

represented by small euhedral needles and blebs, which measure 0.1 - 4mm. Pyroxene is an intercumulus phase with both clinopyroxene and inverted pigeonite occurring. Grains are 1 - 3mm and 1 - 4mm respectively and exhibit a sub-ophitic texture with the plagioclase. Minor alteration to chlorite is evident as small patches within grains and also at grain boundaries. Biotite is absent.

#### 37m (D2.408)

Plagioclase is present only as the major cumulus mineral. Myrmekitic textures are clearly noticeable within many of the grains, which are 1 - 4mm. Numerous grains are elongate and fragmentation is conspicuous. Very small patches of alteration occur throughout. Magnetite appears only in an interstitial role as rounded blebs of 1 - 4mm between plagioclase and pyroxene. Pyroxene is an intercumulus phase with clinopyroxene dominant over inverted pigeonite. Both minerals exhibit a sub-ophitic texture where incorporation of plagioclase has occurred. Grain size is 1 - 3mm and 1 - 4mm respectively with optical continuity retained over large areas. Small quantities of chlorite exist at grain boundaries where minor alteration has taken place. Biotite is absent.

#### 14m (D2.431)

Plagioclase is the major cumulus mineral. Myrmekitic textures are found at the edges of the larger grains, which measure 3 - 8mm. A sub-ophitic texture is apparent in the smaller grains, which are incorporated within the pyroxenes. These are 0.5 - 1mm in size and are more euhedral in shape. Slight deformation has resulted in bent albite twins. Magnetite, present as small euhedral exsolution needles of < 0.3mm within the pyroxenes. As an interstitial mineral, it occurs at the boundaries of the larger plagioclase and pyroxene grains. Pyroxene is an intercumulus phase, with both clinopyroxene and inverted pigeonite occurring as large mottles that retain optical continuity up to 10mm and 7mm respectively. Alteration to chlorite is noted at grain boundaries. One grain shows secondary hornblende replacement. Biotite occurs as tiny acicular grains of < 0.1mm in association with magnetite.

#### 4m (D2.441)

Plagioclase is present only as the major cumulus phase. Grains are sub-euhedral to sub-anhedral and are 1 - 5mm. Alteration to sericite has occurred in minor amounts and zonation is evident in only a few grains. Deformation has resulted in bent albite twins, but these are ill-defined. Magnetite is a minor cumulus phase. It exists as very small euhedral exsolution needles of < 1mm within pyroxene grains. Pyroxene is an intercumulus phase, with both clinopyroxene and inverted pigeonite exhibiting an ophitic texture with plagioclase. Grains are 1 - 4mm and 1 - 3mm respectively and have a sub-euhedral appearance. Alteration to chlorite is minor and found mainly at grain boundaries. Biotite occurs as blebs up to 1mm in association with magnetite.

#### -3m (D2.448)

Plagioclase only occurs as a major cumulus phase. Grains are 1 - 5mm and exhibit diagonal alignment across the thin section. The majority are small and blocky, with only a few elongate laths present. Alteration, deformation and zonation are not evident. Magnetite is absent. Pyroxene is an intercumulus phase and is represented mainly by clinopyroxene, which has a grain size of 1 - 4mm. Minor amounts of primary orthopyroxene, measuring 1 - 6mm, are present. Both minerals are sub-anhedral and exhibit a sub-ophitic texture with plagioclase. Inverted pigeonite is absent. Alteration to chlorite is minor and occurs at grain edges. Biotite measures < 0.5mm.

#### -22m (D2.467)

Plagioclase occurs as the major cumulus phase. Grains are sub-euhedral to sub-anhedral and are 1 - 3mm in size. Small patches of alteration to sericite occur throughout the sample. Deformation has caused albite twins, which are ill-defined, to bend. Magnetite is found as tiny intercumulus needles, which are <

0.1mm, at the boundaries of both plagioclase and pyroxene grains. Pyroxene is an intercumulus phase. Both orthopyroxene and clinopyroxene occur and have grains of 1 - 5mm and 1 - 4mm respectively. Ophitic textures are observed in the former due to the inclusion of plagioclase. Chlorite alteration is found at grain boundaries and within grains as patches. Replacement by secondary hornblende is prevalent throughout the thin section, affecting areas of 1 - 3mm. Biotite is absent.

-39m (D2.484)

Plagioclase forms the major cumulus phase only. Grains are sub-euhedral to sub-anhedral and are 1 - 3mm. Alteration has resulted in small patches of sericite occurring throughout the section. Deformation of albite twins is also extensive. Magnetite is absent. Pyroxene is present as an intercumulus phase. Both clinopyroxene and orthopyroxene exhibit a sub-ophitic texture with plagioclase and have grains of 2 - 6mm and 1 - 3mm respectively. A very small amount of the alteration product chlorite is observed at grain boundaries only. Small grains of biotite, < 0.5mm are also to be found at these sites.

-62m (D2.507)

Plagioclase is the major cumulus mineral. Grains are sub-euhedral to sub-anhedral and are 1 - 3mm. Alteration is absent. A few grains of plagioclase exhibit bent albite twins, evidence of deformation. Zonation is absent. Magnetite occurs as exsolution needles of < 0.1mm. These appear in the exsolution lamellae of pyroxenes and display a sub-parallel arrangement. Pyroxene is an intercumulus phase. Clinopyroxene and orthopyroxene grains are 1 - 5mm and 1 - 6mm respectively. An ophitic texture is apparent in both minerals where plagioclase is incorporated. Minor alteration to chlorite is found at grain boundaries. Biotite is absent.

-76m (D2.521)

Plagioclase forms the major cumulus phase. Grains are sub-euhedral to sub-anhedral and are 1 - 3mm, with laths randomly aligned throughout. Alteration, deformation and zonation are absent. Magnetite is absent. The pyroxene minerals, clinopyroxene and orthopyroxene, form an intercumulus phase. Grains are 1 - 3mm and 1 - 6mm respectively. The latter exhibits optical continuity and covers a more extensive area. A sub-ophitic is observed between pyroxene and plagioclase grains. Alteration is apparent at grain boundaries, where both chlorite and secondary hornblende are observed. A negligible amount of biotite is present.

-88m (D2.533)

Plagioclase is a major phase. Grains are sub-euhedral to sub-anhedral and are 1 - 2mm. Patches of alteration to sericite occur throughout many of the grains. Deformation is slight with bent albite twinning apparent in only a few grains. Similarly, zonation is evident in only a small proportion of grains. Magnetite is absent. Pyroxene forms an intercumulus phase with clinopyroxene present in approximately equal proportions to orthopyroxene. Grains have a sub-anhedral appearance and are 1 - 6mm and 1 - 3mm respectively. Both pyroxenes demonstrate an ophitic texture where grains incorporate plagioclase. Alteration to chlorite is evident at grain boundaries. Biotite is absent.

-96m (D2.541)

Plagioclase is present as the major cumulus phase. Grains are sub-euhedral to sub-anhedral and measure 1 - 3mm. Alteration to sericite is minor. Deformation of exsolution lamellae is negligible. Zonation is absent. Magnetite is absent. Pyroxene is a minor cumulus phase with orthopyroxene occurring less frequently than clinopyroxene. Both minerals have grains ranging from 0.5 - 3mm, which exhibit a sub-ophitic texture due to the inclusion of plagioclase. Chlorite alteration occurs only at grain boundaries. Biotite is present in negligible amounts and grains are 0.5mm.

**-113m (D2.558)**

Plagioclase is the major cumulus mineral. The randomly aligned grains are sub-euhedral to sub-anhedral and range from 1 - 4mm. Alteration and zonation are absent, although exsolution lamellae of the plagioclase are bent, indicating deformation has taken place. Rounded blebs of magnetite, which are < 0.1mm, occur as exsolution needles within the pyroxene. Pyroxene is a minor cumulus phase with clinopyroxene and orthopyroxene grains measuring 0.5 - 1mm and 0.5 - 3mm respectively. Alteration has occurred to both minerals with patches of chlorite scattered throughout the thin section. Biotite is absent.

**-123m (D2.568)**

Plagioclase is the major cumulus phase. Grains are 1 - 4mm in size and most have a blocky appearance. Alteration to sericite is found at grain boundaries. Slight deformation is evident in some grains resulting in bent albite twins. Zonation is absent. Magnetite is absent. Pyroxene is an intercumulus phase formed solely by clinopyroxene grains, which are 1 - 3mm and have a sub-anhedral appearance. Alteration to chlorite is absent. Small grains of biotite, measuring < 0.5mm, are present throughout the interstitial component.

**-148m (D2.593)**

Plagioclase forms a major cumulus phase. Grains are sub-euhedral to sub-anhedral and 1 - 3mm in size. The majority of grains show signs of alteration and patches of sericite are evident throughout the sample. Deformation and zonation are absent. Magnetite is a minor component, appearing as small rounded blebs of < 0.1mm. Clinopyroxene alone represents the pyroxene component, forming an intercumulus phase with sub-anhedral grains that are optically continuous over areas up to 5mm in size. A sub-ophitic texture is observed where partial envelopment of plagioclase has occurred. Alteration to chlorite is evident at the pyroxene grain boundaries. Biotite is absent.

**-152m (D2.597)**

Plagioclase has a major cumulus role and an interstitial component. Grains are sub-euhedral to sub-anhedral and are < 0.1 - 3mm in size. Alteration is evident in the patches of sericite, which are present throughout both phases. Deformation is absent. Magnetite is absent. Orthopyroxene is the only pyroxene present and forms an intercumulus phase. Grains are between 1 - 3mm and are sub-anhedral. An outline of ophitic textures between the plagioclase and the pyroxene grains is evident. Alteration has been extensive with the majority of grains having undergone alteration to chlorite, secondary hornblende and associated biotite. Areas of hornblende alteration range from 2 - 3mm.

### APPENDIX 3: ELECTRON MICROPROBE STANDARDS

Division of Mineral Products, CSIRO, Australia "PC-MICROBEAM" : 1992 Version 1.00  
Quantitative Microprobe Analysis on Line Mode. W.F is the weight fraction in the following table.

#### Plagioclase Standards

|                                |    |      |        |                    |
|--------------------------------|----|------|--------|--------------------|
| Standard 1 is F-8 compound of  | Na | W.F. | 0.1966 | line :Ka at 15.0Kv |
|                                | Al | W.F. | 0.0577 |                    |
|                                | Si | W.F. | 0.2402 |                    |
|                                | Be | W.F. | 0.0193 |                    |
|                                | Cl | W.F. | 0.0758 |                    |
|                                | O  | W.F. | 0.4105 |                    |
| Standard 2 is E-21 compound of | K  | W.F. | 0.1005 | line :Ka at 15.0Kv |
|                                | Al | W.F. | 0.0993 |                    |
|                                | Fe | W.F. | 0.0014 |                    |
|                                | Ba | W.F. | 0.0098 |                    |
|                                | Na | W.F. | 0.0223 |                    |
|                                | Si | W.F. | 0.3023 |                    |
| Standard 3 is A-9 compound of  | O  | W.F. | 0.4628 | line :Ka at 15.0Kv |
|                                | Si | W.F. | 0.3203 |                    |
|                                | Al | W.F. | 0.1034 |                    |
|                                | Ca | W.F. | 0.0009 |                    |
|                                | Na | W.F. | 0.086  |                    |
|                                | K  | W.F. | 0.0018 |                    |
| Standard 4 is E-9 compound of  | O  | W.F. | 0.4876 | line :Ka at 15.0Kv |
|                                | Ca | W.F. | 0.0843 |                    |
|                                | Ti | W.F. | 0.0004 |                    |
|                                | Al | W.F. | 0.151  |                    |
|                                | Fe | W.F. | 0.0029 |                    |
|                                | Mg | W.F. | 0.0008 |                    |
| Standard 5 is E-9 compound of  | Si | W.F. | 0.2534 | line :Ka at 15.0Kv |
|                                | Sr | W.F. | 0.0007 |                    |
|                                | Na | W.F. | 0.0323 |                    |
|                                | K  | W.F. | 0.0034 |                    |
|                                | O  | W.F. | 0.4708 |                    |
|                                | Al | W.F. | 0.151  |                    |
| Standard 6 is E-7 compound of  | Ti | W.F. | 0.0004 | line :Ka at 15.0Kv |
|                                | Si | W.F. | 0.2534 |                    |
|                                | Fe | W.F. | 0.0029 |                    |
|                                | Mg | W.F. | 0.0008 |                    |
|                                | Ca | W.F. | 0.0843 |                    |
|                                | Sr | W.F. | 0.0007 |                    |
| Standard 7 is K-PY compound of | Na | W.F. | 0.0323 | line :Ka at 15.0Kv |
|                                | K  | W.F. | 0.0034 |                    |
|                                | O  | W.F. | 0.4708 |                    |
|                                | Mg | W.F. | 0.311  |                    |
|                                | Fe | W.F. | 0.0506 |                    |
|                                | Mn | W.F. | 0.0009 |                    |
| Standard 8 is ILM compound of  | Si | W.F. | 0.1956 | line :Ka at 15.0Kv |
|                                | Ni | W.F. | 0.0016 |                    |
|                                | O  | W.F. | 0.4403 |                    |
|                                | Fe | W.F. | 0.0828 |                    |
|                                | Ti | W.F. | 0.0028 |                    |
|                                | Al | W.F. | 0.1252 |                    |
| Standard 9 is ILM compound of  | Si | W.F. | 0.1931 | line :Ka at 15.0Kv |
|                                | Mn | W.F. | 0.0022 |                    |
|                                | Mg | W.F. | 0.1113 |                    |
|                                | Ca | W.F. | 0.0368 |                    |
|                                | O  | W.F. | 0.4458 |                    |
|                                | Mn | W.F. | 0.0372 |                    |
| Standard 9 is ILM compound of  | Fe | W.F. | 0.3639 | line :Ka at 15.0Kv |
|                                | Ti | W.F. | 0.2756 |                    |
|                                | Mg | W.F. | 0.0019 |                    |
|                                | O  | W.F. | 0.3214 |                    |
|                                | Ti | W.F. | 0.2756 |                    |
|                                | Fe | W.F. | 0.3639 |                    |
| Standard 9 is ILM compound of  | Mn | W.F. | 0.0372 | line :Ka at 15.0Kv |
|                                | Mg | W.F. | 0.0019 |                    |
|                                | O  | W.F. | 0.3214 |                    |

## Pyroxene standards

|                                |    |      |        |                    |
|--------------------------------|----|------|--------|--------------------|
| Standard 1 is A-9 compound of  | Na | W.F. | 0.086  | line :Ka at 15.0Kv |
|                                | Al | W.F. | 0.1034 |                    |
|                                | Ca | W.F. | 0.0009 |                    |
|                                | Si | W.F. | 0.3203 |                    |
|                                | K  | W.F. | 0.0018 |                    |
|                                | O  | W.F. | 0.4876 |                    |
| Standard 2 is E-21 compound of | K  | W.F. | 0.1005 | line :Ka at 15.0Kv |
|                                | Al | W.F. | 0.0993 |                    |
|                                | Fe | W.F. | 0.0014 |                    |
|                                | Ba | W.F. | 0.0098 |                    |
|                                | Na | W.F. | 0.0223 |                    |
|                                | Si | W.F. | 0.3023 |                    |
| Standard 3 is E-9 compound of  | O  | W.F. | 0.4628 |                    |
|                                | Si | W.F. | 0.2534 | line :Ka at 15.0Kv |
|                                | Ti | W.F. | 0.0004 |                    |
|                                | Al | W.F. | 0.151  |                    |
|                                | Fe | W.F. | 0.0029 |                    |
|                                | Mg | W.F. | 0.0008 |                    |
| Standard 4 is E-9 compound of  | Ca | W.F. | 0.0843 |                    |
|                                | Sr | W.F. | 0.0007 |                    |
|                                | Na | W.F. | 0.0323 |                    |
|                                | K  | W.F. | 0.0034 |                    |
|                                | O  | W.F. | 0.4708 |                    |
|                                | Al | W.F. | 0.151  | line :Ka at 15.0Kv |
| Standard 5 is C-15 compound of | Ti | W.F. | 0.0004 |                    |
|                                | Si | W.F. | 0.2534 |                    |
|                                | Fe | W.F. | 0.0029 |                    |
|                                | Mg | W.F. | 0.0008 |                    |
|                                | Ca | W.F. | 0.0843 |                    |
|                                | Sr | W.F. | 0.0007 |                    |
| Standard 6 is E-7 compound of  | Na | W.F. | 0.0323 |                    |
|                                | K  | W.F. | 0.0034 |                    |
|                                | O  | W.F. | 0.4708 |                    |
|                                | Ca | W.F. | 0.1826 | line :Ka at 15.0Kv |
|                                | Ti | W.F. | 0.0003 |                    |
|                                | Fe | W.F. | 0.0094 |                    |
| Standard 7 is ILM compound of  | Cr | W.F. | 0.004  |                    |
|                                | Mg | W.F. | 0.1053 |                    |
|                                | Si | W.F. | 0.2577 |                    |
|                                | O  | W.F. | 0.4406 |                    |
|                                | Mg | W.F. | 0.311  | line :Ka at 15.0Kv |
|                                | Fe | W.F. | 0.0506 |                    |
| Standard 8 is HORT compound of | Mn | W.F. | 0.0009 |                    |
|                                | Si | W.F. | 0.1956 |                    |
|                                | Ni | W.F. | 0.0016 |                    |
|                                | O  | W.F. | 0.4403 |                    |
|                                | Ti | W.F. | 0.2756 | line :Ka at 15.0Kv |
|                                | Fe | W.F. | 0.3639 |                    |
| Standard 9 is C-17 compound of | Mn | W.F. | 0.0372 |                    |
|                                | Mg | W.F. | 0.0019 |                    |
|                                | O  | W.F. | 0.3214 |                    |
|                                | Fe | W.F. | 0.3365 | line :Ka at 15.0Kv |
|                                | Si | W.F. | 0.1564 |                    |
|                                | Mn | W.F. | 0.0035 |                    |
| Standard 10 is ILM compound of | Mg | W.F. | 0.1371 |                    |
|                                | Ca | W.F. | 0.0005 |                    |
|                                | Ni | W.F. | 0.0013 |                    |
|                                | O  | W.F. | 0.3648 |                    |
|                                | Cr | W.F. | 0.3722 | line :Ka at 15.0Kv |
|                                | Fe | W.F. | 0.136  |                    |
| Standard 10 is ILM compound of | Ti | W.F. | 0.0009 |                    |
|                                | Mg | W.F. | 0.082  |                    |
|                                | Al | W.F. | 0.073  |                    |
|                                | O  | W.F. | 0.3351 |                    |
|                                | Mn | W.F. | 0.0372 | line :Ka at 15.0Kv |
|                                | Fe | W.F. | 0.3639 |                    |
| Standard 10 is ILM compound of | Ti | W.F. | 0.2756 |                    |
|                                | Mg | W.F. | 0.0019 |                    |
| Standard 10 is ILM compound of | O  | W.F. | 0.3214 |                    |
|                                |    |      |        |                    |

#### **APPENDIX 4: ELECTRON MICROPROBE DATA**

The following pages from xxviii to lxiii contain the full data acquired from the University of the Free State, Bloemfontein, the averages of which are contained within representative tables in Chapter 6. Any data calculating required, was carries out using the software program “Minpet”.

