4316
333	3202	4280	3355	4074	3461	4335
334	3519	3708	3445	4166	3469	4337
335	3410	4245	3426	4317	3463	4392
336	3169	4020	3442	4456	3463	4412
337	3474	4119	3521	4504	3485	4460
338	3654	4741	3536	4444	3470	4480
339	3423	4462	3455	4395	3454	4493
340	3489	4938	3506	4391	3430	4469
341	3566	4259	3526	4316	3402	4421
342	3547	3820	3434	4262	3368	4409
343	3249	4495	3369	4350	3334	4434
344	3680	4444	3448	4334	3330	4398
345	3589	4559	3447	4312	3296	4377
346	3108	3992	3465	4313	3264	4322
347	3221	4260	3533	4413		
348	3643	4414	3583	4473		
349	3676	4336	3530	4452		
350	3681	4563	3473	4548		
351	3445	4492	3418	4565		
352	3471	4559	3450	4661		
353	3377	4309	3394	4652		
354	3394	4815	3382	4790		
355	3403	4651	3294	4626		
356	3608	4971	3199	4490		
357	3186	4512	3056	4302		
358	3321	5002	2992	4260		
359	2951	3992	2962	4014		
360	2931	3975	2970	4023		
361	2889	4028	2973	3919		
362	2868	4303				
363	3171	3775				
364	2991	4034				
365	2948	3457				



**Table G.6: Section eb05042b1 – Points used for BEDM**

*n* = LA-ICP-MS analysis number

Point Values			5 pt. moving average		20 pt. moving average		Point Values			5 pt. moving average		20 pt. moving average	
<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
248	2652	4258	2983	4039	3004	4143	297	3266	5263	3254	4833	3197	4468
249	2931	3823	3038	3982	3006	4129	298	3138	4375	3250	4707	3188	4414
250	3245	3952	3085	4099	3006	4127	299	3142	5001	3299	4696	3172	4422
251	3154	4164	3088	4229	2989	4117	300	3256	4825	3361	4567	3172	4360
252	2935	3998	3095	4207	2978	4125	301	3468	4700	3349	4524	3154	4329
253	2926	3974	3143	4210	2973	4148	302	3249	4634	3318	4477	3128	4322
254	3166	4407	3160	4176	2983	4166	303	3381	4319	3310	4447	3122	4333
255	3260	4604	3110	4059	2977	4153	304	3449	4355	3270	4432	3107	4302
256	3188	4055	3069	3938	2955	4150	305	3199	4613	3172	4364	3072	4281
257	3176	4012	3031	3931	2942	4140	306	3313	4466	3100	4339	3042	4260
258	3009	3800	2985	4013	2936	4139	307	3208	4480	3031	4319	3011	4259
259	2917	3822	2942	4122	2929	4176	308	3179	4249	3015	4249	2987	4253
260	3057	4002	2987	4272	2937	4194	309	2963	4012	3018	4258	2982	4260
261	2997	4018	2950	4280	2934	4197	310	2838	4488	3089	4359	2977	4261
262	2944	4423	2910	4369	2922	4201	311	2965	4369	3151	4283	2980	4233
