

Supplementary Read-Me File: Instructions for Supplementary Table 3

An evolutionary system of mineralogy, Part VII: The evolution of the igneous minerals (> 2500 Ma)

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Supplementary Table 3 is an xlsx file that records the occurrences of 115 of the most common primary igneous minerals (Columns E to DO), as recorded in modal information for 1850 varied igneous rocks (Rows 4 to 1853) from Albert Johanssen's (1932, 1937, 1938) *Descriptive Petrography of the Igneous Rocks; Alkaline Rocks and Carbonatites of the World*, by Alan R. Woolley and colleagues (Woolley 1987, 2001, 2019; Kogarko et al. 1995); and rock descriptions from Deer et al. (1982-2013) and from <https://mindat.org> (accessed February 20, 2022).

Column A, Rows 4 to 1853 provides the source of information for each rock. "J-II-036-2" indicates: Johanssen, Volume II, page 36, analysis 2. "W-I-167-2b" indicates: Wooley, Volume I, page 167, the second mode given in the text under Locality 2. "Z-3A-677-5" indicates: Deer et al., Volume 3A, page 677, the 5th rock described on that page. "Z-mindat-04" indicates rock information extracted from locality data at <https://mindat.org>; for details, search that locality.

Column B indicates the locality of the rock.

Column C indicates the given name of the rock. Many idiosyncratic rock names have been assigned to igneous rocks, notably by Johanssen (1932, 1937, 1938).

Column D assigns a three-letter code to each rock type, based on its mineralogy and texture. Abbreviations indicate: UMA = ultramafic; MAF = mafic; GRA = intrusive/granitic; RHY = extrusive/rhyolitic; CGP = complex granite pegmatite; AGP = alkaline/alkalic rocks; CAR = carbonatites; LAY = layered igneous intrusions. See text for more details.

Columns E to BC denote the 51 most common primary igneous minerals, arranged alphabetically. These minerals occur as major phases (> 5 volume percent) in 10 or more rocks in our tabulation.

Columns BD to DO denote 64 additional primary igneous minerals, arranged alphabetically. Most of these phases are common accessory minerals (< 5 volume percent).

Row 1 indicates the names of the minerals in Columns E to DO.

Row 2 indicates the total number of occurrences of the minerals in Columns E to DO as accessory phases (< 5 volume percent).

Row 3 indicates the total number of occurrences of the minerals in Columns E to DO as major phases (> 5 volume percent).

Rows 4 to 1853 record whether a mineral in Columns E to DO is present in the corresponding rock: “2” indicates a major phase (> 5 volume percent); “1” indicates an accessory phase (< 5 volume percent). A blank indicates that the mineral was not recorded in that rock.

References

- Deer, W.A., Howie, R.A., and Zussman, J. (1982-2013) Rock-Forming Minerals. Second Edition. 11 volumes. Longman, John Wiley, and The Geological Society of London.
- Johannsen, A. (1932) A Descriptive Petrography of the Igneous Rocks. Volume II. The Quartz-Bearing Rocks. The University of Chicago Press.
- Johannsen, A. (1937) A Descriptive Petrography of the Igneous Rocks. Volume III. The Intermediate Rocks. The University of Chicago Press.
- Johannsen, A. (1938) A Descriptive Petrography of the Igneous Rocks. Volume IV. Part I: The Feldspathoid Rocks. Part II: The Peridotites and Perknites. The University of Chicago Press.
- Kogarko, L.N., Kononova, V.A, Orlova, M.P., and Woolley, A.R. (1995) Alkaline Rocks and Carbonatites of the World. Part Two: Former USSR. Chapman & Hall.
- Woolley, A.R. (1987) Alkaline Rocks and Carbonatites of the World. Part 1: North and South America. British Museum (Natural History).
- Woolley, A.R. (2001) Alkaline Rocks and Carbonatites of the World. Part 3: Africa. Geological Society of London.
- Woolley, A.R. (2019) Alkaline Rocks and Carbonatites of the World. Part 4: Antarctica, Asia and Europe (Excluding the former USSR), Australasia and Oceanic Islands. Geological Society of London.