**Clinopyroxene Core**

| Sample<br>Depth'               | D1.259a | D1.259b | D1.259c | D1.259d | D1.259e | D1.259f | D1.259g | D1.259h | D1.259i | D1.259j | D1.259k | D1.259l | D1.259m | D1.259n | D1.259o | D1.259p | D1.276a | D1.276b |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -36     | -36     |
| SiO <sub>2</sub>               | 53.51   | 53.43   | 53.79   | 53.52   | 53.92   | 53.23   | 53.30   | 54.76   | 53.95   | 53.92   | 54.10   | 53.62   | 54.03   | 54.06   | 53.84   | 53.88   | 55.05   | 54.64   |
| TiO <sub>2</sub>               | 0.23    | 0.24    | 0.18    | 0.29    | 0.11    | 0.38    | 0.33    | 0.19    | 0.19    | 0.22    | 0.13    | 0.14    | 0.11    | 0.05    | 0.17    | 0.15    | 0.27    | 0.38    |
| Al <sub>2</sub> O <sub>3</sub> | 1.14    | 1.09    | 0.98    | 1.10    | 1.10    | 1.56    | 1.46    | 1.52    | 0.87    | 0.92    | 0.71    | 1.02    | 0.81    | 0.75    | 1.06    | 0.90    | 1.57    | 1.40    |
| FeO                            | 8.66    | 8.28    | 8.14    | 10.30   | 7.99    | 9.03    | 9.12    | 8.43    | 8.86    | 9.71    | 8.85    | 8.96    | 8.24    | 8.61    | 8.42    | 8.74    | 8.02    | 8.53    |
| Cr <sub>2</sub> O <sub>3</sub> | 0.03    | 0.01    | 0.05    | 0.08    | 0.05    | 0.05    | 0.02    | 0.05    | 0.02    | 0.01    | 0.04    | 0.05    | 0.02    | 0.06    | 0.04    | 0.01    | 0.02    | 0.05    |
| MnO                            | 0.24    | 0.30    | 0.21    | 0.26    | 0.22    | 0.34    | 0.24    | 0.26    | 0.28    | 0.39    | 0.30    | 0.21    | 0.24    | 0.24    | 0.21    | 0.25    | 0.25    | 0.38    |
| MgO                            | 11.37   | 11.79   | 11.60   | 12.44   | 12.95   | 13.35   | 13.46   | 14.24   | 13.14   | 13.23   | 12.64   | 11.92   | 12.83   | 12.70   | 12.70   | 12.34   | 13.96   | 14.96   |
| CaO                            | 23.95   | 23.89   | 24.25   | 20.79   | 22.60   | 21.21   | 21.33   | 18.31   | 21.84   | 20.79   | 22.55   | 23.01   | 22.98   | 22.85   | 22.87   | 22.69   | 19.78   | 19.43   |
| Na <sub>2</sub> O              | 0.00    | 0.16    | 0.00    | 0.58    | 0.35    | 0.22    | 0.10    | 0.41    | 0.10    | 0.29    | 0.00    | 0.35    | 0.00    | 0.06    | 0.00    | 0.32    | 0.48    | 0.06    |
| Total                          | 99.16   | 99.19   | 99.22   | 99.37   | 99.29   | 99.40   | 99.36   | 98.17   | 98.26   | 99.49   | 99.33   | 99.28   | 99.26   | 99.38   | 99.32   | 99.28   | 99.40   | 99.83   |
| WO                             | 51.26   | 50.84   | 51.70   | 44.86   | 48.06   | 45.03   | 45.03   | 40.77   | 46.21   | 44.15   | 47.69   | 49.21   | 48.43   | 48.18   | 48.37   | 48.40   | 43.32   | 41.16   |
| EN                             | 33.86   | 34.91   | 34.41   | 37.35   | 38.31   | 39.44   | 39.54   | 44.12   | 38.69   | 39.10   | 37.20   | 35.47   | 37.62   | 37.26   | 37.38   | 36.63   | 42.54   | 44.10   |
| FS                             | 14.87   | 14.26   | 13.90   | 17.79   | 13.63   | 15.54   | 15.43   | 15.11   | 15.10   | 16.75   | 15.11   | 15.31   | 13.95   | 14.57   | 14.25   | 14.97   | 14.14   | 14.74   |
| Mg #                           | 69.48   | 71.00   | 71.23   | 67.73   | 73.76   | 71.74   | 71.93   | 74.49   | 71.92   | 70.01   | 71.11   | 69.85   | 72.94   | 71.89   | 72.39   | 70.98   | 75.05   | 74.95   |
| TSi                            | 2.04    | 2.03    | 2.04    | 2.02    | 2.03    | 2.00    | 2.01    | 2.07    | 2.04    | 2.03    | 2.05    | 2.03    | 2.04    | 2.04    | 2.03    | 2.04    | 2.06    | 2.04    |
| TAI                            | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| TF <sub>Fe3</sub>              | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Al                           | 0.05    | 0.05    | 0.04    | 0.05    | 0.05    | 0.07    | 0.07    | 0.07    | 0.04    | 0.04    | 0.03    | 0.05    | 0.04    | 0.03    | 0.05    | 0.04    | 0.07    | 0.06    |
| M1Ti                           | 0.01    | 0.01    | 0.01    | 0.01    | 0.00    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.01    | 0.01    |
| M1Fe3                          | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Fe2                          | 0.28    | 0.26    | 0.26    | 0.24    | 0.22    | 0.17    | 0.17    | 0.12    | 0.22    | 0.21    | 0.25    | 0.28    | 0.24    | 0.25    | 0.23    | 0.26    | 0.14    | 0.10    |
| M1Cr                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Mg                           | 0.65    | 0.67    | 0.66    | 0.70    | 0.73    | 0.75    | 0.76    | 0.80    | 0.74    | 0.74    | 0.71    | 0.67    | 0.72    | 0.72    | 0.72    | 0.70    | 0.78    | 0.83    |
| M2Mg                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M2Fe2                          | 0.00    | 0.00    | 0.00    | 0.09    | 0.03    | 0.11    | 0.12    | 0.15    | 0.06    | 0.10    | 0.03    | 0.01    | 0.02    | 0.02    | 0.03    | 0.02    | 0.11    | 0.17    |
| M2Mn                           | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    |
| M2Ca                           | 0.98    | 0.97    | 0.99    | 0.84    | 0.91    | 0.86    | 0.86    | 0.74    | 0.88    | 0.84    | 0.91    | 0.93    | 0.93    | 0.92    | 0.93    | 0.92    | 0.79    | 0.78    |
| M2Na                           | 0.00    | 0.01    | 0.00    | 0.04    | 0.03    | 0.02    | 0.01    | 0.03    | 0.01    | 0.02    | 0.00    | 0.03    | 0.00    | 0.00    | 0.00    | 0.02    | 0.04    | 0.00    |
| Sum_cat                        | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    |

**Clinopyroxene Core**

| Sample                         | D1.276c | D1.276d | D1.276e | D1.309a | D1.309b | D1.309c | D1.309d | D1.309e | D1.309f | D1.309g | D1.309h | D1.309i | D1.309j | D1.309k | D1.316a | D1.316b | D1.316c | D1.316d |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Depth*                         | -36     | -36     | -36     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -76     | -76     | -76     | -76     |
| SiO <sub>2</sub>               | 54.54   | 55.13   | 56.58   | 53.79   | 53.82   | 54.36   | 54.10   | 54.36   | 54.02   | 53.93   | 54.12   | 54.03   | 53.95   | 54.57   | 53.31   | 53.18   | 53.67   | 54.28   |
| TiO <sub>2</sub>               | 0.19    | 0.24    | 0.05    | 0.26    | 0.21    | 0.13    | 0.13    | 0.07    | 0.10    | 0.18    | 0.14    | 0.17    | 0.23    | 0.10    | 0.28    | 0.25    | 0.07    | 0.04    |
| Al <sub>2</sub> O <sub>3</sub> | 1.66    | 1.62    | 0.80    | 1.45    | 1.18    | 0.95    | 1.15    | 1.02    | 1.31    | 1.58    | 1.47    | 1.29    | 1.58    | 0.86    | 1.37    | 1.48    | 1.19    | 1.03    |
| FeO                            | 7.83    | 8.36    | 7.76    | 8.08    | 8.16    | 7.53    | 7.72    | 6.50    | 6.85    | 6.33    | 6.12    | 7.62    | 7.07    | 6.85    | 7.64    | 7.80    | 8.22    | 8.67    |
| Cr <sub>2</sub> O <sub>3</sub> | 0.06    | 0.03    | 0.00    | 0.08    | 0.07    | 0.03    | 0.08    | 0.12    | 0.09    | 0.10    | 0.11    | 0.11    | 0.10    | 0.07    | 0.11    | 0.11    | 0.14    | 0.09    |
| MnO                            | 0.25    | 0.22    | 0.32    | 0.21    | 0.30    | 0.30    | 0.32    | 0.29    | 0.23    | 0.21    | 0.20    | 0.23    | 0.28    | 0.20    | 0.27    | 0.27    | 0.41    | 0.35    |
| MgO                            | 14.20   | 14.81   | 15.22   | 14.25   | 13.83   | 14.44   | 14.17   | 13.99   | 13.91   | 15.21   | 15.57   | 15.24   | 15.40   | 13.49   | 14.83   | 14.97   | 15.13   | 14.77   |
| CaO                            | 19.51   | 19.63   | 19.89   | 21.08   | 21.65   | 21.29   | 21.67   | 22.67   | 22.70   | 21.69   | 21.39   | 20.33   | 20.43   | 22.67   | 21.49   | 20.98   | 20.56   | 20.25   |
| Na <sub>2</sub> O              | 0.12    | 0.36    | 0.00    | 0.25    | 0.13    | 0.35    | 0.00    | 0.25    | 0.25    | 0.16    | 0.25    | 0.41    | 0.41    | 0.53    | 0.09    | 0.35    | 0.09    | 0.09    |
| Total                          | 98.38   | 100.41  | 100.66  | 99.47   | 99.35   | 99.41   | 99.36   | 99.29   | 99.27   | 99.40   | 99.39   | 99.43   | 99.48   | 99.37   | 99.39   | 99.42   | 99.48   | 99.61   |
| WO                             | 42.81   | 41.82   | 41.98   | 44.49   | 45.58   | 44.82   | 45.46   | 47.79   | 47.86   | 45.23   | 44.57   | 42.65   | 42.92   | 48.29   | 44.49   | 43.61   | 42.52   | 42.32   |
| EN                             | 43.35   | 43.90   | 44.70   | 41.85   | 40.51   | 42.30   | 41.36   | 41.03   | 40.81   | 44.13   | 45.14   | 44.49   | 45.02   | 39.98   | 42.72   | 43.29   | 43.54   | 42.95   |
| FS                             | 13.84   | 14.27   | 13.32   | 13.66   | 13.91   | 12.87   | 13.17   | 11.18   | 11.33   | 10.65   | 10.28   | 12.86   | 12.06   | 11.73   | 12.79   | 13.10   | 13.94   | 14.72   |
| Mg #                           | 75.80   | 75.47   | 77.04   | 75.39   | 74.44   | 76.67   | 75.85   | 78.59   | 78.27   | 80.56   | 81.45   | 77.58   | 78.87   | 77.32   | 76.96   | 76.77   | 75.75   | 74.47   |

  

|         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| TSi     | 2.06 | 2.04 | 2.09 | 2.01 | 2.02 | 2.03 | 2.03 | 2.03 | 2.02 | 2.00 | 2.01 | 2.01 | 2.00 | 2.04 | 1.99 | 1.98 | 2.00 | 2.03 |
| TAI     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.00 |
| TFe3    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Al    | 0.07 | 0.07 | 0.04 | 0.06 | 0.05 | 0.04 | 0.05 | 0.05 | 0.06 | 0.07 | 0.06 | 0.06 | 0.07 | 0.04 | 0.05 | 0.04 | 0.05 | 0.05 |
| M1Ti    | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| M1Fe3   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Fe2   | 0.12 | 0.11 | 0.13 | 0.13 | 0.17 | 0.15 | 0.15 | 0.17 | 0.16 | 0.08 | 0.07 | 0.09 | 0.07 | 0.21 | 0.11 | 0.12 | 0.10 | 0.13 |
| M1Cr    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Mg    | 0.80 | 0.82 | 0.84 | 0.79 | 0.77 | 0.80 | 0.79 | 0.78 | 0.78 | 0.84 | 0.86 | 0.84 | 0.85 | 0.75 | 0.83 | 0.83 | 0.84 | 0.82 |
| M2Mg    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M2Fe2   | 0.13 | 0.15 | 0.11 | 0.12 | 0.09 | 0.08 | 0.09 | 0.03 | 0.05 | 0.12 | 0.12 | 0.15 | 0.15 | 0.01 | 0.13 | 0.13 | 0.16 | 0.14 |
| M2Mn    | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| M2Ca    | 0.79 | 0.78 | 0.79 | 0.84 | 0.87 | 0.85 | 0.87 | 0.91 | 0.91 | 0.86 | 0.85 | 0.81 | 0.81 | 0.91 | 0.86 | 0.84 | 0.82 | 0.81 |
| M2Na    | 0.01 | 0.03 | 0.00 | 0.02 | 0.01 | 0.03 | 0.00 | 0.02 | 0.02 | 0.01 | 0.02 | 0.03 | 0.03 | 0.04 | 0.01 | 0.03 | 0.01 | 0.01 |
| Sum_cat | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |

| Clinopyroxene Core             |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |      |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
| Sample                         | D1.338a | D1.338b | D1.338c | D1.338d | D1.338e | D1.338f | D1.338g | D1.338h | D1.355a | D1.355b | D1.355c | D1.355d | D1.380a | D1.380b | D1.380c | D1.380d | D1.380e | D1.380f |      |
| Depth*                         | -98     | -98     | -98     | -98     | -98     | -98     | -98     | -98     | -115    | -115    | -115    | -115    | -140    | -140    | -140    | -140    | -140    | -140    | -140 |
| SiO <sub>2</sub>               | 55.25   | 55.33   | 53.92   | 54.70   | 54.96   | 54.69   | 54.30   | 54.85   | 53.86   | 53.43   | 53.82   | 54.09   | 54.37   | 54.51   | 54.41   | 54.32   | 53.67   | 55.47   |      |
| TiO <sub>2</sub>               | 0.06    | 0.04    | 0.28    | 0.18    | 0.05    | 0.20    | 0.17    | 0.07    | 0.15    | 0.31    | 0.29    | 0.42    | 0.12    | 0.07    | 0.09    | 0.17    | 0.16    | 0.05    |      |
| Al <sub>2</sub> O <sub>3</sub> | 0.60    | 0.69    | 1.48    | 0.96    | 0.66    | 1.02    | 1.30    | 0.72    | 1.30    | 1.59    | 1.47    | 1.48    | 1.16    | 1.23    | 1.17    | 1.28    | 1.66    | 0.87    |      |
| FeO                            | 6.07    | 5.61    | 7.41    | 6.87    | 5.98    | 6.25    | 6.57    | 6.19    | 6.91    | 7.41    | 7.66    | 7.80    | 6.49    | 4.56    | 7.12    | 4.98    | 7.71    | 4.05    |      |
| Cr <sub>2</sub> O <sub>3</sub> | 0.14    | 0.22    | 0.38    | 0.22    | 0.13    | 0.22    | 0.30    | 0.11    | 0.25    | 0.25    | 0.20    | 0.25    | 0.21    | 0.27    | 0.21    | 0.23    | 0.30    | 0.11    |      |
| MnO                            | 0.22    | 0.21    | 0.13    | 0.22    | 0.19    | 0.16    | 0.20    | 0.16    | 0.20    | 0.15    | 0.20    | 0.16    | 0.15    | 0.12    | 0.19    | 0.19    | 0.16    | 0.11    |      |
| MgO                            | 16.49   | 16.62   | 15.63   | 16.44   | 15.70   | 15.54   | 14.72   | 14.82   | 13.25   | 13.24   | 13.98   | 13.80   | 16.44   | 14.24   | 16.82   | 13.62   | 15.90   | 17.67   |      |
| CaO                            | 20.56   | 20.48   | 20.05   | 19.41   | 21.69   | 20.78   | 21.37   | 22.22   | 23.12   | 22.88   | 21.48   | 21.33   | 20.40   | 24.03   | 19.24   | 24.06   | 19.46   | 20.95   |      |
| Na <sub>2</sub> O              | 0.09    | 0.31    | 0.25    | 0.47    | 0.00    | 0.60    | 0.47    | 0.19    | 0.19    | 0.00    | 0.26    | 0.13    | 0.25    | 0.22    | 0.22    | 0.40    | 0.47    | 0.15    |      |
| Total                          | 99.48   | 99.51   | 99.53   | 99.50   | 99.38   | 99.48   | 99.42   | 99.35   | 99.25   | 99.26   | 99.38   | 99.47   | 99.60   | 99.26   | 99.48   | 99.26   | 99.50   | 99.45   |      |
| WO                             | 42.47   | 42.53   | 42.05   | 40.59   | 44.86   | 43.83   | 45.34   | 46.49   | 49.08   | 48.47   | 45.64   | 45.63   | 42.10   | 50.59   | 39.79   | 51.14   | 40.77   | 42.94   |      |
| EN                             | 47.39   | 48.03   | 45.61   | 47.83   | 45.18   | 45.61   | 43.45   | 43.14   | 39.14   | 39.03   | 41.33   | 41.08   | 47.20   | 41.72   | 48.40   | 40.28   | 46.35   | 50.40   |      |
| FS                             | 10.15   | 9.44    | 12.35   | 11.58   | 9.96    | 10.56   | 11.22   | 10.37   | 11.79   | 12.50   | 13.04   | 13.30   | 10.70   | 7.69    | 11.81   | 8.58    | 12.87   | 6.66    |      |
| Mg #                           | 82.37   | 83.57   | 78.70   | 80.51   | 81.93   | 81.20   | 79.48   | 80.62   | 76.86   | 75.73   | 76.02   | 75.55   | 81.52   | 84.43   | 80.39   | 82.44   | 78.26   | 88.33   |      |
|                                |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |      |
| TSi                            | 2.04    | 2.04    | 2.00    | 2.02    | 2.04    | 2.02    | 2.02    | 2.04    | 2.02    | 2.01    | 2.01    | 2.03    | 2.01    | 2.03    | 2.01    | 2.02    | 1.99    | 2.03    |      |
| TAI                            | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    |      |
| TFe3                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |      |
| M1Al                           | 0.03    | 0.03    | 0.07    | 0.04    | 0.03    | 0.04    | 0.06    | 0.03    | 0.06    | 0.07    | 0.07    | 0.07    | 0.05    | 0.05    | 0.05    | 0.06    | 0.06    | 0.04    |      |
| M1Ti                           | 0.00    | 0.00    | 0.01    | 0.01    | 0.00    | 0.01    | 0.01    | 0.00    | 0.00    | 0.01    | 0.01    | 0.01    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    |      |
| M1Fe3                          | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |      |
| M1Fe2                          | 0.06    | 0.05    | 0.05    | 0.04    | 0.10    | 0.09    | 0.11    | 0.14    | 0.19    | 0.17    | 0.14    | 0.14    | 0.04    | 0.14    | 0.01    | 0.16    | 0.05    | 0.00    |      |
| M1Cr                           | 0.00    | 0.01    | 0.01    | 0.01    | 0.00    | 0.01    | 0.01    | 0.00    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.00    |      |
| M1Mg                           | 0.91    | 0.91    | 0.87    | 0.91    | 0.87    | 0.86    | 0.82    | 0.82    | 0.74    | 0.74    | 0.78    | 0.77    | 0.90    | 0.79    | 0.93    | 0.76    | 0.88    | 0.96    |      |
| M2Mg                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    |      |
| M2Fe2                          | 0.13    | 0.12    | 0.18    | 0.17    | 0.09    | 0.11    | 0.09    | 0.05    | 0.03    | 0.06    | 0.10    | 0.10    | 0.16    | 0.00    | 0.21    | 0.00    | 0.19    | 0.12    |      |
| M2Mn                           | 0.01    | 0.01    | 0.00    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.00    | 0.01    | 0.01    | 0.01    | 0.00    |      |
| M2Ca                           | 0.82    | 0.81    | 0.80    | 0.77    | 0.86    | 0.82    | 0.85    | 0.89    | 0.93    | 0.92    | 0.86    | 0.86    | 0.81    | 0.96    | 0.76    | 0.96    | 0.77    | 0.82    |      |
| M2Na                           | 0.01    | 0.02    | 0.02    | 0.03    | 0.00    | 0.04    | 0.03    | 0.01    | 0.01    | 0.00    | 0.02    | 0.01    | 0.02    | 0.02    | 0.02    | 0.03    | 0.03    | 0.01    |      |
| Sum_cat                        | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    |      |