263	2796	4347	2905	4311	2909	4153	312	3131	4129	3184	4242	2971	4202
264	3141	4569	2883	4237	2921	4114	313	3195	4293	3176	4255	2958	4186
265	2872	4040	2840	4077	2909	4064	314	3314	4518	3102	4303	2941	4162
266	2798	4466	2848	4020	2911	4064	315	3152	4108	3065	4150	2912	4149
267	2917	4131	2874	3992	2920	4056	316	3129	4160	3013	4170	2891	4119
268	2687	3981	2858	4058	2922	4055	317	3091	4195	2981	4250	2871	4083
269	2926	3766	2948	4127	2933	4071	318	2826	4536	2984	4381	2858	4073
270	2914	3757	2971	4205	2956	4117	319	3126	3751	3036	4212	2859	4045
271	2925	4325	2952	4361	2957	4135	320	2894	4207	2962	4250	2842	4039
272	2840	4462	2953	4267	2965	4136	321	2967	4563	2904	4250	2829	4019
273	3136	4324	2996	4172	2983	4121	322	3110	4850	2849	4225	2816	3962
274	3041	4157	2944	4216	2993	4118	323	3085	3692	2773	4125	2790	3889
275	2821	4536	2949	4220	3021	4153	324	2755	3941	2771	4265	2760	3872
276	2928	3858	2986	4127	3048	4166	325	2603	4204	2792	4283	2762	3859
277	3055	3986	2951	4173	3093	4218	326	2693	4440	2851	4229	2764	3813
278	2877	4542	2877	4069	3104	4282	327	2730	4349	2872	4090	2764	3766
279	3063	4180	2909	3876	3117	4273	328	3076	4391	2900	3982	2755	3736
280	3008	4069	2876	3754	3121	4314	329	2859	4031	2853	3869	2720	3687
281	2751	4090	2857	3748	3133	4352	330	2896	3932	2830	3912	2694	3658
282	2689	3465	2902	3792	3169	4383	331	2797	3746	2796	3827	2676	3616
283	3034	3574	2954	3921	3197	4441	332	2870	3809	2781	3765	2668	3610
284	2896	3572	2929	4064	3214	4478	333	2843	3825	2776	3802	2654	3594
285	2912	4038	3027	4287	3242	4517	334	2745	4247	2773	3835	2624	3558
286	2977	4313	3035	4306	3256	4546	335	2724	3509	2784	3710	2604	3502
287	2953	4108	3054	4310	3273	4554	336	2722	3435	2766	3771	2588	3485
288	2908	4290	3104	4322	3286	4572	337	2847	3996	2764	3768		
289	3384	4689	3190	4318	3299	4570	338	2829	3990	2712	3648		
290	2950	4131	3234	4349	3278	4537	339	2800	3620	2642	3518		
291	3072	4334	3314	4484	3273	4554	340	2634	3815	2641	3533		
292	3206	4166	3466	4595	3267	4556	341	2710	3417	2644	3427		
293	3339	4270	3478	4814	3264	4554	342	2585	3398	2640	3442		
294	3600	4846	3438	4835	3256	4555	343	2481	3340	2631	3511		
295	3352	4803	3347	4866	3242	4539	344	2792	3695	2609	3527		
296	3835	4889	3327	4871	3232	4504	345	2652	3284	2520	3477		

