

## Supplementary Material

### Bruce William Chappell 1936–2012

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### Bibliography

1. Chappell, B.W. 1961. The stratigraphy and structural geology of the Manilla-Moore Creek district, NSW. *Journal and Proceedings of the Royal Society of New South Wales*, **95**, 63–75.
2. Heier, K.S., Chappell, B.W., Arriens, P.A. & Morgan, J.W. 1966. The geochemistry of four Icelandic basalts. *Norsk Geologisk Tidsskrift*, **46**, 427–437.
3. Norrish, K. & Chappell, B.W. 1967. X-ray fluorescence spectrography. In Zussman, J. (ed.), *Physical Methods in Determinative Mineralogy*, pp. 161–214. Academic Press, London.
4. Chappell, B.W. 1968. Volcanic greywackes from the Upper Devonian Baldwin Formation, Tamworth-Barraba district, New South Wales. *Journal of the Geological Society of Australia*, **15**, 87–102.
5. Chappell, B.W. & White, A.J.R. 1968. The X-ray spectrographic determination of sulfur coordination in scapolite. *American Mineralogist*, **53**, 1735–1738.
6. Compston, W., Chappell, B.W., Arriens, P.A. & Vernon, M.J. 1969. On the feasibility of NBS 70a K-feldspar as a Rb-Sr age reference sample. *Geochimica et Cosmochimica Acta*, **33**, 753–757.
7. Chappell, B.W., Compston, W., Arriens, P.A. & Vernon, M.J. 1969. Rubidium and strontium determinations by X-ray fluorescence spectrometry and isotope

- dilution below the part per million level. *Geochimica et Cosmochimica Acta*, **33**, 1002–1006.
8. Chappell, B.W. 1969. Granitic intrusions from the southern end of the New England Batholith. *Journal of the Geological Society of Australia*, **16**, 278–282.
  9. Banno, S. & Chappell, B.W. 1969. X-ray fluorescent analysis of Rb, Sr, Y, Pb and Th in Japanese Paleozoic slates. *Geochemical Journal*, **3**, 127–134.
  10. Compston, W., Arriens, P.A., Vernon, M.J. & Chappell, B.W. 1970. Rubidium-strontium chronology and chemistry of lunar material. *Science*, **167**, 474–476.
  11. Chappell, B.W. & White, A.J.R. 1970. Further data on an 'eclogite' from the Sittampundi Complex, India. *Mineralogical Magazine*, **37**, 555–560.
  12. Compston, W., Chappell, B.W., Arriens, P.A. & Vernon, M.J. 1970. The chemistry and age of Apollo 11 lunar material. *Proceedings of the Apollo 11 Lunar Science Conference*, Supplement 1, *Geochimica et Cosmochimica Acta*, **2**, 1007–1027.
  13. Lovering, J.F., Le Maitre, R.W. & Chappell, B.W. 1971. Murchison C2 carbonaceous chondrite and its inorganic composition. *Nature*, **230**, 18–20.
  14. Compston, W., Berry, H., Vernon, M.J., Chappell, B.W. & Kaye, M.J. 1971. Rubidium-strontium chronology and chemistry of lunar material from the Ocean of Storms. *Proceedings of the Second Lunar Science Conference*, Supplement 2, *Geochimica et Cosmochimica Acta*, **2**, 1471–1485.
  15. Compston, W., Vernon, M.J., Berry, H., Rudowski, R., Gray, C.M., Ware, N., Chappell, B.W. & Kaye, M. 1972. Age and petrogenesis of Apollo 14 basalts. *Lunar Science III*, pp. 151–153.
  16. Chappell, B.W., Compston, W., Green, D.H. & Ware, N.G. 1972. Chemistry, geochronology and petrogenesis of lunar sample 15555. *Science*, **175**, 415–416.
  17. White, A.J.R., Chappell, B.W. & Jakeš, P. 1972. Coexisting clinopyroxene, garnet, and amphibole from an 'eclogite', Kakanui, New Zealand. *Contributions to Mineralogy and Petrology*, **34**, 185–191.
  18. Mackenzie, D.E. & Chappell, B.W. 1972. Shoshonitic and calc-alkaline lavas from the highlands of Papua New Guinea. *Contributions to Mineralogy and Petrology*, **35**, 50–62.