**Clinopyroxene Core**

| Sample                         | D1.380g | D1.380h | D1.380i | D1.380j | D1.380k | D1.380l | D1.399a | D1.399b | D1.399c | D1.399d | D1.399e | D1.419a | D1.419b | D1.419c | D1.476a | D1.476b | D1.476c | D1.476d | D1.476e |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Depth'                         | -140    | -140    | -140    | -140    | -140    | -140    | -159    | -159    | -159    | -159    | -159    | -179    | -179    | -179    | -236    | -236    | -236    | -236    | -236    |
| SiO <sub>2</sub>               | 55.24   | 53.71   | 53.86   | 55.31   | 55.24   | 52.89   | 53.75   | 53.63   | 53.62   | 53.62   | 53.72   | 54.45   | 54.07   | 53.04   | 53.39   | 53.99   | 54.04   | 53.88   | 53.99   |
| TiO <sub>2</sub>               | 0.10    | 0.14    | 0.13    | 0.00    | 0.04    | 0.20    | 0.18    | 0.22    | 0.09    | 0.10    | 0.10    | 0.07    | 0.06    | 0.10    | 0.18    | 0.18    | 0.14    | 0.18    | 0.21    |
| Al <sub>2</sub> O <sub>3</sub> | 0.98    | 1.07    | 2.55    | 0.53    | 0.60    | 2.23    | 1.19    | 1.42    | 1.10    | 1.07    | 1.07    | 0.97    | 1.04    | 1.03    | 1.07    | 1.25    | 1.27    | 1.26    | 1.29    |
| FeO                            | 4.07    | 6.98    | 2.79    | 6.44    | 6.30    | 7.65    | 10.88   | 9.59    | 10.70   | 10.68   | 10.68   | 9.63    | 9.24    | 9.12    | 7.18    | 7.35    | 7.50    | 7.66    | 7.79    |
| Cr <sub>2</sub> O <sub>3</sub> | 0.13    | 0.11    | 0.14    | 0.01    | 0.04    | 0.59    | 0.22    | 0.19    | 0.10    | 0.14    | 0.14    | 0.26    | 0.13    | 0.09    | 0.20    | 0.28    | 0.32    | 0.24    | 0.29    |
| MnO                            | 0.10    | 0.12    | 0.06    | 0.13    | 0.13    | 0.24    | 0.25    | 0.20    | 0.31    | 0.28    | 0.28    | 0.32    | 0.27    | 0.29    | 0.20    | 0.22    | 0.21    | 0.24    | 0.17    |
| MgO                            | 16.37   | 13.83   | 14.93   | 17.05   | 16.49   | 13.59   | 13.47   | 13.75   | 12.87   | 11.91   | 11.91   | 12.79   | 12.90   | 13.57   | 13.55   | 14.57   | 14.55   | 13.38   | 14.29   |
| CaO                            | 22.05   | 23.42   | 24.15   | 19.99   | 20.66   | 21.86   | 19.14   | 20.12   | 20.46   | 21.21   | 21.21   | 19.37   | 19.27   | 18.68   | 19.30   | 21.50   | 21.20   | 22.01   | 20.88   |
| Na <sub>2</sub> O              | 0.34    | 0.00    | 0.53    | 0.03    | 0.00    | 0.13    | 0.39    | 0.26    | 0.13    | 0.20    | 0.20    | 0.73    | 0.00    | 0.36    | 0.00    | 0.10    | 0.22    | 0.48    | 0.51    |
| Total                          | 99.39   | 99.41   | 99.30   | 99.49   | 99.50   | 99.39   | 99.50   | 99.41   | 99.38   | 99.33   | 99.33   | 98.61   | 97.00   | 96.31   | 95.08   | 99.45   | 99.46   | 99.34   | 99.43   |
| WO                             | 45.86   | 48.58   | 51.22   | 40.93   | 42.49   | 46.58   | 41.10   | 42.90   | 43.57   | 45.77   | 45.77   | 43.11   | 43.16   | 41.60   | 43.95   | 45.09   | 44.67   | 47.03   | 44.45   |
| EN                             | 47.37   | 39.92   | 44.06   | 48.57   | 47.19   | 40.29   | 40.24   | 40.80   | 38.13   | 35.76   | 35.76   | 39.60   | 40.20   | 42.04   | 42.93   | 42.52   | 42.65   | 39.78   | 42.32   |
| FS                             | 6.77    | 11.50   | 4.72    | 10.50   | 10.33   | 13.13   | 18.66   | 16.30   | 18.31   | 18.47   | 18.47   | 17.29   | 16.63   | 16.36   | 13.12   | 12.40   | 12.68   | 13.18   | 13.23   |
| Mg #                           | 87.49   | 77.64   | 90.33   | 82.22   | 82.05   | 75.42   | 68.32   | 71.45   | 67.56   | 65.95   | 65.95   | 69.61   | 70.74   | 71.99   | 76.59   | 77.43   | 77.08   | 75.11   | 76.19   |
|                                |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| TSi                            | 2.03    | 2.01    | 1.98    | 2.04    | 2.04    | 1.98    | 2.03    | 2.02    | 2.03    | 2.04    | 2.04    | 2.07    | 2.09    | 2.06    | 2.09    | 2.02    | 2.02    | 2.02    | 2.01    |
| TAl                            | 0.00    | 0.00    | 0.02    | 0.00    | 0.00    | 0.02    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| TFe3                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Al                           | 0.04    | 0.05    | 0.09    | 0.02    | 0.03    | 0.08    | 0.05    | 0.06    | 0.05    | 0.05    | 0.05    | 0.04    | 0.05    | 0.05    | 0.05    | 0.06    | 0.06    | 0.06    | 0.06    |
| M1Ti                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.01    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.01    | 0.00    | 0.01    | 0.01    |
| M1Fe3                          | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Fe2                          | 0.05    | 0.17    | 0.08    | 0.04    | 0.06    | 0.14    | 0.18    | 0.16    | 0.22    | 0.27    | 0.27    | 0.22    | 0.20    | 0.16    | 0.15    | 0.12    | 0.12    | 0.19    | 0.13    |
| M1Cr                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.02    | 0.01    | 0.01    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    |
| M1Mg                           | 0.90    | 0.77    | 0.82    | 0.94    | 0.91    | 0.76    | 0.76    | 0.77    | 0.73    | 0.68    | 0.68    | 0.72    | 0.75    | 0.78    | 0.79    | 0.81    | 0.81    | 0.75    | 0.80    |
| M2Mg                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M2Fe2                          | 0.07    | 0.05    | 0.00    | 0.16    | 0.13    | 0.10    | 0.16    | 0.15    | 0.12    | 0.07    | 0.07    | 0.08    | 0.10    | 0.13    | 0.09    | 0.11    | 0.11    | 0.06    | 0.11    |
| M2Mn                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    |
| M2Ca                           | 0.87    | 0.94    | 0.95    | 0.79    | 0.82    | 0.88    | 0.77    | 0.81    | 0.83    | 0.86    | 0.86    | 0.79    | 0.80    | 0.78    | 0.81    | 0.86    | 0.85    | 0.88    | 0.84    |
| M2Na                           | 0.02    | 0.00    | 0.04    | 0.00    | 0.00    | 0.01    | 0.03    | 0.02    | 0.01    | 0.02    | 0.02    | 0.05    | 0.00    | 0.03    | 0.00    | 0.01    | 0.02    | 0.04    | 0.04    |
| Sum_cat                        | 4.00    | 4.00    | 3.99    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    |

**Clinoptyroxene Core**

| Sample                         | D1.476f | D1.476g | D1.476h | D1.476i | D1.476j | D1.476k | D1.476l | D1.476m | D1.476n | D1.476o |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Depth*                         | -236    | -236    | -236    | -236    | -236    | -236    | -236    | -236    | -236    | -236    |
| SiO <sub>2</sub>               | 53.63   | 53.97   | 54.20   | 53.90   | 53.95   | 54.09   | 54.04   | 53.96   | 49.89   | 52.04   |
| TiO <sub>2</sub>               | 0.20    | 0.20    | 0.17    | 0.20    | 0.14    | 0.20    | 0.12    | 0.23    | 0.11    | 0.19    |
| Al <sub>2</sub> O <sub>3</sub> | 1.49    | 1.40    | 1.12    | 1.33    | 1.29    | 1.32    | 1.21    | 1.26    | 0.99    | 1.14    |
| FeO                            | 7.43    | 7.18    | 7.12    | 7.31    | 7.52    | 7.42    | 7.44    | 7.45    | 7.33    | 7.51    |
| Cr <sub>2</sub> O <sub>3</sub> | 0.41    | 0.25    | 0.36    | 0.44    | 0.26    | 0.24    | 0.31    | 0.27    | 0.26    | 0.20    |
| MnO                            | 0.20    | 0.21    | 0.19    | 0.20    | 0.21    | 0.16    | 0.16    | 0.31    | 0.15    | 0.18    |
| MgO                            | 13.86   | 14.46   | 14.09   | 14.59   | 14.46   | 14.93   | 14.31   | 14.92   | 13.24   | 13.14   |
| CaO                            | 21.94   | 21.04   | 21.81   | 21.04   | 21.35   | 20.47   | 21.62   | 20.86   | 19.43   | 19.05   |
| Na <sub>2</sub> O              | 0.13    | 0.73    | 0.32    | 0.35    | 0.25    | 0.60    | 0.19    | 0.19    | 0.36    | 0.42    |
| Total                          | 99.30   | 99.46   | 99.38   | 99.36   | 99.45   | 99.45   | 99.40   | 99.46   | 91.81   | 93.88   |
| WO                             | 46.50   | 44.83   | 46.28   | 44.57   | 44.94   | 43.40   | 45.55   | 43.75   | 44.47   | 43.96   |
| EN                             | 40.87   | 42.87   | 41.60   | 43.01   | 42.35   | 44.05   | 41.95   | 43.54   | 42.16   | 42.19   |
| FS                             | 12.63   | 12.30   | 12.11   | 12.42   | 12.71   | 12.55   | 12.50   | 12.71   | 13.37   | 13.86   |
| Mg #                           | 76.40   | 77.71   | 77.45   | 77.59   | 76.92   | 77.83   | 77.04   | 77.40   | 75.93   | 75.28   |
| TSi                            | 2.01    | 2.01    | 2.03    | 2.01    | 2.01    | 2.01    | 2.02    | 2.01    | 2.02    | 2.06    |
| TAI                            | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| TFe3                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Al                           | 0.07    | 0.06    | 0.05    | 0.06    | 0.06    | 0.06    | 0.05    | 0.06    | 0.05    | 0.05    |
| M1Ti                           | 0.01    | 0.01    | 0.01    | 0.01    | 0.00    | 0.01    | 0.00    | 0.01    | 0.00    | 0.01    |
| M1Fe3                          | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Fe2                          | 0.14    | 0.13    | 0.15    | 0.11    | 0.13    | 0.10    | 0.14    | 0.10    | 0.14    | 0.16    |
| M1Cr                           | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    |
| M1Mg                           | 0.78    | 0.80    | 0.79    | 0.81    | 0.80    | 0.83    | 0.80    | 0.83    | 0.80    | 0.78    |
| M2Mg                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M2Fe2                          | 0.09    | 0.10    | 0.07    | 0.12    | 0.11    | 0.13    | 0.10    | 0.13    | 0.11    | 0.09    |
| M2Mn                           | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    |
| M2Ca                           | 0.88    | 0.84    | 0.87    | 0.84    | 0.85    | 0.82    | 0.87    | 0.83    | 0.84    | 0.81    |
| M2Na                           | 0.01    | 0.05    | 0.02    | 0.03    | 0.02    | 0.04    | 0.01    | 0.01    | 0.03    | 0.03    |
| Sum_cat                        | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    |

**Clinoptyroxene Rim**

| Sample                         | D1.259a | D1.259b | D1.259c | D1.259d | D1.259e | D1.259f | D1.259g | D1.259h | D1.259i | D1.259j | D1.259k | D1.259l | D1.259m | D1.259n | D1.259o | D1.276a | D1.276b | D1.276c |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Depth*                         | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -19     | -36     | -36     | -36     |
| SiO <sub>2</sub>               | 54.51   | 54.09   | 53.97   | 54.08   | 54.35   | 53.42   | 53.43   | 54.10   | 53.95   | 54.20   | 54.00   | 54.25   | 54.33   | 53.76   | 53.68   | 55.60   | 56.24   | 55.77   |
| TiO <sub>2</sub>               | 0.09    | 0.17    | 0.10    | 0.13    | 0.08    | 0.18    | 0.15    | 0.12    | 0.23    | 0.12    | 0.20    | 0.13    | 0.12    | 0.20    | 0.25    | 0.07    | 0.16    | 0.19    |
| Al <sub>2</sub> O <sub>3</sub> | 0.46    | 0.67    | 0.75    | 0.81    | 0.73    | 1.11    | 1.24    | 0.79    | 0.89    | 0.72    | 0.89    | 0.73    | 0.69    | 1.09    | 1.24    | 0.66    | 0.85    | 1.30    |
| FeO                            | 7.81    | 8.61    | 8.29    | 8.94    | 8.53    | 9.31    | 7.95    | 8.82    | 9.25    | 8.63    | 9.33    | 8.83    | 8.61    | 8.53    | 8.64    | 8.24    | 8.41    | 8.39    |
| Cr <sub>2</sub> O <sub>3</sub> | 0.05    | 0.03    | 0.05    | 0.04    | 0.02    | 0.05    | 0.01    | 0.00    | 0.01    | 0.01    | 0.04    | 0.01    | 0.01    | 0.05    | 0.01    | 0.02    | 0.02    | 0.06    |
| MnO                            | 0.18    | 0.30    | 0.30    | 0.32    | 0.26    | 0.22    | 0.23    | 0.29    | 0.27    | 0.31    | 0.24    | 0.30    | 0.21    | 0.25    | 0.20    | 0.25    | 0.31    | 0.27    |
| MgO                            | 12.29   | 11.55   | 11.90   | 12.62   | 13.45   | 12.91   | 14.84   | 13.14   | 13.38   | 12.93   | 13.59   | 13.07   | 13.12   | 12.48   | 12.73   | 14.33   | 15.06   | 15.09   |
| CaO                            | 23.85   | 23.58   | 23.77   | 22.31   | 21.82   | 22.03   | 18.45   | 22.02   | 21.37   | 22.15   | 20.71   | 21.86   | 22.14   | 22.72   | 22.48   | 20.22   | 19.77   | 19.72   |
| Na <sub>2</sub> O              | 0.00    | 0.19    | 0.07    | 0.13    | 0.19    | 0.06    | 0.12    | 0.06    | 0.10    | 0.29    | 0.39    | 0.22    | 0.10    | 0.16    | 0.13    | 0.36    | 0.24    | 0.36    |
| Total                          | 99.27   | 99.21   | 99.21   | 99.39   | 99.44   | 99.30   | 96.42   | 99.35   | 99.46   | 99.37   | 99.39   | 99.40   | 99.33   | 99.35   | 99.36   | 99.77   | 101.10  | 101.15  |
| WO                             | 50.54   | 50.59   | 50.54   | 47.37   | 46.04   | 46.44   | 40.56   | 46.44   | 45.07   | 47.01   | 43.98   | 46.34   | 46.83   | 48.32   | 47.73   | 43.22   | 41.59   | 41.54   |
| EN                             | 36.24   | 34.48   | 35.20   | 37.28   | 39.48   | 37.87   | 45.40   | 38.56   | 39.26   | 38.18   | 40.15   | 38.55   | 38.61   | 36.93   | 37.61   | 42.62   | 44.08   | 44.22   |
| FS                             | 13.22   | 14.93   | 14.26   | 15.35   | 14.48   | 15.69   | 14.04   | 15.00   | 15.68   | 14.82   | 15.87   | 15.11   | 14.57   | 14.75   | 14.66   | 14.17   | 14.33   | 14.24   |
| Mg #                           | 73.27   | 69.79   | 71.17   | 70.83   | 73.17   | 70.71   | 76.37   | 71.99   | 71.46   | 72.04   | 71.68   | 71.84   | 72.61   | 71.46   | 71.96   | 75.05   | 75.47   | 75.64   |
| TSi                            | 2.06    | 2.05    | 2.05    | 2.04    | 2.04    | 2.02    | 2.06    | 2.04    | 2.03    | 2.04    | 2.03    | 2.04    | 2.05    | 2.03    | 2.03    | 2.07    | 2.07    | 2.05    |
| TAI                            | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| TFe3                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Al                           | 0.02    | 0.03    | 0.03    | 0.04    | 0.03    | 0.05    | 0.06    | 0.04    | 0.04    | 0.03    | 0.04    | 0.03    | 0.03    | 0.05    | 0.06    | 0.03    | 0.04    | 0.06    |
| M1Ti                           | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.01    | 0.00    | 0.01    | 0.00    | 0.00    | 0.01    | 0.01    | 0.00    | 0.00    | 0.01    |
| M1Fe3                          | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Fe2                          | 0.25    | 0.27    | 0.26    | 0.25    | 0.21    | 0.22    | 0.09    | 0.22    | 0.20    | 0.24    | 0.19    | 0.23    | 0.23    | 0.24    | 0.22    | 0.17    | 0.13    | 0.11    |
| M1Cr                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Mg                           | 0.69    | 0.65    | 0.67    | 0.71    | 0.75    | 0.73    | 0.85    | 0.74    | 0.75    | 0.73    | 0.76    | 0.73    | 0.74    | 0.70    | 0.72    | 0.80    | 0.83    | 0.83    |
| M2Mg                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M2Fe2                          | 0.00    | 0.00    | 0.00    | 0.03    | 0.06    | 0.08    | 0.17    | 0.06    | 0.09    | 0.03    | 0.10    | 0.05    | 0.04    | 0.03    | 0.05    | 0.09    | 0.13    | 0.15    |
| M2Mn                           | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    |
| M2Ca                           | 0.97    | 0.96    | 0.97    | 0.90    | 0.88    | 0.89    | 0.76    | 0.89    | 0.86    | 0.89    | 0.83    | 0.88    | 0.89    | 0.92    | 0.91    | 0.81    | 0.78    | 0.78    |
| M2Na                           | 0.00    | 0.01    | 0.01    | 0.01    | 0.01    | 0.00    | 0.01    | 0.00    | 0.01    | 0.02    | 0.03    | 0.02    | 0.01    | 0.01    | 0.01    | 0.03    | 0.02    | 0.03    |
| Sum_cat                        | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    |

Clinopyroxene Rim

| Sample                         | D1.276d | D1.309a | D1.309b | D1.309c | D1.309d | D1.309e | D1.309f | D1.309g | D1.309h | D1.309i | D1.309j | D1.309k | D1.309l | D1.309m | D1.309n | D1.316a | D1.316b | D1.316c |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Depth*                         | -36     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -76     | -76     | -76     |
| SiO <sub>2</sub>               | 56.31   | 54.16   | 54.00   | 54.32   | 54.73   | 54.14   | 54.07   | 54.80   | 54.71   | 54.09   | 54.17   | 54.36   | 54.69   | 54.57   | 54.54   | 52.70   | 53.37   | 54.84   |
| TiO <sub>2</sub>               | 0.07    | 0.14    | 0.18    | 0.13    | 0.01    | 0.10    | 0.09    | 0.06    | 0.07    | 0.19    | 0.21    | 0.07    | 0.05    | 0.10    | 0.06    | 0.27    | 0.10    | 0.03    |
| Al <sub>2</sub> O <sub>3</sub> | 0.70    | 0.93    | 0.95    | 1.10    | 0.77    | 0.94    | 1.11    | 0.72    | 0.81    | 1.57    | 1.43    | 1.13    | 0.72    | 0.87    | 0.89    | 1.55    | 0.92    | 0.54    |
| FeO                            | 8.24    | 8.38    | 8.79    | 9.32    | 9.19    | 7.60    | 7.81    | 6.49    | 6.84    | 5.41    | 5.97    | 7.57    | 7.35    | 6.47    | 6.24    | 8.64    | 8.06    | 8.01    |
| Cr <sub>2</sub> O <sub>3</sub> | 0.00    | 0.07    | 0.08    | 0.02    | 0.04    | 0.06    | 0.06    | 0.07    | 0.04    | 0.11    | 0.14    | 0.09    | 0.06    | 0.07    | 0.10    | 0.09    | 0.11    | 0.04    |
| MnO                            | 0.23    | 0.32    | 0.37    | 0.21    | 0.22    | 0.38    | 0.34    | 0.27    | 0.25    | 0.11    | 0.13    | 0.29    | 0.34    | 0.27    | 0.21    | 0.33    | 0.41    | 0.30    |
| MgO                            | 15.14   | 13.56   | 13.53   | 18.57   | 18.20   | 13.71   | 13.79   | 14.58   | 14.07   | 15.02   | 14.90   | 14.55   | 15.14   | 14.56   | 14.61   | 15.78   | 14.97   | 15.77   |
| CaO                            | 19.77   | 21.19   | 21.42   | 15.85   | 16.50   | 22.28   | 21.74   | 22.08   | 22.48   | 22.64   | 22.08   | 21.14   | 20.92   | 22.23   | 22.53   | 19.85   | 21.01   | 19.80   |
| Na <sub>2</sub> O              | 0.60    | 0.60    | 0.13    | 0.09    | 0.00    | 0.09    | 0.35    | 0.28    | 0.28    | 0.19    | 0.34    | 0.19    | 0.16    | 0.16    | 0.06    | 0.19    | 0.41    | 0.19    |
| Total                          | 101.07  | 99.38   | 99.46   | 99.68   | 99.72   | 99.32   | 99.37   | 99.35   | 99.56   | 99.36   | 99.38   | 99.41   | 99.44   | 99.30   | 99.27   | 99.46   | 99.36   | 99.53   |
| WO                             | 41.67   | 45.23   | 45.19   | 32.26   | 33.56   | 46.82   | 45.97   | 46.34   | 47.23   | 47.32   | 46.41   | 44.48   | 43.59   | 46.55   | 47.04   | 40.67   | 43.36   | 41.05   |
| EN                             | 44.40   | 40.27   | 39.72   | 52.59   | 51.50   | 40.09   | 40.57   | 42.58   | 41.13   | 43.68   | 43.58   | 42.60   | 43.90   | 42.42   | 42.44   | 44.98   | 42.99   | 45.49   |
| FS                             | 13.94   | 14.50   | 15.09   | 15.15   | 14.94   | 13.10   | 13.46   | 11.08   | 11.63   | 9.01    | 10.01   | 12.92   | 12.51   | 11.02   | 10.52   | 14.35   | 13.65   | 13.46   |
| Mg #                           | 76.11   | 73.52   | 72.46   | 77.64   | 77.51   | 75.37   | 75.09   | 79.35   | 77.95   | 82.90   | 81.32   | 76.73   | 77.82   | 79.38   | 80.14   | 75.81   | 75.90   | 77.17   |
| TSi                            | 2.06    | 2.03    | 2.03    | 2.00    | 2.02    | 2.03    | 2.02    | 2.04    | 2.04    | 2.01    | 2.01    | 2.03    | 2.04    | 2.04    | 2.04    | 1.96    | 1.99    | 2.04    |
| TAl                            | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.04    | 0.01    | 0.00    |
| TFes3                          | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Al                           | 0.03    | 0.04    | 0.04    | 0.05    | 0.03    | 0.04    | 0.05    | 0.03    | 0.04    | 0.07    | 0.06    | 0.05    | 0.03    | 0.04    | 0.04    | 0.03    | 0.03    | 0.02    |
| M1Ti                           | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    |
| M1Fe3                          | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    |
| M1Fe2                          | 0.14    | 0.20    | 0.19    | 0.00    | 0.00    | 0.19    | 0.18    | 0.16    | 0.18    | 0.09    | 0.10    | 0.14    | 0.12    | 0.15    | 0.14    | 0.08    | 0.13    | 0.10    |
| M1Cr                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Mg                           | 0.83    | 0.76    | 0.76    | 0.95    | 0.97    | 0.77    | 0.77    | 0.81    | 0.78    | 0.83    | 0.82    | 0.81    | 0.84    | 0.81    | 0.81    | 0.88    | 0.83    | 0.87    |
| M2Mg                           | 0.00    | 0.00    | 0.00    | 0.07    | 0.04    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M2Fe2                          | 0.11    | 0.07    | 0.08    | 0.29    | 0.28    | 0.05    | 0.07    | 0.05    | 0.03    | 0.08    | 0.08    | 0.10    | 0.11    | 0.06    | 0.05    | 0.18    | 0.12    | 0.15    |
| M2Mn                           | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.00    | 0.00    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    |
| M2Ca                           | 0.78    | 0.85    | 0.86    | 0.63    | 0.65    | 0.90    | 0.87    | 0.88    | 0.90    | 0.90    | 0.88    | 0.85    | 0.84    | 0.89    | 0.90    | 0.79    | 0.84    | 0.79    |
| M2Na                           | 0.04    | 0.04    | 0.01    | 0.01    | 0.00    | 0.01    | 0.03    | 0.02    | 0.02    | 0.01    | 0.02    | 0.01    | 0.01    | 0.01    | 0.00    | 0.01    | 0.03    | 0.01    |
| Sum_cal                        | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    |