**Table G.6 cont.**

<i>n</i>	Point Values		5 pt. moving average		20 pt. moving average	
	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
346	2692	3495	2496	3439		
347	2536	3743	2487	3465		
348	2375	3418	2497	3416		
349	2348	3444	2472	3350		
350	2528	3095	2472	3289		
351	2649	3627	2447	3301		
352	2584	3494				
353	2250	3091				
354	2349	3136				
355	2404	3159				

**Table G.7: Section eb05042b2 Scan 1 – Points used for BEDM**

*n* = LA-ICP-MS analysis number

Point Values			5 pt. moving average		20 pt. moving average		Point Values			5 pt. moving average		20 pt. moving average	
<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
352	4265	6164	4313	5650	4131	5453	404	3269	3993	3205	4386	3236	4743
353	4100	5409	4320	5622	4125	5378	405	3363	4871	3194	4540	3238	4764
354	4408	5537	4312	5758	4120	5376	406	3223	4326	3192	4533	3234	4752
355	4213	6127	4260	5747	4104	5367	407	2982	4306	3218	4568	3242	4755
356	4581	5013	4281	5599	4077	5289	408	3187	4434	3252	4694	3256	4776
357	4297	6025	4177	5606	4034	5293	409	3214	4761	3268	4822	3280	4798
358	4062	6087	4126	5451	4009	5253	410	3353	4837	3265	4911	3304	4791
359	4148	5482	4096	5252	4002	5212	411	3355	4501	3242	4922	3309	4772
360	4320	5388	4076	5072	3993	5183	412	3149	4940	3205	5053	3298	4781
361	4058	5050	4048	5154	3975	5176	413	3271	5074	3223	5059	3296	4737
362	4042	5247	4122	5181	3965	5172	414	3198	5204	3245	5019	3291	4697
363	3914	5094	4086	5168	3956	5169	415	3238	4890	3272	4922	3286	4674
364	4049	4580	4074	5338	3930	5140	416	3171	5158	3256	4979	3278	4671
365	4177	5801	4060	5480	3898	5119	417	3240	4971	3271	4839	3279	4625
366	4430	5183	4031	5396	3849	5027	418	3378	4873	3250	4838	3271	4599
367	3862	5180	3912	5374	3771	4972	419	3331	4716	3225	4744	3259	4596
368	3853	5944	3969	5270	3734	4918	420	3158	5176	3222	4682	3251	4568
369	3976	5294	3997	5157	3700	4837	421	3247	4460	3244	4575	3247	4517
370	4035	5381	4019	5168	3680	4815	422	3134	4963	3273	4559	3234	4520
371	3836	5073	3949	5005	3659	4775	423	3253	4404	3298	4511	3215	4475
372	4144	4660	3925	5010	3646	4761	424	3318	4408	3381	4608	3198	4458
373	3993	5377	3855	5124	3628	4781	425	3270	4639	3457	4647	3168	4432
374	4088	5351	3842	5100	3600	4765	426	3388	4381	3495	4612	3138	4426
375	3685	4565	3815	5013	3589	4742	427	3263	4722	3443	4671	3118	4428
376	3716	5099	3872	5147	3591	4759	428	3664	4892	3411	4541	3104	4377
377	3793	5230	3898	5124	3570	4750	429	3699	4603	3316	4418	3067	4339
378	3930	5257	3913	5113	3554	4744	430	3462	4462	3195	4446	3032	4323
379	3953	4915	3807	4965	3524	4722	431	3127	4677	3118	4517	3017	4305
380	3968	5231	3699	4814	3505	4708	432	3102	4070	3129	4432	3008	4271
381	3846	4984	3544	4560	3468	4672	433	3189	4276	3126	4507	3004	4285
382	3868	5177	3348	4380	3439	4623	434	3094	4744	3116	4616	2992	4256
383	3398	4516	3198	4164	3414	4608	*	3078	4818	3129	4495	2995	4235
*	3417	4164	3156	4125	3405	4598	436	3183	4251	3132	4366	2989	4205
*	3193	3958	3187	4262	3383	4605	437	3087	4448	3090	4418	2992	4202
*	2866	4088	3270	4388	3383	4629	438	3139	4818	3026	4342	2985	4172
*	3117	4093	3414	4528	3400	4663	439	3156	4140	2979	4189	2980	4130
*	3187	4322	3545	4722	3412	4700	440	3096	4173	2893	4139	2983	4130
*	3573	4850	3594	4869	3420	4709	441	2971	4509	2807	4209	2975	4116
*	3608	4586	3655	4878	3399	4713	442	2768	4070	2808	4192	2984	4110
*	3585	4790	3677	4941	3382	4738	443	2902	4052	2851	4119	3002	4135
*	3771	5062	3621	4966	3363	4758	444	2725	3892	2856	4135	3010	4150
*	3433	5058	3562	4979	3336	4750	*	2667	4523	2910	4210	3029	4180
394	3877	4893	3542	4931	3323	4755	446	2979	4422	3012	4128	3064	4176
395	3721	4903	3478	4877	3291	4759	447	2982	3706	3003	4044	3086	4186
396	3302	4914	3379	4801	3274	4757	*	2925	4132	3012	4170	3102	4233
397	3476	5126	3372	4617	3276	4747	449	2997	4267	3019	4083	3119	4256
398	3331	4818	3350	4566	3260	4750	450	3178	4114	3048	4094	3147	4256
399	3561	4623	3328	4468	3256	4732	451	2933	4002	3006	4115	3171	4283
400	3224	4524	3212	4404	3234	4749	452	3025	4334	3067	4154	3192	4307