19. Compston, W., Vernon, M.J., Berry, H., Rudowski, R., Gray, C.M., Ware, N.G., Chappell, B.W. & Kaye, M.J. 1972. Apollo 14 mineral ages and the thermal history of the Fra Mauro Formation. *Proceedings of the Third Lunar Science Conference*, Supplement 3, *Geochimica et Cosmochimica Acta*, **2**, 1487–1501.
20. Compston, W., Vernon, M.J., Chappell, B.W. & Freeman, R. 1973. Rb-Sr model ages and chemical composition of nine Apollo 16 soils. *Lunar Science IV*, pp. 158–158b.
21. Chappell, B.W. & Green, D.H. 1973. Chemical compositions and petrogenetic relationships in Apollo 15 mare basalts. *Earth and Planetary Science Letters*, **18**, 237–246.
22. White, A.J.R., Chappell, B.W. & Cleary, J.R. 1974. Geologic setting and emplacement of some Australian Paleozoic batholiths and implications for intrusive mechanisms. *Pacific Geology*, **8**, 159–171.
23. Chappell, B.W. & White, A.J.R. 1974. Two contrasting granite types. *Pacific Geology*, **8**, 173–174.
24. Price, R.C. & Chappell, B.W. 1975. Fractional crystallisation and the petrology of Dunedin volcano. *Contributions to Mineralogy and Petrology*, **53**, 157–182.
25. Williams, I.S., Compston, W., Chappell, B.W. & Shirahase, T. 1975. Rubidium-strontium age determinations on micas from a geologically controlled, composite batholith. *Journal of the Geological Society of Australia*, **22**, 497–505.
26. Chappell, B.W. & White, A.J.R. 1976. Plutonic rocks of the Lachlan Mobile Zone. *Twenty Fifth International Geological Congress, Field Guide Excursion 13C*, 40 pp.
27. White, A.J.R., Williams, I.S. & Chappell, B.W. 1976. The Jindabyne Thrust and its tectonic, physiographic and petrogenetic significance. *Journal of the Geological Society of Australia*, **23**, 105–112.
28. White, A.J.R., Williams, I.S. & Chappell, B.W. 1976. *Berridale 1:100 000 Geological Sheet*. New South Wales Geological Survey, Sydney.
29. White, A.J.R., Williams, I.S. & Chappell, B.W. 1977. *Geology of the Berridale 1:100 000 Sheet (8625)*. New South Wales Geological Survey, Sydney, 138 pp.

30. Flood, R.H., Vernon, R.H., Shaw, S.E. & Chappell, B.W. 1977. Origin of pyroxene-plagioclase aggregates in a rhyodacite. *Contributions to Mineralogy and Petrology*, **60**, 299–309.
31. White, A.J.R. & Chappell, B.W. 1977. Ultrametamorphism and granitoid genesis. *Tectonophysics*, **43**, 7–22.
32. O'Neil, J.R. & Chappell, B.W. 1977. Oxygen and hydrogen isotope relations in the Berridale batholith. *Journal of the Geological Society (London)*, **133**, 559–571.
33. Norrish, K. & Chappell, B.W. 1977. X-ray fluorescence spectrometry. In Zussman, J. (ed.), *Physical Methods in Determinative Mineralogy*, 2nd ed., 201–272. Academic Press, London.
34. Smith, I.E.M., Chappell, B.W., Ward, G.K. & Freeman, R.S. 1977. Peralkaline rhyolites associated with andesitic arcs of the southwest Pacific. *Earth and Planetary Science Letters*, **37**, 230–236.
35. Frey, F.A., Ferguson, J. & Chappell, B.W. 1977. Petrogenesis of South African and Australian kimberlite suites. *Second International Kimberlite Conference, Santa Fe (extended abstract)*.
36. Frey, F.A., Chappell, B.W. & Roy, S.D. 1978. Fractionation of rare-earth elements in the Tuolumne Intrusive Series, Sierra Nevada Batholith, California. *Geology*, **6**, 239–242.
37. Hine, R., Williams, I.S., Chappell, B.W. & White, A.J.R. 1978. Contrasts between I- and S-type granitoids of the Kosciusko Batholith. *Journal of the Geological Society of Australia*, **25**, 219–234.
38. Griffin, T.J., White, A.J.R. & Chappell, B.W. 1978. The Moruya Batholith and geochemical contrasts between the Moruya and Jindabyne suites. *Journal of the Geological Society of Australia*, **25**, 235–247.
39. Chappell, B.W. 1978. Granitoids from the Moonbi district, New England Batholith, eastern Australia. *Journal of the Geological Society of Australia*, **25**, 267–283.
40. Eggleton, R.A. & Chappell, B.W. 1978. The crystal structure of stilpnomelane. Part III: Chemistry and physical properties. *Mineralogical Magazine*, **42**, 361–368.
41. Bultitude, R.J., Johnson, R.W. & Chappell, B.W. 1978. Andesites of Bagana volcano, Papua New Guinea: chemical stratigraphy, and a reference andesite