**Clinopyroxene Rim**

| Sample                         | D1.316d | D1.338a | D1.338b | D1.338c | D1.338d | D1.338e | D1.338f | D1.338g | D1.338h | D1.355a | D1.355b | D1.355c | D1.355d | D1.380a | D1.380b | D1.380c | D1.380d | D1.380e |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Depth*                         | -76     | -98     | -98     | -98     | -98     | -98     | -98     | -98     | -98     | -115    | -115    | -115    | -115    | -140    | -140    | -140    | -140    | -140    |
| SiO <sub>2</sub>               | 54.36   | 55.16   | 55.06   | 55.23   | 54.09   | 55.14   | 55.24   | 54.99   | 54.90   | 54.88   | 54.59   | 54.29   | 55.11   | 52.10   | 54.97   | 54.50   | 54.80   | 54.67   |
| TiO <sub>2</sub>               | 0.04    | 0.04    | 0.04    | 0.07    | 0.20    | 0.10    | 0.02    | 0.04    | 0.02    | 0.04    | 0.11    | 0.29    | 0.05    | 0.05    | 0.03    | 0.16    | 0.06    | 0.10    |
| Al <sub>2</sub> O <sub>3</sub> | 0.70    | 0.68    | 0.72    | 0.76    | 1.48    | 0.57    | 0.58    | 0.71    | 0.86    | 0.59    | 0.66    | 1.35    | 0.52    | 3.42    | 0.77    | 1.47    | 1.17    | 1.01    |
| FeO                            | 7.43    | 5.96    | 5.64    | 6.29    | 6.46    | 6.23    | 5.98    | 5.94    | 6.01    | 6.65    | 6.92    | 7.29    | 6.62    | 6.62    | 4.59    | 7.10    | 4.55    | 6.77    |
| Cr <sub>2</sub> O <sub>3</sub> | 0.02    | 0.10    | 0.21    | 0.12    | 0.32    | 0.15    | 0.01    | 0.19    | 0.23    | 0.16    | 0.11    | 0.19    | 0.13    | 0.22    | 0.15    | 0.21    | 0.14    | 0.26    |
| MnO                            | 0.31    | 0.18    | 0.19    | 0.24    | 0.20    | 0.20    | 0.16    | 0.18    | 0.19    | 0.19    | 0.20    | 0.21    | 0.18    | 0.17    | 0.08    | 0.15    | 0.13    | 0.12    |
| MgO                            | 15.15   | 16.84   | 15.62   | 15.76   | 15.23   | 15.85   | 16.35   | 15.88   | 16.32   | 13.58   | 13.57   | 13.47   | 14.02   | 15.22   | 14.42   | 16.74   | 14.95   | 16.41   |
| CaO                            | 20.83   | 20.56   | 21.72   | 20.45   | 21.02   | 20.98   | 20.85   | 21.34   | 20.64   | 23.13   | 23.04   | 21.85   | 22.49   | 21.31   | 24.16   | 18.95   | 23.21   | 19.68   |
| Na <sub>2</sub> O              | 0.60    | 0.06    | 0.22    | 0.56    | 0.47    | 0.16    | 0.25    | 0.16    | 0.25    | 0.13    | 0.06    | 0.38    | 0.22    | 0.38    | 0.03    | 0.50    | 0.28    | 0.44    |
| Total                          | 99.46   | 99.38   | 99.42   | 99.49   | 99.48   | 99.38   | 99.45   | 98.43   | 99.43   | 99.36   | 99.27   | 99.32   | 99.34   | 99.50   | 99.21   | 99.79   | 99.30   | 99.48   |
| WO                             | 43.44   | 42.39   | 45.24   | 43.07   | 44.34   | 43.66   | 43.08   | 44.26   | 42.83   | 48.83   | 48.53   | 47.04   | 47.54   | 44.59   | 50.47   | 39.56   | 48.69   | 41.08   |
| EN                             | 43.96   | 47.73   | 45.27   | 46.19   | 44.70   | 45.89   | 47.01   | 45.83   | 47.12   | 39.89   | 39.77   | 40.35   | 41.24   | 44.31   | 41.91   | 48.62   | 43.64   | 47.68   |
| FS                             | 12.61   | 9.88    | 9.48    | 10.74   | 10.97   | 10.45   | 9.91    | 9.91    | 10.05   | 11.28   | 11.71   | 12.61   | 11.22   | 11.09   | 7.62    | 11.82   | 7.67    | 11.23   |
| Mg #                           | 77.72   | 82.84   | 82.68   | 81.13   | 80.29   | 81.46   | 82.59   | 82.22   | 82.43   | 77.96   | 77.25   | 76.19   | 78.60   | 79.98   | 84.62   | 80.45   | 85.06   | 80.93   |
| TSi                            | 2.02    | 2.04    | 2.04    | 2.04    | 2.00    | 2.05    | 2.04    | 2.04    | 2.03    | 2.06    | 2.05    | 2.03    | 2.06    | 1.92    | 2.05    | 2.00    | 2.03    | 2.02    |
| TAI                            | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.08    | 0.00    | 0.00    | 0.00    | 0.00    |
| TFe3                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Al                           | 0.03    | 0.03    | 0.03    | 0.03    | 0.07    | 0.03    | 0.03    | 0.03    | 0.04    | 0.03    | 0.03    | 0.06    | 0.02    | 0.07    | 0.03    | 0.06    | 0.05    | 0.04    |
| M1Ti                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Fe3                          | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.02    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Fe2                          | 0.13    | 0.05    | 0.10    | 0.09    | 0.08    | 0.09    | 0.07    | 0.09    | 0.06    | 0.21    | 0.21    | 0.17    | 0.19    | 0.06    | 0.14    | 0.01    | 0.12    | 0.04    |
| M1Cr                           | 0.00    | 0.00    | 0.01    | 0.00    | 0.01    | 0.00    | 0.00    | 0.01    | 0.01    | 0.01    | 0.00    | 0.01    | 0.00    | 0.01    | 0.00    | 0.01    | 0.00    | 0.01    |
| M1Mg                           | 0.84    | 0.92    | 0.86    | 0.87    | 0.84    | 0.88    | 0.90    | 0.88    | 0.90    | 0.76    | 0.76    | 0.75    | 0.78    | 0.84    | 0.80    | 0.92    | 0.83    | 0.90    |
| M2Mg                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M2Fe2                          | 0.10    | 0.14    | 0.08    | 0.10    | 0.12    | 0.10    | 0.11    | 0.10    | 0.13    | 0.00    | 0.01    | 0.05    | 0.02    | 0.12    | 0.00    | 0.21    | 0.02    | 0.17    |
| M2Mn                           | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.00    | 0.01    | 0.00    | 0.00    |
| M2Ca                           | 0.83    | 0.82    | 0.86    | 0.81    | 0.83    | 0.83    | 0.83    | 0.85    | 0.82    | 0.93    | 0.93    | 0.88    | 0.90    | 0.84    | 0.96    | 0.75    | 0.92    | 0.78    |
| M2Na                           | 0.04    | 0.00    | 0.02    | 0.04    | 0.03    | 0.01    | 0.02    | 0.01    | 0.02    | 0.01    | 0.00    | 0.03    | 0.02    | 0.03    | 0.00    | 0.04    | 0.02    | 0.03    |
| Sum_cat                        | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    |

**Clinoptyroxene Rim**

| Sample                         | D1.380f | D1.380g | D1.380h | D1.380i | D1.380j | D1.380k | D1.399a | D1.399b | D1.399c | D1.399d | D1.399e | D1.399f | D1.419a | D1.419b | D1.419c | D1.476a | D1.476b | D1.476c |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Depth*                         | -140    | -140    | -140    | -140    | -140    | -140    | -159    | -159    | -159    | -159    | -159    | -159    | -179    | -179    | -179    | -236    | -236    | -236    |
| SiO <sub>2</sub>               | 55.32   | 55.47   | 55.89   | 55.79   | 54.80   | 55.51   | 54.22   | 54.45   | 53.71   | 53.58   | 54.29   | 54.51   | 53.80   | 55.72   | 52.96   | 54.22   | 54.34   | 53.97   |
| TiO <sub>2</sub>               | 0.12    | 0.05    | 0.06    | 0.04    | 0.02    | 0.07    | 0.13    | 0.06    | 0.13    | 0.05    | 0.03    | 0.10    | 0.07    | 0.10    | 0.07    | 0.12    | 0.14    | 0.20    |
| Al <sub>2</sub> O <sub>3</sub> | 0.74    | 0.84    | 0.65    | 0.88    | 1.23    | 0.44    | 1.22    | 0.90    | 1.10    | 0.92    | 0.83    | 0.82    | 0.60    | 1.00    | 0.82    | 1.15    | 0.96    | 1.17    |
| FeO                            | 3.67    | 3.92    | 1.98    | 2.05    | 4.62    | 5.77    | 7.80    | 8.42    | 9.28    | 10.46   | 10.34   | 10.39   | 9.01    | 8.79    | 7.00    | 7.32    | 7.20    | 7.50    |
| Cr <sub>2</sub> O <sub>3</sub> | 0.10    | 0.17    | 0.07    | 0.13    | 0.03    | 0.02    | 0.35    | 0.32    | 0.28    | 0.13    | 0.09    | 0.12    | 0.20    | 0.15    | 0.19    | 0.22    | 0.22    | 0.20    |
| MnO                            | 0.11    | 0.12    | 0.06    | 0.08    | 0.09    | 0.10    | 0.20    | 0.24    | 0.24    | 0.22    | 0.29    | 0.21    | 0.30    | 0.29    | 0.22    | 0.18    | 0.22    | 0.19    |
| MgO                            | 14.84   | 17.29   | 15.60   | 15.86   | 16.99   | 17.22   | 13.52   | 13.23   | 13.37   | 12.94   | 13.01   | 13.02   | 12.90   | 14.25   | 13.09   | 15.50   | 14.77   | 14.10   |
| CaO                            | 24.10   | 21.22   | 24.57   | 24.04   | 21.41   | 20.17   | 21.73   | 21.62   | 21.21   | 20.84   | 20.14   | 20.27   | 19.54   | 17.81   | 19.62   | 20.72   | 21.57   | 21.86   |
| Na <sub>2</sub> O              | 0.19    | 0.31    | 0.30    | 0.33    | 0.03    | 0.09    | 0.16    | 0.19    | 0.06    | 0.16    | 0.39    | 0.07    | 0.31    | 0.30    | 0.18    | 0.00    | 0.00    | 0.10    |
| Total                          | 99.24   | 99.42   | 99.20   | 99.22   | 99.30   | 99.40   | 99.34   | 99.45   | 99.40   | 99.32   | 99.42   | 99.51   | 96.74   | 98.49   | 94.16   | 99.45   | 99.42   | 99.31   |
| WO                             | 50.52   | 43.81   | 51.33   | 50.32   | 43.94   | 41.41   | 46.44   | 46.21   | 44.89   | 44.17   | 43.27   | 43.44   | 43.66   | 39.82   | 45.13   | 43.04   | 45.02   | 46.04   |
| EN                             | 43.29   | 49.67   | 45.34   | 46.19   | 48.52   | 49.19   | 40.21   | 39.34   | 39.37   | 38.16   | 38.89   | 38.82   | 40.10   | 44.33   | 41.90   | 44.80   | 42.89   | 41.32   |
| FS                             | 6.19    | 6.51    | 3.33    | 3.48    | 7.55    | 9.41    | 13.35   | 14.45   | 15.73   | 17.67   | 17.83   | 17.74   | 16.24   | 15.85   | 12.97   | 12.16   | 12.09   | 12.65   |
| Mg #                           | 87.49   | 88.41   | 93.16   | 92.99   | 86.54   | 83.94   | 75.07   | 73.13   | 71.45   | 68.35   | 68.56   | 68.64   | 71.17   | 73.66   | 76.36   | 78.65   | 78.01   | 76.57   |
| TSi                            | 2.05    | 2.03    | 2.06    | 2.05    | 2.02    | 2.05    | 2.04    | 2.05    | 2.03    | 2.03    | 2.05    | 2.06    | 2.08    | 2.11    | 2.10    | 2.02    | 2.03    | 2.02    |
| TAI                            | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| TFe3                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Al                           | 0.03    | 0.04    | 0.03    | 0.04    | 0.05    | 0.02    | 0.05    | 0.04    | 0.05    | 0.04    | 0.04    | 0.04    | 0.03    | 0.05    | 0.04    | 0.05    | 0.04    | 0.05    |
| M1Ti                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    |
| M1Fe3                          | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    |
| M1Fe2                          | 0.11    | 0.01    | 0.06    | 0.06    | 0.01    | 0.03    | 0.18    | 0.21    | 0.19    | 0.22    | 0.23    | 0.22    | 0.22    | 0.14    | 0.18    | 0.08    | 0.13    | 0.15    |
| M1Cr                           | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.01    | 0.01    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.01    | 0.01    | 0.01    | 0.01    |
| M1Mg                           | 0.82    | 0.94    | 0.86    | 0.87    | 0.93    | 0.95    | 0.76    | 0.74    | 0.75    | 0.73    | 0.73    | 0.73    | 0.75    | 0.80    | 0.77    | 0.86    | 0.82    | 0.79    |
| M2Mg                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M2Fe2                          | 0.00    | 0.11    | 0.00    | 0.00    | 0.13    | 0.15    | 0.07    | 0.06    | 0.11    | 0.11    | 0.10    | 0.11    | 0.07    | 0.13    | 0.05    | 0.15    | 0.10    | 0.09    |
| M2Mn                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    |
| M2Ca                           | 0.96    | 0.83    | 0.97    | 0.95    | 0.84    | 0.80    | 0.88    | 0.87    | 0.86    | 0.85    | 0.81    | 0.82    | 0.81    | 0.72    | 0.83    | 0.83    | 0.86    | 0.88    |
| M2Na                           | 0.01    | 0.02    | 0.02    | 0.02    | 0.00    | 0.01    | 0.01    | 0.01    | 0.00    | 0.01    | 0.03    | 0.01    | 0.02    | 0.02    | 0.01    | 0.00    | 0.00    | 0.01    |
| Sum_cat                        | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    |

| Clinopyroxene Rim              |         |         |         |         |         |         |         |         |         |         |         |  |  |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|--|
| Sample                         | D1.476d | D1.476e | D1.476f | D1.476g | D1.476h | D1.476i | D1.476j | D1.476k | D1.476l | D1.476m | D1.476n |  |  |
| Depth*                         | -236    | -236    | -236    | -236    | -236    | -236    | -236    | -236    | -236    | -236    | -236    |  |  |
| SiO <sub>2</sub>               | 54.04   | 53.84   | 54.07   | 53.73   | 53.69   | 54.06   | 54.25   | 54.25   | 53.96   | 50.31   | 52.73   |  |  |
| TiO <sub>2</sub>               | 0.15    | 0.23    | 0.13    | 0.15    | 0.16    | 0.19    | 0.11    | 0.12    | 0.18    | 0.13    | 0.09    |  |  |
| Al <sub>2</sub> O <sub>3</sub> | 1.19    | 1.20    | 1.19    | 1.26    | 1.54    | 1.22    | 1.07    | 1.21    | 1.21    | 1.26    | 1.00    |  |  |
| FeO                            | 7.61    | 7.56    | 7.36    | 7.54    | 7.36    | 7.76    | 7.62    | 7.25    | 7.94    | 7.05    | 7.18    |  |  |
| Cr <sub>2</sub> O <sub>3</sub> | 0.31    | 0.27    | 0.26    | 0.36    | 0.47    | 0.25    | 0.16    | 0.24    | 0.23    | 0.22    | 0.19    |  |  |
| MnO                            | 0.23    | 0.23    | 0.17    | 0.36    | 0.18    | 0.19    | 0.22    | 0.17    | 0.15    | 0.13    | 0.20    |  |  |
| MgO                            | 14.11   | 14.03   | 14.68   | 13.83   | 14.30   | 14.86   | 14.63   | 15.01   | 14.36   | 12.25   | 13.28   |  |  |
| CaO                            | 21.31   | 21.83   | 21.28   | 22.07   | 21.25   | 20.66   | 21.01   | 20.77   | 20.70   | 18.74   | 19.34   |  |  |
| Na <sub>2</sub> O              | 0.44    | 0.13    | 0.26    | 0.06    | 0.38    | 0.25    | 0.32    | 0.41    | 0.67    | 0.12    | 0.12    |  |  |
| Total                          | 99.43   | 99.34   | 99.42   | 99.36   | 99.34   | 99.47   | 99.41   | 99.44   | 99.40   | 90.26   | 94.13   |  |  |
| WO                             | 45.28   | 46.02   | 44.72   | 46.48   | 45.18   | 43.46   | 44.24   | 43.77   | 44.05   | 45.28   | 44.38   |  |  |
| EN                             | 41.71   | 41.15   | 42.93   | 40.53   | 42.30   | 43.49   | 42.87   | 44.02   | 42.52   | 41.18   | 42.40   |  |  |
| FS                             | 13.01   | 12.82   | 12.36   | 12.99   | 12.52   | 13.06   | 12.89   | 12.21   | 13.44   | 13.54   | 13.22   |  |  |
| Mg #                           | 76.23   | 76.24   | 77.65   | 75.72   | 77.17   | 76.91   | 76.88   | 78.28   | 75.98   | 75.25   | 76.23   |  |  |
|                                |         |         |         |         |         |         |         |         |         |         |         |  |  |
| TSi                            | 2.02    | 2.02    | 2.02    | 2.02    | 2.01    | 2.02    | 2.02    | 2.02    | 2.01    | 2.08    | 2.09    |  |  |
| TAI                            | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |  |
| TFe3                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |  |
| M1Al                           | 0.05    | 0.05    | 0.05    | 0.06    | 0.07    | 0.05    | 0.05    | 0.05    | 0.05    | 0.06    | 0.05    |  |  |
| M1Ti                           | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    |  |  |
| M1Fe3                          | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |  |
| M1Fe2                          | 0.15    | 0.15    | 0.12    | 0.16    | 0.12    | 0.11    | 0.13    | 0.11    | 0.14    | 0.17    | 0.16    |  |  |
| M1Cr                           | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    |  |  |
| M1Mg                           | 0.79    | 0.78    | 0.82    | 0.77    | 0.80    | 0.83    | 0.81    | 0.83    | 0.80    | 0.76    | 0.78    |  |  |
| M2Mg                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |  |
| M2Fe2                          | 0.09    | 0.09    | 0.11    | 0.08    | 0.11    | 0.13    | 0.11    | 0.12    | 0.11    | 0.07    | 0.08    |  |  |
| M2Mn                           | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    |  |  |
| M2Ca                           | 0.85    | 0.88    | 0.85    | 0.89    | 0.85    | 0.83    | 0.84    | 0.83    | 0.83    | 0.83    | 0.82    |  |  |
| M2Na                           | 0.03    | 0.01    | 0.02    | 0.00    | 0.03    | 0.02    | 0.02    | 0.03    | 0.05    | 0.01    | 0.01    |  |  |
| Sum_cat                        | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    |  |  |

Orthopyroxene Core

| Sample                         | D1.338a | D1.338b | D1.338c | D1.338d | D1.338e | D1.338f | D1.355a | D1.355b | D1.355c | D1.355d | D1.380a | D1.380b | D1.380c | D1.380d | D1.380e | D1.380f | D1.380g | D1.380h |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Depth*                         | -98     | -98     | -98     | -98     | -98     | -98     | -115    | -115    | -115    | -115    | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -140    |
| SiO <sub>2</sub>               | 53.86   | 53.84   | 54.28   | 54.47   | 54.01   | 54.59   | 54.85   | 54.87   | 54.90   | 54.73   | 53.60   | 54.10   | 54.72   | 53.71   | 52.94   | 54.15   | 53.98   | 54.14   |
| TiO <sub>2</sub>               | 0.16    | 0.16    | 0.10    | 0.12    | 0.09    | 0.16    | 0.04    | 0.09    | 0.03    | 0.13    | 0.08    | 0.10    | 0.19    | 0.10    | 0.15    | 0.06    | 0.05    | 0.04    |
| Al <sub>2</sub> O <sub>3</sub> | 0.83    | 1.07    | 0.71    | 0.54    | 0.86    | 0.58    | 0.64    | 0.45    | 0.56    | 0.63    | 0.74    | 0.75    | 0.79    | 0.84    | 0.87    | 0.78    | 0.73    | 0.70    |
| FeO                            | 17.21   | 17.66   | 17.49   | 17.61   | 16.99   | 20.16   | 20.45   | 19.77   | 20.07   | 19.74   | 19.64   | 19.81   | 14.98   | 18.22   | 18.90   | 17.86   | 19.64   | 17.86   |
| Cr <sub>2</sub> O <sub>3</sub> | 0.11    | 0.16    | 0.13    | 0.07    | 0.22    | 0.11    | 0.11    | 0.04    | 0.09    | 0.10    | 0.12    | 0.15    | 0.13    | 0.13    | 0.18    | 0.17    | 0.07    | 0.07    |
| MnO                            | 0.35    | 0.40    | 0.37    | 0.37    | 0.34    | 0.52    | 0.56    | 0.49    | 0.38    | 0.38    | 0.38    | 0.26    | 0.30    | 0.43    | 0.41    | 0.31    | 0.33    | 0.29    |
| MgO                            | 24.57   | 25.86   | 26.27   | 25.79   | 26.06   | 23.29   | 22.69   | 23.41   | 23.36   | 22.97   | 24.35   | 24.70   | 27.35   | 24.39   | 24.48   | 25.56   | 25.18   | 26.44   |
| CaO                            | 2.75    | 0.71    | 0.57    | 0.90    | 1.47    | 0.63    | 0.67    | 0.88    | 0.56    | 1.34    | 0.77    | 0.82    | 1.56    | 2.14    | 1.96    | 1.03    | 0.37    | 0.51    |
| Na <sub>2</sub> O              | 0.19    | 0.13    | 0.10    | 0.13    | 0.00    | 0.03    | 0.00    | 0.00    | 0.00    | 0.00    | 0.23    | 0.00    | 0.06    | 0.00    | 0.19    | 0.13    | 0.00    | 0.00    |
| Total                          | 100.04  | 99.99   | 100.05  | 100.01  | 100.05  | 100.09  | 100.02  | 99.99   | 99.96   | 100.02  | 99.91   | 100.71  | 100.10  | 99.97   | 100.08  | 100.06  | 100.36  | 100.06  |
| WO                             | 5.44    | 1.39    | 1.12    | 1.77    | 2.87    | 1.28    | 1.38    | 1.78    | 1.13    | 2.73    | 1.53    | 1.62    | 3.03    | 4.22    | 3.84    | 2.03    | 0.73    | 1.00    |
| EN                             | 67.49   | 70.85   | 71.57   | 70.61   | 70.74   | 65.89   | 64.90   | 66.12   | 66.29   | 65.21   | 67.38   | 67.58   | 73.83   | 67.02   | 66.66   | 70.04   | 68.70   | 71.47   |
| FS                             | 27.07   | 27.76   | 27.31   | 27.63   | 26.39   | 32.83   | 33.72   | 32.10   | 32.58   | 32.06   | 31.09   | 30.81   | 23.14   | 28.76   | 29.51   | 27.94   | 30.57   | 27.53   |
| En #                           | 71.38   | 71.85   | 72.38   | 71.87   | 72.83   | 66.74   | 65.81   | 67.32   | 67.05   | 67.04   | 68.43   | 68.69   | 76.13   | 69.97   | 69.32   | 71.49   | 69.20   | 72.19   |