**Table G.7 cont.**

Point Values			5 pt. moving average		20 pt. moving average		Point Values			5 pt. moving average		20 pt. moving average	
<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
453	2964	3701	3052	4058	3199	4326	502	3461	4118	3327	4218	3315	4333
454	3139	4321	3066	4113	3219	4362	503	3218	4172	3335	4284	3304	4368
455	2970	4217	3080	4076	3231	4366	504	3217	3857	3364	4388	3313	4392
456	3238	4200	3077	4011	3262	4382	505	3393	4477	3423	4617	3334	4422
457	2950	3851	3056	4051	3265	4399	506	3346	4467	3427	4687	3348	4433
458	3031	3974	3093	4195	3284	4452	507	3502	4444	3430	4666	3366	4439
459	3212	4136	3101	4270	3289	4485	508	3363	4693	3420	4692	3366	4411
460	2953	3893	3079	4340	3288	4484	509	3510	5004	3358	4666	3367	4390
461	3135	4401	3160	4450	3306	4508	510	3412	4826	3314	4541	3349	4365
*	3136	4572	3216	4495	3307	4496	511	3363	4361	3275	4389	3345	4349
463	3068	4349	3251	4508	3310	4481	*	3454	4574	3315	4362	3331	4370
464	3104	4484	3291	4559	3314	4491	513	3051	4567	3221	4228	3314	4370
465	3359	4443	3382	4514	3311	4502	514	3293	4378	3264	4188	3323	4370
466	3415	4629	3440	4556	3302	4527	515	3212	4066	3242	4131	3317	4369
467	3309	4637	3430	4527	3279	4495	516	3563	4227	3247	4113	3328	4412
468	3268	4600	3402	4541	3274	4457	517	2985	3903	3189	4085	3322	4461
469	3561	4258	3418	4506	3285	4447	518	3264	4368	3240	4269	3342	4495
470	3648	4658	3381	4534	3262	4469	519	3188	4089	3265	4324	3364	4501
471	3362	4482	3369	4511	3239	4457	520	3236	3976	3356	4399	3370	4522
472	3169	4707	3358	4524	3247	4454	521	3271	4091	3445	4542	3409	4557
473	3350	4423	3391	4562	3265	4442	522	3240	4819	3531	4642	3421	4583
474	3374	4401	3347	4604	3267	4460	523	3393	4644	3584	4457	3441	4567
475	3591	4544	3309	4547	3260	4482	524	3640	4464	3582	4382	3460	4566
476	3304	4543	3255	4514	3241	4469	525	3682	4693	3483	4389	3466	4567
477	3334	4895	3226	4438	3229	4481	526	3698	4590	3413	4350	3472	4582
478	3133	4636	3196	4315	3232	4435	527	3508	3893	3289	4389	3481	4603
479	3184	4118	3201	4297	3251	4417	528	3381	4271	3213	4528		
480	3321	4380	3170	4411	3268	4412	529	3145	4500	3182	4584		
481	3156	4159	3141	4525	3257	4402	530	3335	4496	3188	4556		
482	3186	4280	3103	4493	3271	4388	531	3076	4784	3207	4644		
483	3160	4545	3109	4411	3285	4379	532	3126	4589	3280	4729		
484	3026	4692	3174	4382	3287	4361	533	3229	4554	3332	4728		
*	3178	4949	3189	4385	3297	4319	534	3176	4359	3428	4715		
486	2964	4000	3191	4278	3308	4295	535	3428	4935	3455	4743		
487	3219	3867	3303	4362	3327	4319	536	3440	5210	3571	4693		
488	3481	4403	3365	4480	3341	4348	*	3387	4582	3583	4574		
489	3104	4705	3347	4558	3335	4362	538	3712	4487	3634	4556		
490	3185	4414	3373	4583	3355	4377	539	3306	4502	3648	4583		
491	3528	4422	3378	4558	3367	4398	540	4012	4684	3740	4578		
492	3525	4454	3284	4630	3358	4395	541	3498	4614	3697	4642		
493	3394	4795	3257	4535	3355	4401	542	3644	4494	3771	4719		
494	3230	4828	3283	4433	3338	4389	543	3781	4623				
*	3211	4291	3339	4269	3341	4367		3765.4	4472.6				
496	3062	4783	3320	4245	3341	4356		3796.2	5005.6				
497	3386	3976	3392	4065	3366	4328		3868.5	5002				
498	3526	4287	3407	4093	3346	4324							
499	3512	4007	3346	4070	3333	4328							
500	3116	4174	3287	4040	3317	4332							
501	3422	3879	3342	4101	3323	4322							