- composition. *BMR Journal of Australian Geology and Geophysics*, **3**, 281–295.
42. Jaques, A.L., Chappell, B.W. & Taylor, S.R. 1978. Geochemistry of LIL-element enriched tholeiites from the Marum ophiolite complex, northern Papua New Guinea. *BMR Journal of Australian Geology and Geophysics*, **3**, 297–310.
43. Johnson, R.W. & Chappell, B.W. 1979. Chemical analyses of rocks from the late Cainozoic volcanoes of north-central New Britain and the Witu Islands, Papua New Guinea. *Bureau of Mineral Resources, Australia, Report 209*, *BMR Microform MF76*.
44. Bateman, P.C. & Chappell, B.W. 1979. Crystallization, fractionation, and solidification of the Tuolumne Intrusive Series, Yosemite National Park, California. *Geological Society of America Bulletin*, **90**, 465–482.
45. Compston, W. & Chappell, B.W. 1979. Sr-isotope evolution of granitoid source rocks. In McElhinny, M.W. (ed.), *The Earth: Its Origin, Structure and Evolution*, 377–426. Academic Press, London.
46. Silver, L.T., Taylor, H.P. Jr. & Chappell, B.W. 1979. Some petrological, geochemical and geochronological observations of the Peninsular Ranges Batholith near the international border of the U.S.A. and Mexico. In Abbott, P.L. & Todd, V.R. (eds), *Geological Society of America, 1979 Guidebook*, pp. 83–110.
47. Ferguson, J., Chappell, B.W. & Goleby, A.B. 1980. Granitoids in the Pine Creek Geosyncline. *Proceedings of International Uranium Symposium on the Pine Creek Geosyncline*, International Atomic Energy Agency, Vienna, 73–90.
48. Flood, R.H., Shaw, S.E. & Chappell, B.W. 1980. Mineralogical and chemical matching of plutonic and associated volcanic units, New England Batholith, Australia. *Chemical Geology*, **29**, 163–170.
49. Jaques, A.L. & Chappell, B.W. 1980. Petrology and trace element geochemistry of the Papuan Ultramafic Belt. *Contributions to Mineralogy and Petrology*, **75**, 55–70.
50. Gust, D.A., Johnson, R.W. & Chappell, B.W. 1980. Petrological data catalogue for Boisa Island, an andesitic volcano in Papua New Guinea: whole-rock, mineral, and modal analyses and modelling data. *Bureau of Mineral Resources, Australia, Report 227*. *BMR Microform MF147*.

51. Wyborn, D., Chappell, B.W. & Johnston, R.M. 1981. Three S-type volcanic suites from the Lachlan Fold Belt, southeast Australia. *Journal of Geophysical Research*, **86**, 10335–10348.
52. McCulloch, M.T. & Chappell, B.W. 1982. Nd isotopic characteristics of S- and I-type granites. *Earth and Planetary Science Letters*, **58**, 51–64.
53. Hensel, H.D., Chappell, B.W., Compston, W. & McCulloch, M.T. 1982. A neodymium and strontium isotopic investigation of granitoids and possible source rocks from New England, eastern Australia. In Flood, P.G. & Runnegar, B. (eds), *New England Geology*, 193–199. University of New England, Armidale.
54. Collins, W.J., Beams, S.D., White, A.J.R. & Chappell, B.W. 1982. Nature and origin of A-type granites with particular reference to southeastern Australia. *Contributions to Mineralogy and Petrology*, **80**, 189–200.
55. McCulloch, M.T., Arculus, R.J., Chappell, B.W. & Ferguson, J. 1982. Isotopic and geochemical studies of nodules in kimberlite have implications for the lower continental crust. *Nature*, **300**, 166–169.
56. Williams, I.S., Compston, W. & Chappell, B.W. 1983. Zircon and monazite U-Pb systems and the histories of I-type magmas, Berridale Batholith, Australia. *Journal of Petrology*, **24**, 76–97.
57. Johnson, R.W., Macnab, R.P., Arculus, R.J., Ryburn, R.J., Cooke, R.J.S. & Chappell, B.W. 1983. Bamus volcano, Papua New Guinea: dormant neighbour of Ulawun, and magnesian-andesite locality. *Geologische Rundschau*, **72**, 207–237.
58. White, A.J.R. & Chappell, B.W. 1983. Granitoid types and their distribution in the Lachlan Fold Belt, southeastern Australia. In Roddick, J.A. (ed.), *Circum-Pacific Plutonic Terranes*, Geological Society of America Memoir **159**, 21–34.
59. Wyborn, L.A.I. & Chappell, B.W. 1983. Chemistry of the Ordovician and Silurian greywackes of the Snowy Mountains, southeastern Australia: an example of chemical evolution of sediments with time. *Chemical Geology*, **39**, 81–92.
60. Arculus, R.J., Johnson, R.W., Chappell, B.W., McKee, C.O. & Sakai, H. 1983. Ophiolite-contaminated andesites, trachybasalts, and cognate inclusions of Mount Lamington, Papua New Guinea: anhydrite-amphibole-bearing lavas