  

|         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Tsi     | 1.96 | 1.96 | 1.97 | 1.98 | 1.96 | 2.02 | 2.03 | 2.03 | 2.03 | 2.02 | 1.97 | 1.97 | 1.97 | 1.97 | 1.94 | 1.97 | 1.97 | 1.97 |
| TAI     | 0.04 | 0.04 | 0.03 | 0.02 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 | 0.03 | 0.04 | 0.03 | 0.03 | 0.03 |
| TFe3    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.01 |
| M1Al    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.02 | 0.03 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Ti    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Fe3   | 0.04 | 0.04 | 0.03 | 0.02 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.01 | 0.02 | 0.02 | 0.06 | 0.03 | 0.02 | 0.03 |
| M1Fe2   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Cr    | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| M1Mg    | 0.96 | 0.95 | 0.96 | 0.98 | 0.96 | 0.97 | 0.97 | 0.98 | 0.97 | 0.97 | 0.95 | 0.98 | 0.97 | 0.97 | 0.93 | 0.96 | 0.97 | 0.97 |
| M2Mg    | 0.38 | 0.45 | 0.46 | 0.42 | 0.45 | 0.32 | 0.29 | 0.31 | 0.32 | 0.30 | 0.38 | 0.37 | 0.50 | 0.36 | 0.41 | 0.42 | 0.40 | 0.47 |
| M2Fe2   | 0.49 | 0.50 | 0.50 | 0.52 | 0.49 | 0.62 | 0.63 | 0.61 | 0.62 | 0.61 | 0.56 | 0.59 | 0.43 | 0.54 | 0.49 | 0.52 | 0.58 | 0.51 |
| M2Mn    | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| M2Ca    | 0.11 | 0.03 | 0.02 | 0.04 | 0.06 | 0.03 | 0.03 | 0.04 | 0.02 | 0.05 | 0.03 | 0.03 | 0.06 | 0.08 | 0.08 | 0.04 | 0.02 | 0.02 |
| M2Na    | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |
| Sum_cat | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |

| Orthopyroxene Core             |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |  |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| Sample                         | D1.380i | D1.380j | D1.380k | D1.380l | D1.380m | D1.380n | D1.380o | D1.399a | D1.399b | D1.399c | D1.399d | D1.578a | D1.578b | D1.578c | D1.578d | D1.578e | D1.578f | D1.578g |  |
| Depth*                         | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -159    | -159    | -159    | -159    | -338    | -338    | -338    | -338    | -338    | -338    | -338    |  |
| SiO <sub>2</sub>               | 52.42   | 53.65   | 53.49   | 53.67   | 53.53   | 54.01   | 53.50   | 52.29   | 52.87   | 52.09   | 52.05   | 54.92   | 54.68   | 55.18   | 55.30   | 54.71   | 54.80   | 54.94   |  |
| TiO <sub>2</sub>               | 0.03    | 0.02    | 0.11    | 0.08    | 0.13    | 0.13    | 0.13    | 0.12    | 0.04    | 0.07    | 0.06    | 0.09    | 0.11    | 0.11    | 0.13    | 0.14    | 0.11    | 0.28    |  |
| Al <sub>2</sub> O <sub>3</sub> | 0.71    | 0.71    | 0.83    | 0.65    | 0.65    | 0.77    | 0.82    | 1.06    | 0.97    | 0.53    | 0.57    | 0.83    | 0.96    | 0.97    | 0.77    | 1.00    | 0.92    | 0.70    |  |
| FeO                            | 19.99   | 19.75   | 19.66   | 19.01   | 20.32   | 18.76   | 19.33   | 22.07   | 22.16   | 26.07   | 26.47   | 14.46   | 14.34   | 12.74   | 13.20   | 14.36   | 14.83   | 14.01   |  |
| Cr <sub>2</sub> O <sub>3</sub> | 0.08    | 0.12    | 0.16    | 0.08    | 0.13    | 0.10    | 0.14    | 0.23    | 0.24    | 0.02    | 0.13    | 0.34    | 0.37    | 0.31    | 0.28    | 0.33    | 0.29    | 0.29    |  |
| MnO                            | 0.42    | 0.37    | 0.26    | 0.37    | 0.37    | 0.32    | 0.33    | 0.42    | 0.42    | 0.56    | 0.57    | 0.33    | 0.23    | 0.27    | 0.26    | 0.33    | 0.29    | 0.29    |  |
| MgO                            | 25.56   | 24.75   | 24.29   | 24.26   | 23.91   | 25.16   | 24.43   | 21.57   | 22.34   | 19.68   | 18.98   | 28.36   | 28.82   | 29.97   | 29.78   | 28.54   | 28.12   | 28.61   |  |
| CaO                            | 0.80    | 0.60    | 1.07    | 1.91    | 0.71    | 0.73    | 1.26    | 2.22    | 0.86    | 0.93    | 0.81    | 0.41    | 0.43    | 0.38    | 0.29    | 0.51    | 0.47    | 0.85    |  |
| Na <sub>2</sub> O              | 0.06    | 0.00    | 0.03    | 0.00    | 0.00    | 0.00    | 0.06    | 0.03    | 0.10    | 0.00    | 0.41    | 0.21    | 0.00    | 0.00    | 0.00    | 0.15    | 0.12    | 0.03    |  |
| Total                          | 100.12  | 99.97   | 99.91   | 100.05  | 99.75   | 100.01  | 100.03  | 100.02  | 100.03  | 99.97   | 100.04  | 99.96   | 99.94   | 99.93   | 100.03  | 100.06  | 99.95   | 100.01  |  |
| WO                             | 1.53    | 1.18    | 2.12    | 3.77    | 1.42    | 1.44    | 2.49    | 4.46    | 1.73    | 1.90    | 1.67    | 0.80    | 0.83    | 0.73    | 0.56    | 0.98    | 0.91    | 1.65    |  |
| EN                             | 68.00   | 67.86   | 67.03   | 66.45   | 66.36   | 69.14   | 67.17   | 60.28   | 62.71   | 55.76   | 54.65   | 76.75   | 77.25   | 79.82   | 79.31   | 76.82   | 76.13   | 76.80   |  |
| FS                             | 30.47   | 30.96   | 30.85   | 29.79   | 32.23   | 29.42   | 30.34   | 35.26   | 35.57   | 42.35   | 43.68   | 22.46   | 21.92   | 19.44   | 20.12   | 22.20   | 22.97   | 21.55   |  |
| En #                           | 69.05   | 68.67   | 68.48   | 69.05   | 67.31   | 70.15   | 68.89   | 63.09   | 63.81   | 56.83   | 55.58   | 77.36   | 77.90   | 80.41   | 79.76   | 77.58   | 76.82   | 78.09   |  |

  

|         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| TSi     | 1.91 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.96 | 1.95 | 1.97 | 1.98 | 1.98 | 1.98 | 1.96 | 1.96 | 1.97 | 1.96 | 1.97 | 1.97 |  |
| TAI     | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.03 | 0.04 | 0.05 | 0.03 | 0.02 | 0.03 | 0.03 | 0.04 | 0.04 | 0.03 | 0.04 | 0.03 | 0.03 |  |
| TFe3    | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |  |
| M1Al    | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |  |
| M1Ti    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| M1Fe3   | 0.09 | 0.03 | 0.02 | 0.03 | 0.00 | 0.01 | 0.03 | 0.04 | 0.03 | 0.02 | 0.05 | 0.03 | 0.03 | 0.03 | 0.02 | 0.04 | 0.02 | 0.01 |  |
| M1Fe2   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |  |
| M1Cr    | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |  |
| M1Mg    | 0.91 | 0.97 | 0.97 | 0.97 | 0.98 | 0.98 | 0.96 | 0.95 | 0.96 | 0.98 | 0.95 | 0.95 | 0.96 | 0.96 | 0.97 | 0.95 | 0.96 | 0.97 |  |
| M2Mg    | 0.48 | 0.38 | 0.36 | 0.36 | 0.34 | 0.39 | 0.38 | 0.25 | 0.28 | 0.14 | 0.13 | 0.56 | 0.58 | 0.62 | 0.61 | 0.57 | 0.54 | 0.56 |  |
| M2Fe2   | 0.47 | 0.58 | 0.58 | 0.56 | 0.63 | 0.57 | 0.56 | 0.65 | 0.66 | 0.81 | 0.79 | 0.40 | 0.40 | 0.35 | 0.37 | 0.39 | 0.42 | 0.40 |  |
| M2Mn    | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |  |
| M2Ca    | 0.03 | 0.02 | 0.04 | 0.08 | 0.03 | 0.03 | 0.05 | 0.09 | 0.03 | 0.04 | 0.03 | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 | 0.02 | 0.03 |  |
| M2Na    | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.03 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |  |
| Sum_cat | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |  |

Orthopyroxene Core

| Sample                         | D1.578h | D1.578i | D1.578j | D1.578k | D1.578l | D1.578m | D1.578n | D1.578o | D1.578p | D1.578q | D1.578r | D1.578s | D1.578t | D1.578u |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Depth*                         | -338    | -338    | -338    | -338    | -338    | -338    | -338    | -338    | -338    | -338    | -338    | -338    | -338    | -338    |
| SiO <sub>2</sub>               | 54.59   | 54.99   | 54.70   | 55.12   | 54.64   | 55.25   | 54.83   | 55.09   | 55.15   | 54.58   | 55.56   | 54.81   | 54.97   | 54.97   |
| TiO <sub>2</sub>               | 0.09    | 0.04    | 0.12    | 0.09    | 0.07    | 0.14    | 0.11    | 0.06    | 0.07    | 0.05    | 0.07    | 0.07    | 0.08    | 0.02    |
| Al <sub>2</sub> O <sub>3</sub> | 0.89    | 0.85    | 1.02    | 0.61    | 0.71    | 0.71    | 1.03    | 0.81    | 0.70    | 0.98    | 0.99    | 0.93    | 0.91    | 0.96    |
| FeO                            | 14.64   | 13.86   | 13.55   | 15.26   | 15.89   | 13.44   | 13.66   | 13.90   | 14.65   | 14.96   | 10.10   | 14.02   | 13.22   | 13.58   |
| Cr <sub>2</sub> O <sub>3</sub> | 0.37    | 0.31    | 0.45    | 0.23    | 0.33    | 0.31    | 0.35    | 0.31    | 0.24    | 0.42    | 0.43    | 0.30    | 0.32    | 0.37    |
| MnO                            | 0.37    | 0.27    | 0.27    | 0.31    | 0.27    | 0.28    | 0.27    | 0.28    | 0.28    | 0.31    | 0.21    | 0.27    | 0.26    | 0.30    |
| MgO                            | 28.42   | 29.28   | 27.91   | 27.85   | 27.57   | 28.86   | 29.04   | 28.86   | 28.32   | 28.21   | 29.60   | 28.94   | 28.13   | 29.25   |
| CaO                            | 0.58    | 0.46    | 1.78    | 0.46    | 0.59    | 0.85    | 0.59    | 0.48    | 0.52    | 0.43    | 2.28    | 0.59    | 2.17    | 0.45    |
| Na <sub>2</sub> O              | 0.00    | 0.00    | 0.21    | 0.06    | 0.00    | 0.19    | 0.09    | 0.19    | 0.09    | 0.03    | 0.39    | 0.00    | 0.00    | 0.12    |
| Total                          | 99.95   | 100.05  | 100.02  | 100.01  | 100.09  | 100.04  | 99.98   | 100.01  | 100.05  | 100.01  | 100.02  | 99.95   | 100.05  | 100.02  |
| WO                             | 1.12    | 0.88    | 3.47    | 0.90    | 1.15    | 1.65    | 1.14    | 0.94    | 1.01    | 0.84    | 4.42    | 1.14    | 4.18    | 0.87    |
| EN                             | 76.28   | 78.01   | 75.54   | 75.42   | 74.39   | 77.64   | 77.91   | 77.66   | 76.40   | 76.05   | 79.96   | 77.41   | 75.51   | 78.30   |
| FS                             | 22.60   | 21.11   | 20.99   | 23.67   | 24.46   | 20.71   | 20.96   | 21.40   | 22.60   | 23.11   | 15.63   | 21.46   | 20.31   | 20.84   |
| En #                           | 77.14   | 78.70   | 78.26   | 76.11   | 75.26   | 78.95   | 78.80   | 78.39   | 77.17   | 76.70   | 83.65   | 78.30   | 78.81   | 78.98   |
| TSi                            | 1.96    | 1.96    | 1.96    | 1.98    | 1.97    | 1.97    | 1.96    | 1.97    | 1.98    | 1.96    | 1.96    | 1.96    | 1.97    | 1.96    |
| TAl                            | 0.04    | 0.04    | 0.04    | 0.02    | 0.03    | 0.03    | 0.04    | 0.03    | 0.03    | 0.04    | 0.04    | 0.04    | 0.04    | 0.04    |
| TFe3                           | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Al                           | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Ti                           | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Fe3                          | 0.03    | 0.03    | 0.04    | 0.01    | 0.02    | 0.03    | 0.04    | 0.04    | 0.02    | 0.03    | 0.07    | 0.03    | 0.02    | 0.04    |
| M1Fe2                          | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| M1Cr                           | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    |
| M1Mg                           | 0.96    | 0.96    | 0.95    | 0.98    | 0.97    | 0.96    | 0.95    | 0.95    | 0.97    | 0.96    | 0.92    | 0.96    | 0.97    | 0.95    |
| M2Mg                           | 0.56    | 0.60    | 0.54    | 0.51    | 0.51    | 0.57    | 0.59    | 0.58    | 0.54    | 0.55    | 0.64    | 0.58    | 0.53    | 0.60    |
| M2Fe2                          | 0.41    | 0.38    | 0.37    | 0.45    | 0.46    | 0.37    | 0.37    | 0.38    | 0.42    | 0.42    | 0.22    | 0.39    | 0.38    | 0.36    |
| M2Mn                           | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    |
| M2Ca                           | 0.02    | 0.02    | 0.07    | 0.02    | 0.02    | 0.03    | 0.02    | 0.02    | 0.02    | 0.02    | 0.09    | 0.02    | 0.08    | 0.02    |
| M2Na                           | 0.00    | 0.00    | 0.02    | 0.00    | 0.00    | 0.01    | 0.01    | 0.01    | 0.01    | 0.00    | 0.03    | 0.00    | 0.00    | 0.01    |
| Sum_cat                        | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 4.00    | 3.98    | 4.00    | 4.00    | 4.00    |

Orthopyroxene Rim

| Sample                         | D1.338a | D1.338b | D1.338c | D1.338d | D1.338e | D1.338f | D1.355a | D1.355b | D1.355c | D1.355d | D1.355e | D1.380a | D1.380b | D1.380c | D1.380d | D1.380e | D1.380f | D1.380g |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Depth*                         | -98     | -98     | -98     | -98     | -98     | -98     | -115    | -115    | -115    | -115    | -115    | -140    | -140    | -140    | -140    | -140    | -140    | -140    |
| SiO <sub>2</sub>               | 54.10   | 54.05   | 53.74   | 54.49   | 54.27   | 54.26   | 53.21   | 56.09   | 54.60   | 54.66   | 55.41   | 53.59   | 54.84   | 53.61   | 53.30   | 54.47   | 52.15   | 54.56   |
| TiO <sub>2</sub>               | 0.10    | 0.08    | 0.12    | 0.03    | 0.05    | 0.13    | 0.13    | 0.08    | 0.18    | 0.13    | 0.11    | 0.13    | 0.07    | 0.07    | 0.03    | 0.08    | 0.08    | 0.04    |
| Al <sub>2</sub> O <sub>3</sub> | 0.57    | 0.73    | 0.85    | 0.41    | 0.40    | 0.55    | 0.66    | 0.84    | 0.57    | 0.55    | 0.55    | 0.80    | 0.76    | 0.59    | 0.65    | 0.73    | 0.70    | 0.53    |
| FeO                            | 18.23   | 17.73   | 18.49   | 18.41   | 18.78   | 18.02   | 20.19   | 19.97   | 20.85   | 20.62   | 21.17   | 20.83   | 13.71   | 19.97   | 19.59   | 17.02   | 19.93   | 17.47   |
| Cr <sub>2</sub> O <sub>3</sub> | 0.12    | 0.12    | 0.12    | 0.08    | 0.06    | 0.09    | 0.19    | 0.17    | 0.11    | 0.10    | 0.07    | 0.09    | 0.13    | 0.08    | 0.15    | 0.08    | 0.13    | 0.08    |
| MnO                            | 0.48    | 0.38    | 0.50    | 0.50    | 0.40    | 0.50    | 0.45    | 0.40    | 0.43    | 0.44    | 0.46    | 0.35    | 0.27    | 0.46    | 0.39    | 0.32    | 0.37    | 0.34    |
| MgO                            | 25.42   | 25.90   | 25.53   | 25.55   | 25.49   | 25.79   | 24.46   | 22.17   | 22.46   | 22.83   | 21.21   | 24.00   | 29.08   | 24.38   | 24.80   | 26.41   | 26.59   | 26.29   |
| CaO                            | 0.91    | 1.00    | 0.63    | 0.50    | 0.49    | 0.65    | 0.66    | 1.00    | 0.81    | 0.69    | 0.98    | 0.66    | 0.51    | 0.86    | 1.11    | 0.90    | 0.61    | 0.43    |
| Na <sub>2</sub> O              | 0.00    | 0.00    | 0.03    | 0.10    | 0.00    | 0.06    | 0.06    | 0.00    | 0.03    | 0.00    | 0.03    | 0.06    | 0.00    | 0.00    | 0.00    | 0.03    | 0.00    | 0.26    |
| Total                          | 99.93   | 100.01  | 100.01  | 100.06  | 99.94   | 100.06  | 99.96   | 100.76  | 100.01  | 100.03  | 100.02  | 100.53  | 99.38   | 100.04  | 100.02  | 100.04  | 100.58  | 99.99   |
| WO                             | 1.79    | 1.96    | 1.24    | 0.98    | 0.96    | 1.27    | 1.30    | 2.10    | 1.67    | 1.42    | 2.07    | 1.30    | 0.98    | 1.70    | 2.16    | 1.76    | 1.14    | 0.84    |
| EN                             | 69.50   | 70.41   | 69.68   | 69.96   | 69.64   | 70.38   | 66.98   | 64.60   | 64.21   | 64.96   | 62.28   | 66.01   | 77.98   | 66.86   | 67.37   | 71.80   | 69.21   | 71.86   |
| FS                             | 28.72   | 27.63   | 29.09   | 29.06   | 29.40   | 28.36   | 31.72   | 33.30   | 34.13   | 33.63   | 35.65   | 32.69   | 21.04   | 31.45   | 30.47   | 26.44   | 29.65   | 27.31   |
| En #                           | 70.76   | 71.82   | 70.55   | 70.65   | 70.31   | 71.28   | 67.86   | 65.99   | 65.29   | 65.89   | 63.60   | 66.88   | 78.76   | 68.01   | 68.86   | 73.08   | 70.01   | 72.46   |