\* Missing numbers indicate locations where transects crossed inclusions such that values had to be filled in based on the surrounding trend.

**Table G.8: Section eb05042b2 Scan 2 – Points used for BEDM**

*n* = LA-ICP-MS analysis number

Point Values		5 pt. moving average		20 pt. moving average		Point Values		5 pt. moving average		20 pt. moving average	
<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
244	3746	4473	3653	4379	3258	3744	195	3321	3929	3186	3684
243	3468	4207	3649	4281	3241	3704	194	3356	3883	3117	3559
242	3572	4541	3594	4197	3243	3666	193	3315	3985	3054	3414
241	3639	4120	3578	4108	3235	3628	192	3027	3431	2994	3342
240	3839	4553	3492	4031	3226	3617	191	2910	3193	2964	3354
239	3725	3982	3311	3842	3187	3595	190	2980	3301	2996	3430
238	3197	3792	3143	3820	3166	3585	189	3037	3161	3038	3471
237	3492	4095	3067	3743	3175	3565	188	3019	3625	3043	3576
236	3206	3732	2961	3610	3152	3533	187	2875	3488	3002	3520
235	2935	3610	2896	3531	3135	3524	186	3070	3573	3029	3517
234	2884	3872	2890	3379	3133	3536	185	3191	3506	3010	3503
233	2821	3405	2919	3257	3142	3529	184	3058	3688	2940	3498
232	2960	3431	2968	3247	3147	3530	183	2817	3346	3001	3470
231	2880	3339	2970	3221	3143	3549	182	3007	3472	3082	3568
230	2906	2849	3054	3236	3144	3557	181	2976	3503	3111	3625
229	3028	3260	3176	3378	3161	3584	180	2843	3482	3126	3734
228	3068	3359	3252	3458	3165	3566	179	3362	3549	3117	3698
227	2970	3299	3340	3475	3154	3565	178	3220	3835	3040	3715
226	3300	3412	3432	3572	3130	3571	177	3152	3756	2877	3573
225	3517	3558	3461	3672	3098	3553	176	3052	4046	2803	3458
224	3408	3664	3370	3780	3040	3533	175	2798	3302	2787	3444
223	3508	3441	3349	3806	3012	3503	174	2978	3637	2929	3517
*	3427	3788	3323	3795	2985	3483	173	2403	3125	2972	3601
*	3447	3911	3244	3728	2949	3451	172	2785	3178	3172	3787
*	3062	4098	3127	3655	2929	3429	171	2971	3977	3280	4015
*	3301	3792	3097	3606	2932	3434	170	3508	3669	3303	3894
*	3378	3388	3049	3593	2927	3425	169	3194	4054	3206	4004
*	3033	3449	2956	3604	2917	3475	168	3404	4059	3198	3915
*	2859	3549	2927	3673	2941	3495	167	3324	4316	3152	3880
*	2914	3850	2936	3663	2954	3500	166	3083	3369	3070	3801
*	3062	3730	2999	3571	2974	3504	165	3026	4220	3071	3830
*	2912	3443	3009	3405	2989	3511	164	3155	3608	3036	3679
*	2890	3794	2996	3386	3009	3538	163	3169	3884	3004	3679
*	2901	3497	2916	3312	3016	3520	162	2917	3923	2927	3587
*	3228	3392	2868	3220	3016	3505	161	3086	3514	2915	3548
*	3112	2899	2692	3173	3004	3500	160	2853	3468	2858	3533
*	2851	3346	2643	3208	3000	3514	159	2996	3604	2837	3591
*	2490	3425	2663	3147	3009	3527	158	2785	3425	2867	3650
*	2660	3036	2709	3091	3028	3531	157	2858	3730	2833	3648
205	2349	3159	2786	3177	3048	3557	156	2798	3436	2758	3580
204	2864	3072	2940	3384	3090	3575	155	2749	3759	2771	3578
203	2952	3041	3007	3492	3100	3606	154	3144	3897	2806	3463
202	2717	3146	3054	3765	3093	3621	153	2616	3415	2745	3320
201	3047	3467	3212	3904	3108	3637	152	2486	3390	2894	3325
200	3121	4193	3225	3939	3104	3639	151	2860	3426	3021	3355
199	3196	3614	3265	3886	3090	3603	150	2925	3184	3035	3308
198	3187	4404	3297	3940	3099	3600	149	2836	3186	3049	3374
197	3507	3844	3323	3856	3100	3572	148	3361	3440	3020	3464
196	3115	3640	3227	3774	3083	3567	147	3124	3539	2963	3588