- and the 1951 cumulodome. *Journal of Volcanology and Geothermal Research*, **18**, 215–247.
61. Wallace, D.A., Johnson, R.W., Chappell, B.W., Arculus, R.J., Perfit, M.R. & Crick, I.H. 1983. Cainozoic volcanism of the Tabar, Lihir, Tanga, and Feni Islands, Papua New Guinea: geology, whole-rock analyses and rock-forming mineral compositions. *Bureau of Mineral Resources, Australia, Report*, **243**, *BMR Microform MF197*.
  62. Jaques, A.L., Chappell, B.W. & Taylor, S.R. 1983. Geochemistry of cumulus peridotites and gabbros from the Marum Ophiolite Complex, northern Papua New Guinea. *Contributions to Mineralogy and Petrology*, **82**, 154–164.
  63. Jaques, A.L., Lewis, J.D., Smith, C.B., Gregory, G.P., Ferguson, J., Chappell, B.W. & McCulloch, M.T. 1984. The diamond-bearing ultrapotassic (lamproitic) rocks of the West Kimberley region, Western Australia. In Kornprobst, J. (ed.), *Proceedings of the Third International Kimberlite Conference*. Vol. 1, *Kimberlites and related rocks. Developments in Petrology*, **9**, 225–254. Elsevier, Amsterdam.
  64. Chappell, B.W. 1984. Source rocks of I- and S-type granites in the Lachlan Fold Belt, southeastern Australia. *Philosophical Transactions of the Royal Society of London A*, **310**, 693–707.
  65. Sawka, W.N., Chappell, B.W. & Norrish, K. 1984. Light-rare-earth-element zoning in sphene and allanite during granitoid fractionation. *Geology*, **12**, 131–134.
  66. Windrim, D.P., McCulloch, M.T., Chappell, B.W. & Cameron, W.E. 1984. Nd isotopic systematics and chemistry of Central Australian sapphirine granulites: an example of rare earth element mobility. *Earth and Planetary Science Letters*, **70**, 27–39.
  67. Bowden, P., Batchelor, R.A., Chappell, B.W., Didier, J. & Lameyre, J. 1984. Petrological, geochemical and source criteria for the classification of granitic rocks: a discussion. *Physics of the Earth and Planetary Interiors*, **35**, 1–11.
  68. Chappell, B.W. & White, A.J.R. 1984. I- and S-type granites in the Lachlan Fold Belt, southeastern Australia. In Xu Keqin & Tu Guangchi (eds), *Geology of Granites and Their Metallogenic Relations*, pp. 87–101. Science Press, Beijing.