  

|         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| TSi     | 1.98 | 1.97 | 1.96 | 1.98 | 1.98 | 1.98 | 1.96 | 2.07 | 2.03 | 2.03 | 2.07 | 1.97 | 1.97 | 1.97 | 1.95 | 1.97 | 1.89 | 1.98 |
| TAI     | 0.02 | 0.03 | 0.04 | 0.01 | 0.02 | 0.02 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 |
| TFa3    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.08 | 0.00 |
| M1Al    | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.04 | 0.03 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| M1Ti    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Fe3   | 0.01 | 0.03 | 0.03 | 0.01 | 0.01 | 0.02 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.03 | 0.02 | 0.04 | 0.02 | 0.10 | 0.04 |
| M1Fe2   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Cr    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Mg    | 0.98 | 0.97 | 0.96 | 0.98 | 0.99 | 0.98 | 0.96 | 0.96 | 0.97 | 0.97 | 0.97 | 0.96 | 0.97 | 0.97 | 0.96 | 0.97 | 0.89 | 0.96 |
| M2Mg    | 0.41 | 0.44 | 0.43 | 0.41 | 0.40 | 0.43 | 0.38 | 0.26 | 0.28 | 0.29 | 0.21 | 0.35 | 0.59 | 0.36 | 0.40 | 0.45 | 0.55 | 0.46 |
| M2Fe2   | 0.54 | 0.51 | 0.53 | 0.55 | 0.56 | 0.53 | 0.58 | 0.62 | 0.65 | 0.64 | 0.66 | 0.61 | 0.39 | 0.59 | 0.54 | 0.50 | 0.42 | 0.50 |
| M2Mn    | 0.02 | 0.01 | 0.02 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| M2Ca    | 0.04 | 0.04 | 0.03 | 0.02 | 0.02 | 0.03 | 0.03 | 0.04 | 0.03 | 0.03 | 0.04 | 0.03 | 0.02 | 0.03 | 0.04 | 0.04 | 0.02 | 0.02 |
| M2Na    | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| Sum_cat | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |

# Orthopyroxene Rim

| Sample                         | D1.380h | D1.380i | D1.380j | D1.380k | D1.380l | D1.380m | D1.380n | D1.389a | D1.389b | D1.389c | D1.389d | D1.578a | D1.578b | D1.578c | D1.578d | D1.578e | D1.578f | D1.578g |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Depth*                         | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -159    | -159    | -159    | -159    | -338    | -338    | -338    | -338    | -338    | -338    | -338    |
| SiO <sub>2</sub>               | 53.75   | 54.83   | 53.77   | 53.92   | 53.58   | 53.58   | 53.48   | 52.75   | 52.25   | 52.29   | 52.41   | 55.04   | 55.21   | 54.87   | 55.20   | 55.18   | 54.75   | 54.96   |
| TiO <sub>2</sub>               | 0.08    | 0.08    | 0.07    | 0.07    | 0.09    | 0.18    | 0.11    | 0.10    | 0.03    | 0.04    | 0.12    | 0.04    | 0.05    | 0.05    | 0.07    | 0.07    | 0.18    | 0.14    |
| Al <sub>2</sub> O <sub>3</sub> | 0.69    | 0.58    | 0.54    | 0.52    | 0.85    | 0.65    | 0.69    | 0.53    | 0.70    | 0.60    | 0.48    | 0.82    | 0.69    | 0.87    | 1.02    | 0.59    | 0.75    | 0.94    |
| FeO                            | 19.46   | 15.97   | 19.80   | 18.79   | 19.70   | 18.73   | 20.60   | 24.28   | 24.55   | 26.05   | 26.32   | 14.34   | 14.11   | 14.29   | 12.68   | 14.34   | 15.16   | 14.08   |
| Cr <sub>2</sub> O <sub>3</sub> | 0.17    | 0.04    | 0.13    | 0.08    | 0.14    | 0.13    | 0.15    | 0.11    | 0.10    | 0.06    | 0.04    | 0.30    | 0.10    | 0.20    | 0.33    | 0.14    | 0.30    | 0.31    |
| MnO                            | 0.45    | 0.30    | 0.44    | 0.34    | 0.40    | 0.35    | 0.38    | 0.46    | 0.55    | 0.50    | 0.57    | 0.33    | 0.36    | 0.26    | 0.32    | 0.36    | 0.34    | 0.23    |
| MgO                            | 24.72   | 26.87   | 24.67   | 24.18   | 24.64   | 24.75   | 23.83   | 20.01   | 21.13   | 19.54   | 19.29   | 28.82   | 28.85   | 29.17   | 29.91   | 28.68   | 27.79   | 28.62   |
| CaO                            | 0.59    | 0.93    | 0.56    | 2.13    | 0.80    | 1.72    | 0.63    | 1.53    | 0.70    | 0.80    | 0.79    | 0.32    | 0.44    | 0.27    | 0.35    | 0.48    | 0.57    | 0.58    |
| Na <sub>2</sub> O              | 0.00    | 0.38    | 0.00    | 0.00    | 0.00    | 0.00    | 0.16    | 0.31    | 0.00    | 0.17    | 0.00    | 0.00    | 0.21    | 0.00    | 0.12    | 0.15    | 0.15    | 0.21    |
| Total                          | 99.93   | 100.01  | 99.98   | 100.05  | 100.00  | 100.08  | 100.06  | 100.07  | 100.02  | 100.08  | 100.04  | 100.03  | 100.02  | 99.99   | 100.02  | 100.01  | 99.99   | 100.10  |
| WO                             | 1.17    | 1.82    | 1.10    | 4.20    | 1.19    | 3.36    | 1.26    | 3.13    | 1.40    | 1.64    | 1.63    | 0.62    | 0.84    | 0.53    | 0.67    | 0.92    | 1.11    | 1.12    |
| EN                             | 68.06   | 73.28   | 67.73   | 66.34   | 67.79   | 67.46   | 66.08   | 57.20   | 59.17   | 55.81   | 55.20   | 77.30   | 77.39   | 77.72   | 79.86   | 76.95   | 75.32   | 77.22   |
| FS                             | 30.78   | 24.90   | 31.18   | 29.45   | 31.02   | 29.18   | 32.66   | 39.67   | 39.43   | 42.55   | 43.17   | 22.08   | 21.77   | 21.76   | 19.47   | 22.13   | 23.58   | 21.66   |
| En #                           | 68.86   | 74.64   | 68.48   | 69.26   | 68.61   | 69.80   | 66.93   | 59.05   | 60.01   | 56.74   | 56.11   | 77.78   | 78.04   | 78.13   | 80.40   | 77.66   | 76.16   | 78.09   |

  

|         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| TSi     | 1.97 | 1.98 | 1.98 | 1.98 | 1.97 | 1.96 | 1.97 | 1.99 | 1.96 | 1.98 | 1.99 | 1.97 | 1.97 | 1.96 | 1.96 | 1.97 | 1.97 | 1.96 |
| TAI     | 0.03 | 0.03 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.02 | 0.03 | 0.02 | 0.01 | 0.03 | 0.03 | 0.04 | 0.04 | 0.03 | 0.03 | 0.04 |
| TFe3    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Al    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Ti    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Fe3   | 0.01 | 0.05 | 0.02 | 0.01 | 0.02 | 0.03 | 0.03 | 0.02 | 0.03 | 0.02 | 0.00 | 0.02 | 0.04 | 0.03 | 0.04 | 0.03 | 0.03 | 0.04 |
| M1Fe2   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Cr    | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Mg    | 0.98 | 0.95 | 0.98 | 0.98 | 0.97 | 0.97 | 0.96 | 0.97 | 0.96 | 0.97 | 0.98 | 0.97 | 0.96 | 0.96 | 0.95 | 0.96 | 0.96 | 0.95 |
| M2Mg    | 0.38 | 0.49 | 0.38 | 0.34 | 0.38 | 0.38 | 0.35 | 0.16 | 0.22 | 0.14 | 0.11 | 0.57 | 0.58 | 0.59 | 0.63 | 0.57 | 0.53 | 0.57 |
| M2Fe2   | 0.59 | 0.43 | 0.59 | 0.56 | 0.59 | 0.54 | 0.60 | 0.75 | 0.73 | 0.80 | 0.84 | 0.41 | 0.38 | 0.39 | 0.34 | 0.40 | 0.43 | 0.38 |
| M2Mn    | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| M2Ca    | 0.02 | 0.04 | 0.02 | 0.08 | 0.02 | 0.07 | 0.03 | 0.06 | 0.03 | 0.03 | 0.03 | 0.01 | 0.02 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 |
| M2Na    | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.01 | 0.01 | 0.02 |
| Sum_cat | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |

| Orthopyroxene Rim              |         |         |         |         |         |         |         |         |         |         |         |         |         |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Sample                         | D1.578h | D1.578i | D1.578j | D1.578k | D1.578l | D1.578m | D1.578n | D1.578o | D1.578p | D1.578q | D1.578r | D1.578s | D1.578t |
| Depth*                         | -338    | -338    | -338    | -338    | -338    | -338    | -338    | -338    | -338    | -338    | -338    | -338    | -338    |
| SiO <sub>2</sub>               | 54.94   | 55.06   | 55.47   | 54.64   | 54.88   | 55.12   | 55.20   | 55.36   | 55.37   | 55.37   | 55.49   | 55.18   | 55.04   |
| TiO <sub>2</sub>               | 0.08    | 0.13    | 0.06    | 0.13    | 0.13    | 0.14    | 0.09    | 0.08    | 0.04    | 0.07    | 0.08    | 0.05    | 0.06    |
| Al <sub>2</sub> O <sub>3</sub> | 0.87    | 0.81    | 0.54    | 0.86    | 0.87    | 0.74    | 0.55    | 0.49    | 0.53    | 0.53    | 0.53    | 0.69    | 0.89    |
| FeO                            | 14.30   | 13.69   | 13.88   | 15.39   | 14.82   | 14.24   | 14.51   | 14.22   | 14.21   | 13.96   | 13.83   | 13.81   | 13.75   |
| Cr <sub>2</sub> O <sub>3</sub> | 0.26    | 0.40    | 0.15    | 0.36    | 0.27    | 0.38    | 0.12    | 0.17    | 0.15    | 0.13    | 0.17    | 0.37    | 0.30    |
| MnO                            | 0.33    | 0.32    | 0.27    | 0.30    | 0.28    | 0.31    | 0.32    | 0.23    | 0.31    | 0.29    | 0.28    | 0.31    | 0.30    |
| MgO                            | 28.64   | 29.01   | 28.96   | 27.80   | 28.16   | 28.15   | 28.58   | 28.85   | 28.53   | 28.87   | 28.83   | 29.07   | 28.84   |
| CaO                            | 0.55    | 0.61    | 0.54    | 0.51    | 0.57    | 0.72    | 0.58    | 0.64    | 0.54    | 0.57    | 0.63    | 0.50    | 0.60    |
| Na <sub>2</sub> O              | 0.09    | 0.00    | 0.12    | 0.03    | 0.00    | 0.19    | 0.03    | 0.00    | 0.31    | 0.22    | 0.16    | 0.00    | 0.12    |
| Total                          | 100.08  | 100.06  | 100.01  | 100.03  | 99.97   | 99.98   | 99.99   | 100.05  | 100.02  | 100.01  | 100.01  | 100.01  | 99.94   |
| WO                             | 1.06    | 1.18    | 1.04    | 1.00    | 1.11    | 1.40    | 1.11    | 1.23    | 1.04    | 1.10    | 1.22    | 0.97    | 1.17    |
| EN                             | 76.90   | 77.75   | 77.66   | 75.19   | 76.03   | 76.44   | 76.59   | 77.11   | 76.97   | 77.46   | 77.51   | 77.83   | 77.62   |
| FS                             | 22.05   | 21.07   | 21.30   | 23.81   | 22.86   | 22.16   | 22.30   | 21.67   | 21.98   | 21.44   | 21.28   | 21.21   | 21.21   |
| En #                           | 77.72   | 78.68   | 78.48   | 75.95   | 76.88   | 77.52   | 77.45   | 78.07   | 77.79   | 78.32   | 78.46   | 78.59   | 78.54   |

|         |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| TSi     | 1.96 | 1.97 | 1.98 | 1.97 | 1.97 | 1.97 | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 | 1.97 | 1.97 |
| TAI     | 0.04 | 0.03 | 0.02 | 0.04 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.04 |
| TFe3    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Al    | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Ti    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Fe3   | 0.03 | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 | 0.02 | 0.01 | 0.04 | 0.03 | 0.02 | 0.02 | 0.03 |
| M1Fe2   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| M1Cr    | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 |
| M1Mg    | 0.96 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.98 | 0.98 | 0.96 | 0.96 | 0.97 | 0.97 | 0.96 |
| M2Mg    | 0.57 | 0.58 | 0.57 | 0.53 | 0.53 | 0.54 | 0.55 | 0.56 | 0.56 | 0.57 | 0.56 | 0.58 | 0.58 |
| M2Fe2   | 0.39 | 0.39 | 0.39 | 0.44 | 0.44 | 0.41 | 0.42 | 0.41 | 0.38 | 0.38 | 0.39 | 0.39 | 0.38 |
| M2Mn    | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| M2Ca    | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| M2Na    | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.02 | 0.01 | 0.00 | 0.01 |
| Sum_cat | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |

|                                |         | Plagioclase Core |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |  |
|--------------------------------|---------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| Sample                         | D1.259a | D1.259b          | D1.259c | D1.259d | D1.259e | D1.259f | D1.259g | D1.259h | D1.309a | D1.309b | D1.309c | D1.309d | D1.309e | D1.309f | D1.309g | D1.309h | D1.309i | D1.309j |  |
| Depth*                         | -19     | -19              | -19     | -19     | -19     | -19     | -19     | -19     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     |  |
| SiO <sub>2</sub>               | 50.35   | 50.80            | 50.60   | 54.29   | 54.10   | 53.86   | 50.24   | 50.91   | 51.70   | 51.83   | 52.02   | 52.14   | 52.72   | 52.04   | 52.35   | 53.64   | 49.24   | 49.37   |  |
| TiO <sub>2</sub>               | 0.04    | 0.00             | 0.05    | 0.06    | 0.05    | 0.07    | 0.01    | 0.06    | 0.02    | 0.03    | 0.04    | 0.00    | 0.00    | 0.02    | 0.00    | 0.03    | 0.01    | 0.02    |  |
| Al <sub>2</sub> O <sub>3</sub> | 31.69   | 31.45            | 31.48   | 29.03   | 29.21   | 29.31   | 31.78   | 31.38   | 30.87   | 30.77   | 30.60   | 30.58   | 30.16   | 30.62   | 30.45   | 29.56   | 32.48   | 32.43   |  |
| FeO                            | 0.10    | 0.08             | 0.10    | 0.12    | 0.10    | 0.16    | 0.09    | 0.06    | 0.07    | 0.11    | 0.09    | 0.08    | 0.08    | 0.07    | 0.13    | 0.07    | 0.16    | 0.16    |  |
| MnO                            | 0.01    | 0.01             | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.02    | 0.00    | 0.01    | 0.06    | 0.03    | 0.03    | 0.03    | 0.00    | 0.04    | 0.01    |  |
| MgO                            | 0.00    | 0.00             | 0.00    | 0.05    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.01    | 0.03    | 0.05    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| CaO                            | 14.33   | 14.05            | 14.19   | 11.16   | 11.33   | 11.48   | 14.52   | 13.93   | 13.30   | 13.18   | 13.10   | 12.91   | 12.45   | 13.03   | 12.76   | 11.78   | 15.12   | 15.10   |  |
| Na <sub>2</sub> O              | 3.20    | 3.40             | 3.31    | 4.89    | 4.91    | 4.80    | 3.15    | 3.45    | 3.82    | 3.88    | 3.96    | 4.02    | 4.28    | 3.97    | 4.11    | 4.70    | 2.69    | 2.75    |  |
| K <sub>2</sub> O               | 0.23    | 0.16             | 0.24    | 0.26    | 0.26    | 0.29    | 0.19    | 0.19    | 0.15    | 0.18    | 0.16    | 0.17    | 0.22    | 0.15    | 0.20    | 0.21    | 0.23    | 0.16    |  |
| Total                          | 99.96   | 99.96            | 99.95   | 99.97   | 99.96   | 99.97   | 99.97   | 99.97   | 99.98   | 99.97   | 99.97   | 99.98   | 99.99   | 99.98   | 100.02  | 99.99   | 99.97   | 100.01  |  |
| Ab                             | 28.40   | 30.20            | 29.30   | 44.10   | 43.30   | 42.30   | 27.90   | 30.60   | 33.90   | 34.40   | 35.00   | 35.70   | 37.90   | 35.20   | 36.40   | 41.40   | 24.10   | 24.60   |  |
| An                             | 70.20   | 68.80            | 69.30   | 54.40   | 55.20   | 56.00   | 71.00   | 68.30   | 65.20   | 64.60   | 64.00   | 63.30   | 60.80   | 63.90   | 62.50   | 57.40   | 74.60   | 74.50   |  |
| Or                             | 1.40    | 1.00             | 1.40    | 1.50    | 1.50    | 1.70    | 1.10    | 1.10    | 0.90    | 1.10    | 0.90    | 1.00    | 1.30    | 0.90    | 1.10    | 1.20    | 1.40    | 0.90    |  |
| An#                            | 71.20   | 69.49            | 70.28   | 55.23   | 56.04   | 56.97   | 71.79   | 69.06   | 65.79   | 65.25   | 64.65   | 63.94   | 61.60   | 64.48   | 63.20   | 58.10   | 75.58   | 75.18   |  |
|                                |         |                  |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |  |
| Si                             | 9.18    | 9.25             | 9.22    | 9.81    | 9.78    | 9.74    | 9.16    | 9.27    | 9.39    | 9.41    | 9.44    | 9.46    | 9.56    | 9.45    | 9.49    | 9.70    | 9.00    | 9.02    |  |
| Al                             | 6.80    | 6.75             | 6.76    | 6.18    | 6.22    | 6.24    | 6.82    | 6.73    | 6.60    | 6.58    | 6.54    | 6.54    | 6.44    | 6.55    | 6.50    | 6.30    | 6.99    | 6.98    |  |
| Ti                             | 0.01    | 0.00             | 0.01    | 0.01    | 0.01    | 0.01    | 0.00    | 0.01    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| Fe2                            | 0.02    | 0.01             | 0.02    | 0.02    | 0.02    | 0.03    | 0.01    | 0.01    | 0.01    | 0.02    | 0.01    | 0.01    | 0.01    | 0.01    | 0.02    | 0.01    | 0.03    | 0.03    |  |
| Mn                             | 0.00    | 0.00             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    |  |
| Mg                             | 0.00    | 0.00             | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| Ca                             | 2.80    | 2.74             | 2.77    | 2.16    | 2.19    | 2.23    | 2.84    | 2.72    | 2.59    | 2.57    | 2.55    | 2.51    | 2.42    | 2.53    | 2.48    | 2.28    | 2.96    | 2.96    |  |
| Na                             | 1.13    | 1.20             | 1.17    | 1.75    | 1.72    | 1.68    | 1.11    | 1.22    | 1.35    | 1.37    | 1.39    | 1.41    | 1.51    | 1.40    | 1.45    | 1.65    | 0.96    | 0.98    |  |
| K                              | 0.06    | 0.04             | 0.06    | 0.06    | 0.06    | 0.07    | 0.04    | 0.04    | 0.03    | 0.04    | 0.04    | 0.04    | 0.05    | 0.04    | 0.05    | 0.05    | 0.05    | 0.04    |  |
| Sum_cat                        | 20.00   | 19.99            | 20.00   | 19.99   | 19.99   | 19.98   | 19.99   | 19.99   | 19.99   | 19.99   | 19.98   | 19.99   | 19.99   | 19.99   | 19.99   | 19.99   | 20.00   | 19.99   |  |