**Table G.8 cont.**

n	Point Values		5 pt. moving average		20 pt. moving average		n	Point Values		5 pt. moving average		20 pt. moving average	
	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)		SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
146	2927	3193	2937	3692	2915	3532	97	2960	2823	2817	3184	2614	3131
145	2997	3511	2975	3898	2899	3531	96	2480	3604	2738	3295	2599	3125
144	2693	3637	2969	3920	2876	3519	95	2903	3570	2730	3153	2611	3101
143	3075	4061	3026	3828	2862	3502	94	2822	3079	2648	2963	2596	3062
142	2995	4055	3037	3742	2857	3470	93	2920	2843	2506	2977	2588	3100
141	3115	4226	3035	3714	2835	3433	92	2565	3378	2401	2910	2575	3108
140	2966	3620	2939	3555	2815	3401	91	2441	2894	2360	2825	2580	3102
139	2977	3176	2842	3434	2824	3393	90	2489	2622	2372	2913	2586	3125
138	3130	3633	2763	3395	2816	3422	89	2112	3146	2321	3075	2589	3173
137	2985	3913	2696	3272	2789	3403	88	2397	2512	2470	3015	2614	3176
136	2635	3434	2723	3194	2779	3385	87	2363	2952	2573	3147	2622	3200
135	2484	3014	2810	3196	2791	3370	86	2497	3330	2684	3136	2639	3231
134	2580	2980	2921	3388	2819	3422	85	2235	3434	2739	3094	2634	3259
133	2798	3022	2996	3477	2841	3448	84	2858	2847	2725	3074	2635	3255
132	3119	3521	3043	3548	2847	3482	83	2911	3172	2717	3214	2605	3275
131	3070	3441	2966	3529	2840	3483	82	2921	2897	2667	3283	2565	3268
130	3039	3975	2874	3473	2822	3465	81	2769	3119	2615	3244	2522	3273
129	2954	3424	2771	3334	2809	3433	80	2165	3334	2603	3246		
128	3032	3379	2664	3311	2796	3422	79	2820	3550	2691	3138		
127	2737	3426	2651	3317	2762	3425	78	2658	3514	2660	3195		
126	2607	3163	2616	3294	2747	3417	77	2663	2703	2658	3092		
125	2526	3278	2639	3381	2726	3409	76	2707	3130	2661	3203		
124	2418	3309	2761	3415	2720	3383	75	2607	2790	2630	3249		
123	2968	3411	2843	3504	2716	3351	74	2665	3839	2622	3404		
122	2563	3309	2766	3476	2684	3304	73	2650	2998	2608	3279		
121	2718	3599	2809	3522	2668	3292	72	2674	3257	2590	3278		
120	3140	3447	2842	3431	2653	3247	71	2557	3362	2598	3339		
119	2826	3755	2822	3554	2591	3198	70	2563	3566	2565	3447		
118	2584	3268	2861	3502	2557	3157	69	2597	3215	2503	3406		
117	2774	3543	2927	3587	2538	3146	68	2563	2988	2437	3410		
116	2887	3140	2968	3587	2547	3110	67	2710	3567	2343	3418		
115	3039	4061	2932	3577	2527	3133	66	2394	3901	2214	3307		
114	3017	3499	2880	3430	2520	3108	65	2249	3360				
113	2919	3689	2818	3372	2510	3087	64	2268	3232				
112	2976	3544	2702	3320	2510	3045	63	2093	3033				
111	2708	3091	2595	3266	2490	3037	62	2063	3012				
110	2778	3328	2490	3248	2476	3027							
109	2708	3207	2418	3134	2462	2992							
108	2338	3432	2344	3027	2432	2988							
107	2442	3271	2341	2834	2435	2943							
106	2181	3000	2303	2793	2431	2927							
105	2418	2761	2350	2733	2447	2943							
104	2342	2673	2246	2672	2438	2977							
103	2324	2465	2206	2728	2463	2985							
102	2248	3068	2181	2842	2493	3021							
101	2416	2698	2323	2793	2526	3012							
100	1898	2458	2336	2974	2544	3033							
99	2145	2949	2537	3197	2557	3077							
98	2195	3037	2672	3223	2591	3107							