69. White, A.J.R., Collins, W.J. & Chappell, B.W. 1984. Influence of melt structure on the trace element composition of granites. In Xu Keqin & Tu Guangchi (eds), *Geology of Granites and Their Metallogenetic Relations*, pp. 737–751. Science Press, Beijing.
70. Hensel, H.-D., McCulloch, M.T. & Chappell, B.W. 1985. The New England Batholith: constraints on its derivation from Nd and Sr isotopic studies of granitoids and country rocks. *Geochimica et Cosmochimica Acta*, **49**, 369–384.
71. Hill, R.I., Silver, L.T., Chappell, B.W. & Taylor, H.P. Jr. 1985. Solidification and recharge of SiO<sub>2</sub>-rich plutonic magma chambers. *Nature* **313**, 643–646.
72. Johnson, R.W., Jaques, A.L., Hickey, R.L., McKee, C.O. & Chappell, B.W. 1985. Manam Island, Papua New Guinea: petrology and geochemistry of a low-TiO<sub>2</sub> basaltic island-arc volcano. *Journal of Petrology*, **26**, 283–323.
73. Sawka, W.N. & Chappell, B.W. 1985. Geothermal implications for the Sierra Nevada Batholith from vertical and horizontal compositional zoning studies in contrasting pluton types. *Conference on high heat production (HHP) granites, hydrothermal circulation and ore genesis*, 329–343. The Institution of Mining and Metallurgy, Cornwall.
74. Glikson, M., Chappell, B.W., Freeman, R.S. & Webber, E. 1985. Trace elements in oil shales, their source and organic association with particular reference to Australian deposits. *Chemical Geology*, **53**, 155–174.
75. Ewart, A., Chappell, B.W. & Le Maitre, R.W. 1985. Aspects of the mineralogy and chemistry of the intermediate-silicic Cainozoic volcanic rocks of eastern Australia. Part 1. introduction and geochemistry. *Australian Journal of Earth Sciences*, **32**, 359–382.
76. Sawka, W.N., Banfield, J.F. & Chappell, B.W. 1986. A weathering-related origin of widespread monazite in S-type granites. *Geochimica et Cosmochimica Acta*, **50**, 171–175.
77. White, A.J.R., Clemens, J.D., Holloway, J.R., Silver, L.T., Chappell, B.W. & Wall, V.J. 1986. S-type granites and their probable absence in southwestern North America. *Geology*, **14**, 115–118.
78. Both, R.A., Crook, K.A.W., Taylor, B., Brogan, S., Chappell, B.W., Frankel, E., Liu, L., Sinton, J. & Tiffin, D. 1986. Hydrothermal chimneys and associated fauna in the Manus Back-Arc Basin, Papua New Guinea. *Eos*, **67**, 489–490.

79. Sawka, W.N. & Chappell, B.W. 1986. The distribution of radioactive heat production in I- and S-type granites and residual source regions: implications to high heat flow areas in the Lachlan Fold Belt, Australia. *Australian Journal of Earth Sciences*, **33**, 107–118.
80. Wyborn, D. & Chappell, B.W. 1986. The petrogenetic significance of chemically related plutonic and volcanic rock units. *Geological Magazine*, **123**, 619–628.
81. Kistler, R.W., Chappell, B.W., Peck, D.L. & Bateman, P.C. 1986. Isotopic variation in the Tuolumne Intrusive Suite, central Sierra Nevada, California. *Contributions to Mineralogy and Petrology*, **94**, 205–220.
82. Borg, S.G., Stump, E., Chappell, B.W., McCulloch, M.T., Wyborn, D., Armstrong, R.L. & Holloway, J.R. 1987. Granitoids of northern Victoria Land, Antarctica: implications of chemical and isotopic variations to regional crustal structure and tectonics. *American Journal of Science*, **287**, 127–169.
83. Sawka, W.N. & Chappell, B.W. 1987. Mafic xenoliths from I- and S-type granitoids: evidence for variations in deep crustal radioactive heat production. *Geophysical Research Letters*, **14**, 303–306.
84. Wyborn, D., Turner, B.S. & Chappell, B.W. 1987. The Boggy Plain Supersuite: A distinctive belt of I-type igneous rocks of potential economic significance in the Lachlan Fold Belt. *Australian Journal of Earth Sciences*, **34**, 21–43.
85. Glikson, M., Chappell, B.W. & Webber, E. 1987. Trace element associations in raw and spent oil shales from the Rundle oil shale complex in Queensland: Environmental implications. *Fuel*, **66**, 400–403.
86. Kaye, M.J. & Chappell, B.W. 1987. X-ray fluorescence spectrometric analysis of the Allende meteorite reference sample. In Jarosewich, E., Clarke, R.S. Jr. & Barrows, J.N. (eds), *The Allende Meteorite Reference Sample*. Smithsonian Contributions to the Earth Sciences **27**, 28–29.
87. Whalen, J.B., Currie, K.L. & Chappell, B.W. 1987. A-type granites: geochemical characteristics, discrimination and petrogenesis. *Contributions to Mineralogy and Petrology*, **95**, 407–419.
88. Perfit, M.R., Langmuir, C.H., Baekisapa, M., Chappell, B.W., Johnson, R.W., Staudigel, H. & Taylor, S.R. 1987. Geochemistry and petrology of volcanic rocks from the Woodlark Basin: addressing questions of ridge subduction.