|                                |        | Plagioclase Core |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |  |
|--------------------------------|--------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| Sample                         | Depth" | D1.309k          | D1.308l | D1.316a | D1.316b | D1.316c | D1.316d | D1.316e | D1.316f | D1.316g | D1.338h | D1.338j | D1.338k | D1.338l | D1.338m | D1.338n | D1.355a | D1.355b |  |
|                                |        | -69              | -69     | -76     | -76     | -76     | -76     | -76     | -76     | -76     | -98     | -98     | -98     | -98     | -98     | -98     | -115    | -115    |  |
| SiO <sub>2</sub>               | 52.72  | 54.29            | 51.02   | 50.93   | 51.66   | 51.41   | 51.04   | 51.97   | 51.15   | 51.05   | 50.70   | 51.79   | 51.33   | 49.57   | 50.02   | 51.32   | 51.86   | 52.06   |  |
| TiO <sub>2</sub>               | 0.01   | 0.00             | 0.04    | 0.04    | 0.02    | 0.00    | 0.00    | 0.04    | 0.01    | 0.03    | 0.05    | 0.00    | 0.03    | 0.03    | 0.00    | 0.03    | 0.04    | 0.00    |  |
| Al <sub>2</sub> O <sub>3</sub> | 30.17  | 29.09            | 31.35   | 31.35   | 30.81   | 31.04   | 31.33   | 30.69   | 31.28   | 31.30   | 31.51   | 30.79   | 31.08   | 32.24   | 31.93   | 31.08   | 30.70   | 30.58   |  |
| FeO                            | 0.08   | 0.11             | 0.13    | 0.11    | 0.11    | 0.10    | 0.07    | 0.12    | 0.09    | 0.09    | 0.07    | 0.07    | 0.07    | 0.12    | 0.10    | 0.08    | 0.07    | 0.07    |  |
| MnO                            | 0.00   | 0.01             | 0.00    | 0.00    | 0.06    | 0.03    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.07    | 0.06    | 0.00    | 0.02    | 0.02    |  |
| MgO                            | 0.00   | 0.00             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.05    | 0.00    |  |
| CaO                            | 12.60  | 11.34            | 13.89   | 13.90   | 13.32   | 13.57   | 13.83   | 13.05   | 13.73   | 13.72   | 14.07   | 13.21   | 13.60   | 14.94   | 14.80   | 13.59   | 13.14   | 13.03   |  |
| Na <sub>2</sub> O              | 4.28   | 4.99             | 3.50    | 3.47    | 3.80    | 3.68    | 3.51    | 3.94    | 3.56    | 3.52    | 3.36    | 3.88    | 3.65    | 2.85    | 3.05    | 3.64    | 3.89    | 3.98    |  |
| K <sub>2</sub> O               | 0.12   | 0.13             | 0.12    | 0.16    | 0.19    | 0.15    | 0.14    | 0.17    | 0.13    | 0.25    | 0.21    | 0.24    | 0.22    | 0.17    | 0.21    | 0.23    | 0.26    | 0.28    |  |
| Total                          | 99.98  | 99.96            | 100.05  | 99.96   | 99.96   | 99.98   | 99.94   | 99.96   | 99.94   | 99.98   | 99.98   | 99.98   | 99.98   | 99.98   | 99.98   | 99.96   | 100.04  | 100.02  |  |
| Ab                             | 37.80  | 44.00            | 31.10   | 30.80   | 33.70   | 32.70   | 31.20   | 35.00   | 31.70   | 31.20   | 29.80   | 34.10   | 32.20   | 25.40   | 27.10   | 32.20   | 34.40   | 35.00   |  |
| An                             | 61.50  | 55.20            | 68.20   | 68.30   | 65.30   | 68.50   | 68.00   | 64.00   | 67.50   | 67.30   | 69.00   | 64.50   | 66.40   | 73.60   | 71.70   | 68.40   | 84.10   | 83.40   |  |
| Or                             | 0.70   | 0.80             | 0.70    | 1.00    | 1.10    | 0.90    | 0.80    | 1.00    | 0.70    | 1.50    | 1.20    | 1.40    | 1.30    | 1.00    | 1.20    | 1.40    | 1.50    | 1.70    |  |
| An#                            | 61.93  | 55.65            | 68.68   | 68.92   | 65.96   | 67.04   | 68.55   | 64.65   | 68.04   | 68.32   | 69.84   | 65.42   | 67.34   | 74.34   | 72.57   | 67.34   | 65.08   | 64.43   |  |
|                                |        |                  |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |  |
| Si                             | 9.55   | 9.81             | 9.28    | 9.27    | 9.39    | 9.35    | 9.29    | 9.44    | 9.30    | 9.29    | 9.23    | 9.41    | 9.33    | 9.05    | 9.13    | 9.34    | 9.42    | 9.45    |  |
| Al                             | 6.44   | 6.19             | 6.71    | 6.72    | 6.60    | 6.65    | 6.71    | 6.56    | 6.70    | 6.71    | 6.76    | 6.59    | 6.66    | 6.93    | 6.86    | 6.66    | 6.56    | 6.54    |  |
| Ti                             | 0.00   | 0.00             | 0.01    | 0.01    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    |  |
| Fe2                            | 0.01   | 0.02             | 0.02    | 0.02    | 0.02    | 0.02    | 0.01    | 0.02    | 0.01    | 0.01    | 0.01    | 0.01    | 0.01    | 0.02    | 0.02    | 0.01    | 0.01    | 0.01    |  |
| Mn                             | 0.00   | 0.00             | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.01    | 0.00    | 0.00    | 0.00    |  |
| Mg                             | 0.00   | 0.00             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| Ca                             | 2.45   | 2.19             | 2.71    | 2.71    | 2.59    | 2.64    | 2.70    | 2.54    | 2.68    | 2.68    | 2.75    | 2.57    | 2.65    | 2.92    | 2.85    | 2.65    | 2.56    | 2.53    |  |
| Na                             | 1.50   | 1.75             | 1.24    | 1.22    | 1.34    | 1.30    | 1.24    | 1.39    | 1.26    | 1.24    | 1.19    | 1.36    | 1.29    | 1.01    | 1.08    | 1.29    | 1.37    | 1.40    |  |
| K                              | 0.03   | 0.03             | 0.03    | 0.04    | 0.04    | 0.04    | 0.03    | 0.04    | 0.03    | 0.06    | 0.05    | 0.06    | 0.05    | 0.04    | 0.05    | 0.05    | 0.06    | 0.07    |  |
| Sum_cat                        | 19.98  | 19.98            | 19.98   | 19.99   | 19.99   | 19.99   | 19.98   | 19.98   | 19.98   | 19.99   | 19.99   | 20.00   | 19.99   | 19.99   | 20.00   | 19.99   | 20.00   | 20.00   |  |

|                                |         | Plagioclase Core |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |  |
|--------------------------------|---------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| Sample                         | D1.355c | D1.355d          | D1.355e | D1.355f | D1.355g | D1.355h | D1.380a | D1.380b | D1.380c | D1.380d | D1.380e | D1.380f | D1.380g | D1.380h | D1.380i | D1.380j | D1.380k | D1.380l |  |
| Depth"                         | -115    | -115             | -115    | -115    | -115    | -115    | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -140    |  |
| SiO <sub>2</sub>               | 50.99   | 49.84            | 49.57   | 52.03   | 50.29   | 51.29   | 50.39   | 50.68   | 49.54   | 51.67   | 48.68   | 49.37   | 48.85   | 48.24   | 50.90   | 51.98   | 50.41   | 51.17   |  |
| TiO <sub>2</sub>               | 0.05    | 0.01             | 0.01    | 0.03    | 0.01    | 0.03    | 0.02    | 0.00    | 0.02    | 0.04    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.03    | 0.03    | 0.02    |  |
| Al <sub>2</sub> O <sub>3</sub> | 31.26   | 32.03            | 32.31   | 30.65   | 31.75   | 31.12   | 31.74   | 31.49   | 32.33   | 30.91   | 32.87   | 32.41   | 32.76   | 33.16   | 31.40   | 30.71   | 31.73   | 31.17   |  |
| FeO                            | 0.08    | 0.09             | 0.09    | 0.05    | 0.11    | 0.08    | 0.15    | 0.17    | 0.15    | 0.12    | 0.12    | 0.09    | 0.13    | 0.14    | 0.11    | 0.18    | 0.12    | 0.13    |  |
| MnO                            | 0.00    | 0.00             | 0.00    | 0.03    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.03    | 0.03    | 0.00    | 0.00    | 0.01    |  |
| MgO                            | 0.00    | 0.00             | 0.04    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| CaO                            | 13.85   | 14.87            | 14.90   | 13.00   | 14.45   | 13.57   | 14.37   | 14.10   | 15.02   | 13.31   | 15.74   | 15.22   | 15.60   | 16.09   | 13.98   | 13.09   | 14.33   | 13.76   |  |
| Na <sub>2</sub> O              | 3.49    | 2.97             | 2.85    | 3.97    | 3.17    | 3.63    | 3.22    | 3.34    | 2.83    | 3.80    | 2.44    | 2.75    | 2.52    | 2.24    | 3.45    | 3.93    | 3.23    | 3.58    |  |
| K <sub>2</sub> O               | 0.24    | 0.14             | 0.19    | 0.21    | 0.19    | 0.22    | 0.16    | 0.13    | 0.13    | 0.18    | 0.13    | 0.13    | 0.14    | 0.06    | 0.13    | 0.17    | 0.13    | 0.14    |  |
| Total                          | 99.97   | 99.97            | 99.96   | 99.97   | 99.97   | 99.95   | 100.05  | 99.89   | 100.01  | 100.05  | 99.97   | 99.98   | 99.99   | 99.97   | 99.99   | 100.07  | 99.97   | 99.97   |  |
| Ab                             | 30.90   | 26.30            | 25.40   | 35.10   | 28.10   | 32.20   | 28.60   | 29.80   | 25.20   | 33.70   | 21.80   | 24.50   | 22.40   | 20.10   | 30.70   | 34.90   | 28.70   | 31.70   |  |
| An                             | 67.70   | 72.80            | 73.50   | 63.60   | 70.80   | 66.50   | 70.50   | 69.50   | 74.00   | 65.20   | 77.50   | 74.70   | 76.80   | 79.50   | 68.60   | 64.10   | 70.50   | 67.50   |  |
| Or                             | 1.40    | 0.90             | 1.10    | 1.20    | 1.10    | 1.30    | 0.90    | 0.80    | 0.80    | 1.10    | 0.80    | 0.80    | 0.80    | 0.40    | 0.80    | 1.00    | 0.80    | 0.80    |  |
| An#                            | 68.66   | 73.46            | 74.32   | 64.44   | 71.59   | 67.38   | 71.14   | 69.99   | 74.60   | 65.93   | 78.05   | 75.30   | 77.42   | 79.82   | 69.08   | 64.75   | 71.07   | 68.04   |  |
| Si                             | 9.28    | 9.10             | 9.05    | 9.45    | 9.17    | 9.33    | 9.18    | 9.23    | 9.04    | 9.38    | 8.91    | 9.02    | 8.93    | 8.84    | 9.26    | 9.43    | 9.18    | 9.31    |  |
| Al                             | 6.70    | 6.89             | 6.95    | 6.55    | 6.82    | 6.67    | 6.81    | 6.76    | 6.95    | 6.61    | 7.08    | 6.97    | 7.06    | 7.15    | 6.73    | 6.56    | 6.81    | 6.68    |  |
| Ti                             | 0.01    | 0.00             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| Fe2                            | 0.01    | 0.01             | 0.01    | 0.01    | 0.02    | 0.01    | 0.02    | 0.03    | 0.02    | 0.02    | 0.02    | 0.01    | 0.02    | 0.02    | 0.02    | 0.03    | 0.02    | 0.02    |  |
| Mn                             | 0.00    | 0.00             | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| Mg                             | 0.00    | 0.00             | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| Ca                             | 2.70    | 2.91             | 2.92    | 2.53    | 2.82    | 2.64    | 2.80    | 2.75    | 2.94    | 2.59    | 3.09    | 2.98    | 3.06    | 3.16    | 2.72    | 2.55    | 2.80    | 2.68    |  |
| Na                             | 1.23    | 1.05             | 1.01    | 1.40    | 1.12    | 1.28    | 1.14    | 1.18    | 1.00    | 1.34    | 0.87    | 0.98    | 0.89    | 0.80    | 1.22    | 1.38    | 1.14    | 1.26    |  |
| K                              | 0.06    | 0.03             | 0.04    | 0.05    | 0.04    | 0.05    | 0.04    | 0.03    | 0.03    | 0.04    | 0.03    | 0.03    | 0.03    | 0.02    | 0.03    | 0.04    | 0.03    | 0.03    |  |
| Sum_cat                        | 19.99   | 19.99            | 19.99   | 19.99   | 19.99   | 19.99   | 19.99   | 19.98   | 19.99   | 19.99   | 19.99   | 19.99   | 19.99   | 19.98   | 19.99   | 19.99   | 19.98   | 19.99   |  |

|                                |         | Plagioclase Core |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |  |
|--------------------------------|---------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| Sample                         | D1.399a | D1.399b          | D1.399c | D1.399d | D1.399e | D1.399f | D1.399g | D1.399h | D1.476a | D1.476b | D1.476c | D1.476d | D1.476e | D1.476f | D1.476g | D1.476h | D1.476i | D1.576a |  |
| Depth*                         | -159    | -159             | -159    | -159    | -159    | -159    | -159    | -159    | -236    | -236    | -236    | -236    | -236    | -236    | -236    | -236    | -236    | -338    |  |
| SiO <sub>2</sub>               | 50.05   | 50.85            | 49.69   | 48.87   | 50.68   | 50.00   | 48.41   | 48.49   | 49.89   | 50.01   | 50.02   | 49.94   | 50.17   | 49.34   | 50.30   | 50.20   | 49.91   | 50.89   |  |
| TiO <sub>2</sub>               | 0.04    | 0.01             | 0.06    | 0.02    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.06    | 0.05    | 0.03    | 0.02    | 0.03    | 0.00    | 0.03    | 0.00    | 0.00    |  |
| Al <sub>2</sub> O <sub>3</sub> | 31.84   | 31.38            | 32.14   | 32.69   | 31.48   | 31.95   | 33.07   | 32.97   | 32.01   | 31.95   | 31.86   | 31.93   | 31.78   | 32.41   | 31.67   | 31.78   | 31.99   | 31.31   |  |
| FeO                            | 0.13    | 0.08             | 0.11    | 0.12    | 0.15    | 0.14    | 0.16    | 0.13    | 0.14    | 0.14    | 0.11    | 0.13    | 0.14    | 0.15    | 0.15    | 0.18    | 0.14    | 0.15    |  |
| MnO                            | 0.01    | 0.00             | 0.01    | 0.04    | 0.05    | 0.00    | 0.00    | 0.04    | 0.01    | 0.02    | 0.00    | 0.02    | 0.00    | 0.01    | 0.02    | 0.02    | 0.02    | 0.01    |  |
| MgO                            | 0.00    | 0.00             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.02    | 0.02    | 0.09    | 0.00    | 0.03    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    |  |
| CaO                            | 14.62   | 14.00            | 14.81   | 15.51   | 14.02   | 14.61   | 15.82   | 15.85   | 14.72   | 14.57   | 14.60   | 14.73   | 14.54   | 15.14   | 14.45   | 14.48   | 14.74   | 13.95   |  |
| Na <sub>2</sub> O              | 3.06    | 3.43             | 2.90    | 2.53    | 3.35    | 3.04    | 2.32    | 2.36    | 2.99    | 3.05    | 3.05    | 3.02    | 3.12    | 2.74    | 3.18    | 3.13    | 3.00    | 3.45    |  |
| K <sub>2</sub> O               | 0.22    | 0.22             | 0.22    | 0.20    | 0.23    | 0.22    | 0.18    | 0.13    | 0.16    | 0.15    | 0.18    | 0.13    | 0.15    | 0.12    | 0.20    | 0.17    | 0.14    | 0.18    |  |
| Total                          | 99.97   | 99.96            | 99.94   | 99.98   | 99.96   | 99.97   | 99.96   | 99.96   | 99.95   | 99.96   | 99.96   | 99.92   | 99.97   | 99.96   | 99.97   | 99.97   | 99.96   | 99.94   |  |
| Ab                             | 27.10   | 30.30            | 25.80   | 22.50   | 29.80   | 27.00   | 20.70   | 21.00   | 26.60   | 27.20   | 27.10   | 26.80   | 27.70   | 24.50   | 28.20   | 27.80   | 26.70   | 30.60   |  |
| An                             | 71.60   | 68.40            | 72.90   | 76.30   | 68.90   | 71.70   | 78.20   | 78.20   | 72.40   | 71.90   | 71.80   | 72.40   | 71.40   | 74.80   | 70.70   | 71.20   | 72.40   | 68.40   |  |
| Or                             | 1.30    | 1.30             | 1.30    | 1.20    | 1.30    | 1.30    | 1.10    | 0.80    | 0.90    | 0.90    | 1.10    | 0.80    | 0.90    | 0.70    | 1.20    | 1.00    | 0.80    | 1.10    |  |
| An#                            | 72.54   | 69.30            | 73.86   | 77.23   | 69.81   | 72.64   | 79.07   | 78.83   | 73.13   | 72.55   | 72.60   | 72.98   | 72.05   | 75.33   | 71.49   | 71.92   | 73.06   | 69.09   |  |
| Si                             | 9.13    | 9.26             | 9.07    | 8.94    | 9.24    | 9.12    | 8.87    | 8.88    | 9.11    | 9.12    | 9.13    | 9.12    | 9.15    | 9.02    | 9.18    | 9.16    | 9.11    | 9.27    |  |
| Al                             | 6.84    | 6.73             | 6.91    | 7.04    | 6.76    | 6.87    | 7.13    | 7.11    | 6.88    | 6.86    | 6.85    | 6.86    | 6.83    | 6.97    | 6.80    | 6.83    | 6.88    | 6.72    |  |
| Ti                             | 0.01    | 0.00             | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.01    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| Fe2                            | 0.02    | 0.01             | 0.02    | 0.02    | 0.02    | 0.02    | 0.03    | 0.02    | 0.02    | 0.02    | 0.02    | 0.02    | 0.02    | 0.02    | 0.02    | 0.03    | 0.02    | 0.02    |  |
| Mn                             | 0.00    | 0.00             | 0.00    | 0.01    | 0.01    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| Mg                             | 0.00    | 0.00             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.01    | 0.02    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| Ca                             | 2.86    | 2.73             | 2.90    | 3.04    | 2.74    | 2.86    | 3.11    | 3.11    | 2.88    | 2.85    | 2.86    | 2.88    | 2.84    | 2.96    | 2.82    | 2.83    | 2.88    | 2.72    |  |
| Na                             | 1.08    | 1.21             | 1.03    | 0.90    | 1.18    | 1.08    | 0.82    | 0.84    | 1.06    | 1.08    | 1.08    | 1.07    | 1.10    | 0.97    | 1.13    | 1.11    | 1.08    | 1.22    |  |
| K                              | 0.05    | 0.05             | 0.05    | 0.05    | 0.05    | 0.05    | 0.04    | 0.03    | 0.04    | 0.04    | 0.04    | 0.03    | 0.04    | 0.03    | 0.05    | 0.04    | 0.03    | 0.04    |  |
| Sum_cat                        | 20.00   | 19.99            | 19.99   | 19.99   | 20.00   | 20.00   | 19.99   | 19.99   | 19.99   | 19.98   | 19.99   | 19.99   | 19.99   | 19.98   | 20.00   | 19.99   | 19.99   | 19.99   |  |

| Plagioclase Core               |         |         |         |         |         |  |  |  |  |
|--------------------------------|---------|---------|---------|---------|---------|--|--|--|--|
| Sample                         | D1.578b | D1.578c | D1.578d | D1.578e | D1.578f |  |  |  |  |
| Depth*                         | -338    | -338    | -338    | -338    | -338    |  |  |  |  |
| SiO <sub>2</sub>               | 49.99   | 50.68   | 50.32   | 49.99   | 50.65   |  |  |  |  |
| TiO <sub>2</sub>               | 0.01    | 0.03    | 0.04    | 0.03    | 0.03    |  |  |  |  |
| Al <sub>2</sub> O <sub>3</sub> | 32.02   | 31.55   | 31.79   | 32.01   | 31.49   |  |  |  |  |
| FeO                            | 0.13    | 0.09    | 0.08    | 0.10    | 0.09    |  |  |  |  |
| MnO                            | 0.02    | 0.01    | 0.00    | 0.03    | 0.02    |  |  |  |  |
| MgO                            | 0.00    | 0.00    | 0.00    | 0.00    | 0.15    |  |  |  |  |
| CaO                            | 14.71   | 14.14   | 14.44   | 14.63   | 14.05   |  |  |  |  |
| Na <sub>2</sub> O              | 3.04    | 3.34    | 3.19    | 3.04    | 3.34    |  |  |  |  |
| K <sub>2</sub> O               | 0.12    | 0.16    | 0.13    | 0.12    | 0.21    |  |  |  |  |
| Total                          | 100.03  | 99.96   | 99.98   | 99.94   | 100.02  |  |  |  |  |
| Ab                             | 27.00   | 29.70   | 28.30   | 27.10   | 29.70   |  |  |  |  |
| An                             | 72.30   | 69.40   | 70.90   | 72.20   | 69.10   |  |  |  |  |
| Or                             | 0.70    | 0.90    | 0.80    | 0.70    | 1.20    |  |  |  |  |
| An#                            | 72.81   | 70.03   | 71.47   | 72.71   | 69.94   |  |  |  |  |

  

|         |       |       |       |       |       |  |  |  |  |
|---------|-------|-------|-------|-------|-------|--|--|--|--|
| Si      | 9.11  | 9.23  | 9.17  | 9.12  | 9.22  |  |  |  |  |
| Al      | 6.88  | 6.77  | 6.82  | 6.88  | 6.75  |  |  |  |  |
| Ti      | 0.00  | 0.00  | 0.01  | 0.00  | 0.00  |  |  |  |  |
| Fe2     | 0.02  | 0.01  | 0.01  | 0.02  | 0.01  |  |  |  |  |
| Mn      | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |  |  |  |
| Mg      | 0.00  | 0.00  | 0.00  | 0.00  | 0.04  |  |  |  |  |
| Ca      | 2.87  | 2.76  | 2.82  | 2.86  | 2.74  |  |  |  |  |
| Na      | 1.07  | 1.18  | 1.13  | 1.07  | 1.18  |  |  |  |  |
| K       | 0.03  | 0.04  | 0.03  | 0.03  | 0.05  |  |  |  |  |
| Sum_cat | 19.99 | 19.99 | 19.99 | 19.98 | 20.00 |  |  |  |  |

| Plagioclase Rim                |         |         |         |         |         |  |  |  |  |
|--------------------------------|---------|---------|---------|---------|---------|--|--|--|--|
| Sample                         | D1.259a | D1.259b | D1.259c | D1.259d | D1.259e |  |  |  |  |
| Depth*                         | -19     | -19     | -19     | -19     | -19     |  |  |  |  |
| SiO <sub>2</sub>               | 51.62   | 51.02   | 50.88   | 54.68   | 53.74   |  |  |  |  |
| TiO <sub>2</sub>               | 0.01    | 0.00    | 0.00    | 0.00    | 0.02    |  |  |  |  |
| Al <sub>2</sub> O <sub>3</sub> | 30.94   | 31.35   | 31.36   | 28.91   | 29.46   |  |  |  |  |
| FeO                            | 0.06    | 0.13    | 0.17    | 0.10    | 0.12    |  |  |  |  |
| MnO                            | 0.00    | 0.02    | 0.02    | 0.02    | 0.01    |  |  |  |  |
| MgO                            | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    |  |  |  |  |
| CaO                            | 13.38   | 13.77   | 13.91   | 10.84   | 11.62   |  |  |  |  |
| Na <sub>2</sub> O              | 3.78    | 3.51    | 3.44    | 5.17    | 4.74    |  |  |  |  |
| K <sub>2</sub> O               | 0.14    | 0.16    | 0.13    | 0.24    | 0.25    |  |  |  |  |
| Total                          | 99.93   | 99.96   | 99.92   | 99.97   | 99.96   |  |  |  |  |
| Ab                             | 33.50   | 31.20   | 30.70   | 45.70   | 41.90   |  |  |  |  |
| An                             | 65.70   | 67.80   | 68.50   | 52.90   | 56.70   |  |  |  |  |
| Or                             | 0.80    | 1.00    | 0.80    | 1.40    | 1.40    |  |  |  |  |
| An#                            | 66.23   | 68.48   | 69.05   | 53.65   | 57.51   |  |  |  |  |