\* Missing numbers indicate locations where transects crossed inclusions such that values had to be filled in based on the surrounding trend.

**Table G.9: Section eb05042b3 – Points used for BEDM**

*n* = LA-ICP-MS analysis number

Point Values			5 pt. moving average		20 pt. moving average		Point Values			5 pt. moving average		20 pt. moving average	
<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
336	3968	5596	3830	5306	4089	5554	385	3543	5422	3650	5185	3746	5385
337	3695	5133	3854	5280	4098	5582	386	3601	5233	3721	5131	3760	5356
338	3436	5326	3875	5385	4125	5578	387	3573	5079	3752	5150	3758	5343
339	4040	5348	4050	5461	4179	5607	388	3725	4958	3781	5270	3781	5364
340	4010	5128	4078	5469	4175	5613	389	3810	5235	3831	5485	3786	5368
341	4091	5467	4150	5560	4174	5668	390	3896	5152	3820	5625	3799	5395
342	3798	5658	4155	5526	4165	5659	391	3758	5328	3767	5732	3794	5405
343	4313	5706	4187	5564	4181	5655	392	3717	5679	3779	5802	3804	5411
344	4178	5387	4178	5457	4168	5637	393	3975	6034	3778	5706	3812	5403
345	4368	5583	4204	5448	4176	5647	394	3754	5932	3687	5585	3815	5401
346	4117	5297	4154	5379	4163	5652	395	3631	5688	3690	5403	3837	5367
347	3958	5845	4219	5593	4164	5668	396	3818	5677	3702	5300	3852	5324
348	4269	5173	4322	5604	4164	5631	397	3713	5200	3695	5284	3855	5301
349	4306	5344	4291	5696	4134	5641	398	3518	5428	3768	5254	3870	5296
350	4121	5235	4225	5841	4100	5634	399	3768	5021	3835	5284	3873	5268
351	4440	6369	4223	5970	4080	5659	400	3693	5175	3823	5328	3865	5257
352	4476	5900	4163	5928	4047	5607	401	3784	5596	3850	5261	3858	5271
353	4111	5630	4115	5757	3995	5640	402	4077	5052	3807	5135	3851	5241
354	3979	6070	4195	5813	3983	5649	403	3853	5575	3799	5224	3817	5237
355	4107	5882	4195	5692	3988	5606	404	3706	5242	3792	5118	3800	5202
356	4143	6157	4168	5762	3976	5626	405	3830	4838	3865	5223	3781	5163
357	4234	5047	4123	5588	3949	5578	406	3567	4969	3857	5328	3763	5169
358	4514	5910	4101	5697	3935	5633	407	4038	5494	3935	5423	3758	5167
359	3976	5465	4010	5583	3917	5618	408	3821	5045	3903	5429	3733	5113
360	3973	6232	4079	5606	3904	5610	409	4068	5770	3948	5620	3714	5136
361	3917	5285	4106	5495	3891	5558	410	3792	5362	3971	5515	3684	5079
362	4126	5592	4150	5562	3890	5568	411	3958	5445	3999	5408	3673	5070
363	4058	5343	4117	5467	3885	5546	412	3876	5522	3983	5363	3651	5058