*Circum-Pacific Council for Energy and Mineral Resources Earth Science Series* **7**, 113–154.

89. Johnson, R.W., Jaques, A.L., Langmuir, C.H., Perfit, M.R., Staudigel, H., Dunkley, P.N., Chappell, B.W., Taylor, S.R. & Baekisapa, M. 1987. Ridge subduction and forearc volcanism: petrology and geochemistry of rocks dredged from the western Solomon Arc and Woodlark Basin. *Circum-Pacific Council for Energy and Mineral Resources Earth Science Series* **7**, 155–226.
90. Chappell, B.W., White, A.J.R. & Wyborn, D. 1987. The importance of residual source material (restite) in granite petrogenesis. *Journal of Petrology*, **28**, 1111–1138.
91. Arndt, N.T., Brügmann, G.E., Lehnert, K., Chauvel, C. & Chappell, B.W. 1987. Geochemistry, petrogenesis and tectonic environment of Circum-Superior Belt basalts, Canada. In Pharaoh, T.C., Beckinsale, R.D. & Rickard, D. (eds), *Geochemistry and Mineralization of Proterozoic Volcanic Suites*, Geological Society Special Publication **33**, 133–145.
92. Nelson, D.R., Chivas, A.R., Chappell, B.W. & McCulloch, M.T. 1988. Geochemical and isotopic systematics in carbonatites and implications for the evolution of ocean-island sources. *Geochimica et Cosmochimica Acta*, **52**, 1–17.
93. Whalen, J.B. & Chappell, B.W. 1988. Opaque mineralogy and mafic mineral chemistry of I- and S-type granites of the Lachlan fold belt, southeast Australia. *American Mineralogist*, **73**, 281–296.
94. Sawka, W.N. & Chappell, B.W. 1988. Fractionation of uranium, thorium and rare earth elements in a vertically zoned granodiorite: Implications for heat production distributions in the Sierra Nevada batholith, California, U.S.A. *Geochimica et Cosmochimica Acta*, **52**, 1131–1143.
95. Smith, I.E.M., White, A.J.R., Chappell, B.W. & Eggleton, R.A. 1988. Fractionation in a zoned monzonite pluton: Mount Dromedary, southeastern Australia. *Geological Magazine*, **125**, 273–284.
96. White, A.J.R. & Chappell, B.W. 1988. Granites. In Douglas, J.G. & Ferguson, J.A. (eds), *Geology of Victoria*, 427–439. Victorian Division, Geological Society of Australia.

97. Hill, R.I., Chappell, B.W. & Silver, L.T. 1988. The San Jacinto Intrusive Complex 2. Geochemistry. *Journal of Geophysical Research*, **93**, 10349–10372.
98. Silver, L.T., James, E.W. & Chappell, B.W. 1988. Petrological and geochemical investigations at the Cajon Pass Deep Drillhole. *Geophysical Research Letters*, **15**, 961–964.
99. Anderson, R.N., Dove, R.E., Broglia, C., Silver, L.T., James, E.W. & Chappell, B.W. 1988. Elemental and mineralogical analyses using geochemical logs from the Cajon Pass Scientific Drillhole, California, and their preliminary comparison with core analyses. *Geophysical Research Letters*, **15**, 969–972.
100. Chappell, B.W. & Stephens, W.E. 1988. Origin of infracrustal (I-type) granite magmas. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **79**, 71–86.
101. Silver, L.T. & Chappell, B.W. 1988. The Peninsular Ranges Batholith: an insight into the evolution of the Cordilleran batholiths of southwestern North America. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **79**, 105–121.
102. White, A.J.R. & Chappell, B.W. 1988. Some supracrustal (S-type) granites of the Lachlan Fold Belt. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **79**, 169–181.
103. Bateman, P.C., Chappell, B.W., Kistler, R.W., Peck, D.L. & Busacca, A. 1988. Tuolumne Meadows Quadrangle, California - Analytic data. *U.S. Geological Survey Bulletin*, **1819**, 43 pp.
104. Ewart, A., Chappell, B.W. & Menzies, M.A. 1988. An overview of the geochemical and isotopic characteristics of the eastern Australian Cainozoic volcanic provinces. *Journal of Petrology Special Lithosphere Issue*, 225–273.
105. Chappell, B.W., White, A.J.R. & Hine, R. 1988. Granite provinces and basement terranes in the Lachlan Fold Belt, southeastern Australia. *Australian Journal of Earth Sciences*, **35**, 505–521.
106. Johnson, R.W., Perfit, M.R., Chappell, B.W., Jaques, A.L., Shuster, R.D. & Ridley, W.I. 1988. Volcanism in the New Ireland Basin and Manus Island region: notes on the geochemistry and petrology of some dredged volcanic rocks from a rifted-arc region. *Circum-Pacific Council for Energy and Mineral Resources Earth Science Series*, **9**, 113–130.