  

|         |       |       |       |       |       |  |  |  |  |
|---------|-------|-------|-------|-------|-------|--|--|--|--|
| Si      | 9.38  | 9.28  | 9.27  | 9.86  | 9.72  |  |  |  |  |
| Al      | 6.62  | 6.72  | 6.73  | 6.14  | 6.28  |  |  |  |  |
| Ti      | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |  |  |  |
| Fe2     | 0.01  | 0.02  | 0.03  | 0.01  | 0.02  |  |  |  |  |
| Mn      | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |  |  |  |
| Mg      | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |  |  |  |
| Ca      | 2.61  | 2.68  | 2.71  | 2.10  | 2.25  |  |  |  |  |
| Na      | 1.33  | 1.24  | 1.22  | 1.81  | 1.66  |  |  |  |  |
| K       | 0.03  | 0.04  | 0.03  | 0.06  | 0.06  |  |  |  |  |
| Sum_cat | 19.98 | 19.98 | 19.98 | 19.99 | 19.99 |  |  |  |  |

|                                |         | Plagioclase Rim |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |  |
|--------------------------------|---------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| Sample                         | D1.258f | D1.308a         | D1.308b | D1.308c | D1.308d | D1.308e | D1.308f | D1.308g | D1.308h | D1.308i | D1.308j | D1.308k | D1.308l | D1.308m | D1.316a | D1.316b | D1.316c | D1.316d |  |
| Depth*                         | -19     | -69             | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -69     | -78     | -78     | -76     | -76     |  |
| SiO <sub>2</sub>               | 53.48   | 51.57           | 50.92   | 51.92   | 50.96   | 53.99   | 53.62   | 54.43   | 52.15   | 49.92   | 52.41   | 54.42   | 53.15   | 51.59   | 52.88   | 53.80   | 51.87   | 51.80   |  |
| TiO <sub>2</sub>               | 0.03    | 0.03            | 0.04    | 0.03    | 0.01    | 0.01    | 0.06    | 0.00    | 0.00    | 0.00    | 0.07    | 0.04    | 0.00    | 0.04    | 0.02    | 0.03    | 0.03    | 0.07    |  |
| Al <sub>2</sub> O <sub>3</sub> | 29.88   | 30.93           | 31.36   | 30.73   | 31.37   | 29.37   | 29.61   | 29.01   | 30.58   | 32.71   | 30.36   | 28.99   | 29.86   | 31.05   | 30.05   | 29.40   | 30.87   | 30.77   |  |
| FeO                            | 0.09    | 0.09            | 0.11    | 0.11    | 0.09    | 0.10    | 0.10    | 0.05    | 0.08    | 0.14    | 0.15    | 0.16    | 0.15    | 0.46    | 0.13    | 0.13    | 0.10    | 0.16    |  |
| MnO                            | 0.03    | 0.02            | 0.13    | 0.00    | 0.00    | 0.01    | 0.03    | 0.00    | 0.00    | 0.00    | 0.00    | 0.03    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| MgO                            | 0.05    | 0.00            | 0.00    | 0.01    | 0.00    | 0.00    | 0.03    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.08    | 0.00    | 0.04    | 0.00    | 0.00    |  |
| CaO                            | 11.79   | 13.42           | 13.82   | 13.15   | 13.90   | 11.53   | 11.72   | 11.22   | 13.01   | 15.50   | 12.84   | 11.14   | 12.19   | 12.84   | 12.35   | 11.54   | 13.32   | 13.21   |  |
| Na <sub>2</sub> O              | 4.83    | 3.76            | 3.48    | 3.92    | 3.48    | 4.86    | 4.69    | 5.06    | 4.02    | 2.55    | 4.14    | 5.05    | 4.47    | 3.76    | 4.35    | 4.77    | 3.80    | 3.86    |  |
| K <sub>2</sub> O               | 0.24    | 0.15            | 0.14    | 0.18    | 0.12    | 0.21    | 0.19    | 0.20    | 0.13    | 0.17    | 0.21    | 0.17    | 0.15    | 0.36    | 0.19    | 0.26    | 0.15    | 0.15    |  |
| Total                          | 100.03  | 99.97           | 99.98   | 100.04  | 99.92   | 100.07  | 100.06  | 99.97   | 99.98   | 99.98   | 99.99   | 100.01  | 99.98   | 100.18  | 99.96   | 99.97   | 99.95   | 100.02  |  |
| Ab                             | 40.90   | 33.30           | 30.90   | 34.70   | 30.90   | 42.70   | 41.50   | 44.40   | 35.80   | 22.70   | 36.70   | 44.70   | 39.60   | 33.90   | 38.50   | 42.20   | 33.80   | 34.30   |  |
| An                             | 57.70   | 65.80           | 68.30   | 64.30   | 68.40   | 56.00   | 57.40   | 54.40   | 63.60   | 76.30   | 62.00   | 54.40   | 59.60   | 63.90   | 60.40   | 56.30   | 65.30   | 64.80   |  |
| Or                             | 1.40    | 0.90            | 0.80    | 1.00    | 0.70    | 1.20    | 1.10    | 1.10    | 0.80    | 1.00    | 1.20    | 1.00    | 0.90    | 2.10    | 1.10    | 1.50    | 0.90    | 0.90    |  |
| An#                            | 58.52   | 66.40           | 68.85   | 64.95   | 68.88   | 56.74   | 58.04   | 55.06   | 64.11   | 77.07   | 62.82   | 54.88   | 60.08   | 65.34   | 61.07   | 57.16   | 65.89   | 65.39   |  |
|                                |         |                 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |  |
| Si                             | 9.67    | 9.37            | 9.27    | 9.42    | 9.28    | 9.75    | 9.69    | 9.83    | 9.46    | 8.95    | 9.50    | 9.82    | 9.62    | 9.37    | 9.58    | 9.73    | 9.39    | 9.41    |  |
| Al                             | 6.32    | 6.62            | 6.72    | 6.57    | 6.72    | 6.25    | 6.30    | 6.17    | 6.53    | 7.05    | 6.49    | 6.16    | 6.37    | 6.64    | 6.41    | 6.26    | 6.61    | 6.58    |  |
| Ti                             | 0.00    | 0.00            | 0.01    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.01    | 0.01    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.01    |  |
| Fe2                            | 0.01    | 0.01            | 0.02    | 0.02    | 0.01    | 0.02    | 0.02    | 0.01    | 0.01    | 0.02    | 0.02    | 0.03    | 0.02    | 0.07    | 0.02    | 0.02    | 0.01    | 0.02    |  |
| Mn                             | 0.01    | 0.00            | 0.02    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| Mg                             | 0.01    | 0.00            | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.02    | 0.00    | 0.01    | 0.00    | 0.00    |  |
| Ca                             | 2.29    | 2.61            | 2.70    | 2.58    | 2.71    | 2.23    | 2.27    | 2.17    | 2.53    | 3.04    | 2.46    | 2.15    | 2.37    | 2.50    | 2.40    | 2.24    | 2.58    | 2.57    |  |
| Na                             | 1.62    | 1.32            | 1.22    | 1.36    | 1.23    | 1.70    | 1.64    | 1.77    | 1.41    | 0.90    | 1.46    | 1.77    | 1.57    | 1.33    | 1.53    | 1.67    | 1.34    | 1.36    |  |
| K                              | 0.06    | 0.04            | 0.03    | 0.04    | 0.03    | 0.05    | 0.04    | 0.05    | 0.03    | 0.04    | 0.05    | 0.04    | 0.04    | 0.06    | 0.04    | 0.06    | 0.04    | 0.03    |  |
| Sum_cat                        | 19.99   | 19.98           | 19.98   | 19.99   | 19.98   | 19.99   | 19.99   | 19.99   | 19.98   | 19.99   | 19.99   | 19.96   | 19.98   | 20.01   | 19.99   | 19.99   | 19.98   | 19.98   |  |

|                                |         | Plagioclase Rim |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |  |
|--------------------------------|---------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| Sample                         | D1.316e | D1.316f         | D1.338h | D1.338i | D1.338j | D1.338k | D1.338l | D1.338m | D1.338n | D1.355a | D1.355b | D1.355c | D1.355d | D1.355e | D1.355f | D1.355g | D1.355h | D1.380a |  |
| Depth*                         | -76     | -76             | -98     | -98     | -98     | -98     | -98     | -98     | -98     | -115    | -115    | -115    | -115    | -115    | -115    | -115    | -115    | -140    |  |
| SiO <sub>2</sub>               | 52.09   | 52.49           | 51.21   | 52.37   | 50.78   | 55.14   | 51.47   | 51.54   | 51.73   | 54.02   | 53.12   | 50.83   | 50.97   | 52.24   | 52.61   | 53.31   | 52.77   | 48.41   |  |
| TiO <sub>2</sub>               | 0.00    | 0.02            | 0.00    | 0.01    | 0.01    | 0.06    | 0.00    | 0.00    | 0.00    | 0.00    | 0.05    | 0.02    | 0.02    | 0.02    | 0.05    | 0.04    | 0.03    | 0.01    |  |
| Al <sub>2</sub> O <sub>3</sub> | 30.66   | 30.39           | 31.18   | 30.42   | 31.48   | 28.51   | 30.97   | 30.78   | 30.70   | 29.23   | 29.85   | 31.38   | 31.32   | 30.44   | 30.23   | 29.69   | 30.01   | 33.05   |  |
| FeO                            | 0.09    | 0.09            | 0.12    | 0.04    | 0.10    | 0.08    | 0.13    | 0.09    | 1.08    | 0.06    | 0.07    | 0.10    | 0.14    | 0.12    | 0.09    | 0.07    | 0.17    | 0.14    |  |
| MnO                            | 0.00    | 0.00            | 0.01    | 0.00    | 0.03    | 0.02    | 0.00    | 0.02    | 0.10    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.01    | 0.04    | 0.00    | 0.03    |  |
| MgO                            | 0.00    | 0.00            | 0.00    | 0.07    | 0.00    | 0.00    | 0.00    | 0.00    | 0.29    | 0.01    | 0.00    | 0.05    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| CaO                            | 13.05   | 12.68           | 13.68   | 12.77   | 14.01   | 10.46   | 13.48   | 13.26   | 11.93   | 11.45   | 12.17   | 14.04   | 13.78   | 12.86   | 12.44   | 11.99   | 12.38   | 15.92   |  |
| Na <sub>2</sub> O              | 3.99    | 4.18            | 3.59    | 4.12    | 3.40    | 5.38    | 3.71    | 3.74    | 3.83    | 4.87    | 4.46    | 3.42    | 3.49    | 4.06    | 4.23    | 4.55    | 4.30    | 2.32    |  |
| K <sub>2</sub> O               | 0.16    | 0.13            | 0.20    | 0.17    | 0.15    | 0.32    | 0.20    | 0.28    | 0.32    | 0.34    | 0.27    | 0.21    | 0.25    | 0.27    | 0.29    | 0.29    | 0.30    | 0.08    |  |
| Total                          | 100.05  | 99.98           | 99.98   | 99.98   | 99.96   | 99.97   | 99.96   | 99.72   | 99.98   | 99.98   | 99.98   | 100.05  | 99.96   | 100.01  | 99.96   | 99.97   | 99.96   | 99.96   |  |
| Ab                             | 35.30   | 37.10           | 31.90   | 36.50   | 30.20   | 47.30   | 32.90   | 33.20   | 36.00   | 42.60   | 39.30   | 30.20   | 30.90   | 35.80   | 37.50   | 40.00   | 37.90   | 20.80   |  |
| An                             | 63.70   | 62.20           | 67.00   | 62.50   | 68.90   | 50.80   | 66.00   | 65.10   | 62.00   | 55.40   | 59.20   | 68.60   | 67.60   | 62.70   | 60.90   | 58.30   | 60.30   | 78.80   |  |
| Or                             | 0.90    | 0.80            | 1.20    | 1.00    | 0.90    | 1.90    | 1.20    | 1.70    | 2.00    | 2.00    | 1.50    | 1.20    | 1.50    | 1.60    | 1.70    | 1.70    | 1.70    | 0.50    |  |
| An#                            | 64.34   | 62.64           | 67.75   | 63.13   | 69.53   | 51.78   | 66.73   | 66.23   | 63.27   | 56.53   | 60.10   | 69.43   | 68.63   | 63.65   | 61.89   | 59.31   | 61.41   | 79.12   |  |
|                                |         |                 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |  |
| Si                             | 9.45    | 9.51            | 9.32    | 9.50    | 9.25    | 9.94    | 9.36    | 9.39    | 9.41    | 9.77    | 9.62    | 9.25    | 9.28    | 9.48    | 9.54    | 9.65    | 9.57    | 8.86    |  |
| Al                             | 6.55    | 6.49            | 6.68    | 6.50    | 6.75    | 6.05    | 6.63    | 6.61    | 6.58    | 6.22    | 6.37    | 6.73    | 6.71    | 6.51    | 6.46    | 6.33    | 6.41    | 7.13    |  |
| Ti                             | 0.00    | 0.00            | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.01    | 0.01    | 0.00    | 0.00    |  |
| Fe2                            | 0.01    | 0.01            | 0.02    | 0.01    | 0.02    | 0.01    | 0.02    | 0.01    | 0.17    | 0.01    | 0.01    | 0.02    | 0.02    | 0.02    | 0.01    | 0.01    | 0.03    | 0.02    |  |
| Mn                             | 0.00    | 0.00            | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.02    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    |  |
| Mg                             | 0.00    | 0.00            | 0.00    | 0.02    | 0.00    | 0.00    | 0.00    | 0.00    | 0.08    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |  |
| Ca                             | 2.54    | 2.46            | 2.67    | 2.48    | 2.73    | 2.02    | 2.63    | 2.59    | 2.33    | 2.22    | 2.36    | 2.74    | 2.69    | 2.50    | 2.42    | 2.33    | 2.41    | 3.12    |  |
| Na                             | 1.41    | 1.47            | 1.27    | 1.45    | 1.20    | 1.88    | 1.31    | 1.32    | 1.35    | 1.71    | 1.57    | 1.21    | 1.23    | 1.43    | 1.49    | 1.60    | 1.51    | 0.82    |  |
| K                              | 0.04    | 0.03            | 0.05    | 0.04    | 0.04    | 0.08    | 0.05    | 0.07    | 0.08    | 0.08    | 0.06    | 0.05    | 0.06    | 0.06    | 0.07    | 0.07    | 0.07    | 0.02    |  |
| Sum_cat                        | 19.99   | 19.98           | 19.99   | 19.99   | 19.99   | 19.99   | 19.99   | 19.99   | 20.00   | 20.01   | 19.99   | 20.00   | 19.99   | 20.00   | 19.99   | 20.00   | 20.00   | 19.98   |  |

| Plagioclase Rim                |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Sample                         | D1.380b | D1.380c | D1.380d | D1.380e | D1.380f | D1.380g | D1.380h | D1.380i | D1.380j | D1.380k | D1.380l | D1.380m | D1.389a | D1.389b | D1.389c | D1.389d | D1.389e | D1.389f | D1.389g |
| Depth*                         | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -140    | -159    | -159    | -159    | -159    | -159    | -159    | -159    |
| SiO <sub>2</sub>               | 48.95   | 49.73   | 48.89   | 50.27   | 51.76   | 49.83   | 49.31   | 48.76   | 52.51   | 52.93   | 49.40   | 48.41   | 48.53   | 48.05   | 49.01   | 48.10   | 50.28   | 50.45   | 50.45   |
| TiO <sub>2</sub>               | 0.02    | 0.02    | 0.00    | 0.04    | 0.03    | 0.00    | 0.00    | 0.00    | 0.02    | 0.02    | 0.01    | 0.02    | 0.00    | 0.00    | 0.00    | 0.01    | 0.02    | 0.04    | 0.04    |
| Al <sub>2</sub> O <sub>3</sub> | 32.69   | 32.22   | 32.75   | 31.82   | 30.82   | 32.11   | 32.46   | 32.83   | 30.32   | 30.02   | 32.39   | 33.06   | 32.89   | 33.26   | 32.65   | 33.30   | 31.78   | 31.66   | 31.66   |
| FeO                            | 0.19    | 0.20    | 0.19    | 0.22    | 0.18    | 0.15    | 0.10    | 0.28    | 0.15    | 0.17    | 0.16    | 0.16    | 0.16    | 0.13    | 0.12    | 0.15    | 0.13    | 0.15    | 0.15    |
| MnO                            | 0.02    | 0.00    | 0.01    | 0.00    | 0.01    | 0.03    | 0.00    | 0.00    | 0.03    | 0.04    | 0.00    | 0.01    | 0.01    | 0.00    | 0.03    | 0.01    | 0.06    | 0.05    | 0.05    |
| MgO                            | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.09    | 0.00    | 0.04    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| CaO                            | 15.42   | 14.84   | 15.50   | 14.39   | 13.22   | 14.76   | 15.24   | 15.66   | 12.63   | 12.25   | 15.17   | 15.96   | 15.86   | 16.21   | 15.38   | 16.11   | 14.36   | 14.16   | 14.16   |
| Na <sub>2</sub> O              | 2.57    | 2.92    | 2.54    | 3.16    | 3.84    | 2.97    | 2.73    | 2.48    | 4.18    | 4.37    | 2.77    | 2.32    | 2.37    | 2.16    | 2.59    | 2.18    | 3.17    | 3.25    | 3.25    |
| K <sub>2</sub> O               | 0.09    | 0.09    | 0.10    | 0.10    | 0.13    | 0.12    | 0.07    | 0.04    | 0.14    | 0.17    | 0.09    | 0.05    | 0.15    | 0.14    | 0.20    | 0.15    | 0.19    | 0.20    | 0.20    |
| Total                          | 99.96   | 100.02  | 99.98   | 100.02  | 99.99   | 98.97   | 99.99   | 100.04  | 100.02  | 99.97   | 100.00  | 99.98   | 99.98   | 99.95   | 99.98   | 100.01  | 99.98   | 99.96   | 99.96   |
| Ab                             | 23.00   | 26.10   | 22.70   | 28.30   | 34.20   | 26.50   | 24.40   | 22.20   | 37.20   | 38.90   | 24.70   | 20.70   | 21.10   | 19.20   | 23.10   | 19.50   | 28.20   | 29.00   | 29.00   |
| An                             | 76.40   | 73.40   | 76.70   | 71.10   | 65.00   | 72.80   | 75.20   | 77.60   | 62.00   | 60.20   | 74.80   | 79.00   | 78.00   | 79.90   | 75.70   | 78.60   | 70.70   | 69.90   | 69.90   |
| Or                             | 0.60    | 0.50    | 0.60    | 0.60    | 0.80    | 0.70    | 0.40    | 0.30    | 0.80    | 1.00    | 0.50    | 0.30    | 0.90    | 0.90    | 1.20    | 0.90    | 1.10    | 1.10    | 1.10    |
| An#                            | 76.86   | 73.77   | 77.16   | 71.53   | 65.52   | 73.31   | 75.50   | 77.76   | 62.50   | 60.75   | 75.18   | 79.24   | 76.71   | 80.63   | 76.62   | 80.32   | 71.49   | 70.68   | 70.68   |
|                                |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Si                             | 8.95    | 9.07    | 8.94    | 9.16    | 9.40    | 9.09    | 9.00    | 8.92    | 9.52    | 9.59    | 9.02    | 8.66    | 8.89    | 8.81    | 8.96    | 8.81    | 9.17    | 9.20    | 9.20    |
| Al                             | 7.04    | 6.92    | 7.05    | 6.83    | 6.59    | 6.90    | 6.98    | 7.07    | 6.47    | 6.41    | 6.97    | 7.13    | 7.09    | 7.18    | 7.03    | 7.18    | 6.82    | 6.80    | 6.80    |
| Ti                             | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.01    |
| Fe2                            | 0.03    | 0.03    | 0.03    | 0.03    | 0.03    | 0.02    | 0.02    | 0.04    | 0.02    | 0.03    | 0.02    | 0.02    | 0.02    | 0.02    | 0.02    | 0.02    | 0.02    | 0.02    | 0.02    |
| Mn                             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.00    | 0.01    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.01    | 0.00    | 0.01    | 0.01    | 0.01    |
| Mg                             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.03    | 0.00    | 0.01    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| Ca                             | 3.02    | 2.90    | 3.04    | 2.81    | 2.57    | 2.89    | 2.98    | 3.07    | 2.45    | 2.38    | 2.97    | 3.13    | 3.11    | 3.18    | 3.01    | 3.16    | 2.81    | 2.77    | 2.77    |
| Na                             | 0.91    | 1.03    | 0.90    | 1.12    | 1.35    | 1.05    | 0.97    | 0.86    | 1.47    | 1.54    | 0.98    | 0.82    | 0.84    | 0.77    | 0.92    | 0.77    | 1.12    | 1.15    | 1.15    |
| K                              | 0.02    | 0.02    | 0.02    | 0.02    | 0.03    | 0.03    | 0.02    | 0.01    | 0.03    | 0.04    | 0.02    | 0.01    | 0.03    | 0.03    | 0.05    | 0.04    | 0.04    | 0.05    | 0.05    |
| Sum_cat                        | 19.98   | 19.96   | 19.99   | 19.98   | 19.96   | 19.99   | 19.99   | 19.96   | 19.99   | 19.98   | 19.98   | 19.98   | 20.00   | 19.99   | 20.00   | 19.99   | 19.99   | 19.99   | 19.99   |