364	4320	5577	4038	5472	3880	5549	413	4043	5998	4009	5276	3640	5023
365	4107	5679	3903	5395	3854	5532	414	4187	5246	3918	5052	3614	4955
366	4137	5619	3826	5409	3826	5519	415	3930	4830	3801	4961	3565	4907
367	3961	5117	3753	5349	3799	5500	416	3882	5219	3728	5088	3533	4929
368	3666	5367	3647	5640	3780	5498	417	4005	5089	3680	5044	3508	4888
369	3643	5195	3689	5726	3782	5477	418	3586	4878	3558	5018	3491	4897
370	3721	5749	3777	5732	3791	5479	419	3602	4791	3543	5019	3495	4900
371	3772	5316	3803	5839	3800	5449	420	3564	5465	3488	4953	3497	4906
372	3433	6571	3770	5814	3799	5450	421	3642	4998	3469	4850	3495	4864
373	3875	5799	3874	5729	3813	5405	422	3396	4958	3431	4839	3499	4841
374	4086	5227	3932	5690	3818	5417	423	3510	4885	3462	4728	3507	4841
375	3851	6280	3855	5705	3801	5452	424	3329	4457	3448	4851	3520	4817
376	3604	5192	3829	5488	3790	5423	425	3469	4955	3474	4886	3532	4836
377	3952	6145	3887	5548	3801	5447	426	3454	4939	3496	4934	3537	4843
378	4165	5605	3901	5347	3789	5400	427	3550	4405	3511	4984	3549	4832
379	3704	5305	3861	5308	3757	5391	428	3441	5500	3530	5071	3552	4817
380	3720	5193	3880	5294	3760	5377	429	3458	4634	3545	4897	3575	4781
381	3891	5492	3845	5339	3759	5376	430	3577	5192	3497	4828	3577	4779
382	4023	5140	3787	5288	3753	5381	431	3528	5191	3438	4845	3575	4741
383	3966	5410	3697	5275	3756	5377	432	3647	4838	3409	4684	3580	4730
384	3801	5234	3648	5185	3750	5385	433	3515	4631	3412	4772	3581	4723

**Table G.9 cont.**

<i>n</i>	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)	SrO (ppm)	BaO (ppm)
434	3217	4286	3445	4834	3603	4742
435	3282	5277	3528	4956	3627	4766
436	3386	4390	3576	4829	3647	4735
437	3660	5276	3646	4856	3671	4747
438	3682	4941	3623	4794	3686	4726
439	3633	4895	3641	4686	3687	4694
440	3522	4643	3629	4675	3694	4692
441	3734	4522	3639	4763	3706	4714
442	3547	4968	3631	4802	3701	4711
443	3768	4403	3640	4632		
444	3577	4838	3671	4707		
445	3567	5085	3654	4660		
446	3696	4717	3648	4528		
447	3593	4119	3634	4578		
448	3920	4777	3649	4695		
449	3493	4601	3655	4740		
450	3536	4428	3694	4773		
451	3629	4965	3725	4820		
452	3666	4707	3772	4753		
453	3948	5002	3830	4783		
454	3691	4762	3783	4642		
455	3690	4663	3800	4661		
456	3862	4629	3811	4743		
457	3960	4859	3769	4713		
458	3714	4297				
459	3774	4856				
460	3747	5077				
461	3648	4474				