107. Arculus, R.J., Ferguson, J., Chappell, B.W., Smith, D., McCulloch, M.T., Jackson, I., Hensel, H.D., Taylor, S.R., Knutson, J. & Gust, D.A. 1989. Trace element and isotopic characteristics of eclogites and other xenoliths derived from the lower continental crust of southeastern Australia and southwestern Colorado Plateau, U.S.A. In Smith, D.C. (ed.), *Eclogites and Eclogite-Facies Rocks*, Elsevier, Amsterdam, 335–386.
108. Jaques, A.L., Kerr, I.D., Lucas, H., Sun, S-S. & Chappell, B.W. 1989. Mineralogy and petrology of picritic monchiquites from Wandagee, Carnarvon Basin, Western Australia. *Kimberlites and Related Rocks*, Geological Society of Australia Special Publication **14**, 120–139.
109. Jaques, A.L., Sun, S-S. & Chappell, B.W. 1989. Geochemistry of the Argyle (AK1) lamproite pipe, Western Australia. *Kimberlites and Related Rocks*, Geological Society of Australia Special Publication **14**, 170–188.
110. White, A.J.R. & Chappell, B.W. 1989. *Geology of the Numbla 1:100 000 Sheet (8624)*. New South Wales Geological Survey, Sydney, 160 pp.
111. White, A.J.R., Chappell, B.W., Williams, I.S. & Glen, R.A. 1989. *Numbla 1:100 000 Geological Sheet*. New South Wales Geological Survey, Sydney.
112. Hergt, J.M., Chappell, B.W., Faure, G. & Mensing, T.M. 1989. The geochemistry of Jurassic dolerites from Portal Peak, Antarctica. *Contributions to Mineralogy and Petrology*, **102**, 298–305.
113. Ewart, A. & Chappell, B.W. 1989. East-Australian petrology and geochemistry: trace element geochemistry. In Johnson, R.W., Knutson, J. & Taylor, S.R. (eds), *Intraplate Volcanism in Eastern Australia and New Zealand*, Australian Academy of Science, Canberra & Cambridge University Press, Sydney, 219–248.
114. Hergt, J.M., Chappell, B.W., McCulloch, M.T., McDougall, I. & Chivas, A.R. 1989. Geochemical and isotopic constraints on the origin of the Jurassic dolerites of Tasmania. *Journal of Petrology*, **30**, 841–883.
115. Chappell, B.W. & Hergt, J.M. 1989. The use of known Fe content as a flux monitor in neutron activation analysis. *Chemical Geology*, **78**, 151–157.
116. Jaques, A.L., O'Neill, H.St.C., Smith, C.B., Moon, J. & Chappell, B.W. 1990. Diamondiferous peridotite xenoliths from the Argyle (AK1) lamproite pipe, Western Australia. *Contributions to Mineralogy and Petrology*, **104**, 255–276.

117. Sawka, W.N., Chappell, B.W. & Kistler, R.W. 1990. Granitoid compositional zoning by side-wall boundary layer differentiation: Evidence from the Palisade Crest Intrusive Suite, central Sierra Nevada, California. *Journal of Petrology*, **31**, 519–553.
118. Chappell, B.W., Williams, I.S., White, A.J.R. & McCulloch, M.T. 1990. Granites of the Lachlan Fold Belt. ICOG 7 Field Guide Excursion A-2. *Bureau of Mineral Resources Geology and Geophysics Australia, Record 1990/48*, 95 pp.
119. Chappell, B.W., White, A.J.R. & Williams, I.S. 1990. Cooma Granodiorite and Berridale Batholith. ICOG 7 Field Guide Excursion B-1. *Bureau of Mineral Resources Geology and Geophysics Australia, Record 1990/50*, 53 pp.
120. Richards, J.P., Chappell, B.W. & McCulloch, M.T. 1990. Intraplate-type magmatism in a continent-island-arc collision zone: Porgera intrusive Complex, Papua New Guinea. *Geology*, **18**, 958–961.
121. Sawka, W.N., Heizler, M.T., Kistler, R.W. & Chappell, B.W. 1990. Geochemistry of highly fractionated I- and S-type granites from the tin-tungsten province of western Tasmania. In Stein, H.J. & Hannah, J.L. (eds), *Ore-bearing Systems; Petrogenesis and Mineralizing Processes*, Geological Society of America Special Paper **246**, 161–179.
122. Chen, Y.D., Price, R.C., White, A.J.R. & Chappell, B.W. 1990. Mafic inclusions from the Glenbog and Blue Gum granite suites, southeastern Australia. *Journal of Geophysical Research*, **95**, 17757–17785.
123. White, A.J.R. & Chappell, B.W. 1991. Per magma ad magma downunder. *Geological Journal*, **25**, 221–225.
124. Richards, J.P., McCulloch, M.T., Chappell, B.W. & Kerrich, R. 1991. Sources of metals in the Porgera gold deposit, Papua New Guinea: Evidence from alteration, isotope, and noble metal geochemistry. *Geochimica et Cosmochimica Acta*, **55**, 565–580.
125. Chappell, B.W. 1991. Trace element analysis of rocks by X-ray spectrometry. *Advances in X-ray Analysis*, **34**, 263–276.
126. Chappell, B.W., English, P.M., King, P.L., White, A.J.R. & Wyborn, D. 1991. *Granites and related rocks of the Lachlan Fold Belt (1:1 250 000 scale map)*. Bureau of Mineral Resources, Geology and Geophysics, Australia.

127. Chappell, B.W., White, A.J.R. & Williams, I.S. 1991. A transverse section through granites of the Lachlan Fold Belt. Second Hutton Symposium Field Guide. *Bureau of Mineral Resources Geology and Geophysics Australia, Record 1991/22*, 125pp.
128. Wyborn, D., White, A.J.R. & Chappell, B.W. 1991. Enclaves in the S-type Cowra Granodiorite. Second Hutton Symposium Field Guide. *Bureau of Mineral Resources Geology and Geophysics Australia, Record 1991/24*, 34 pp.
129. Chen, Y.D., Chappell, B.W. & White, A.J.R. 1991. Mafic enclaves of some I-type granites of the Lachlan Fold Belt, southeastern Australia. In Didier, J. & Barbarin, B. (eds), *Enclaves and Granite Petrology*, pp. 113–124. Elsevier, Amsterdam.
130. Chappell, B.W. & White, A.J.R. 1991. Restite enclaves and the restite model. In Didier, J. & Barbarin, B. (eds), *Enclaves and Granite Petrology*, pp. 375–381. Elsevier, Amsterdam.
131. White, A.J.R., Chappell, B.W. & Wyborn, D. 1991. Enclaves of S-type granites in the Lachlan Fold Belt, southeastern Australia. In Didier, J. & Barbarin, B. (eds), *Enclaves and Granite Petrology*, pp. 493–507. Elsevier, Amsterdam.
132. Johnston, C. & Chappell, B.W. 1992. Topaz bearing rocks from Mount Gibson, North Queensland. *American Mineralogist*, **77**, 303–313.
133. Chappell, B.W. & White, A.J.R. 1992. I- and S-type granites in the Lachlan Fold Belt. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **83**, 1–26.
134. Champion, D.C. & Chappell, B.W. 1992. Petrogenesis of felsic I-type granites: an example from northern Queensland. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **83**, 115–126.
135. Hill, R.I., Chappell, B.W. & Campbell, I.H. 1992. Late Archaean granites of the southeastern Yilgarn Block, Western Australia: age, geochemistry, and origin. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **83**, 211–226.
136. Blevin, P.L. & Chappell, B.W. 1992. The role of magma sources, oxidation states and fractionation in determining the granite metallogeny of eastern Australia. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **83**, 305–316.

137. Ewart, A., Schon, R.W. & Chappell, B.W. 1992. The Cretaceous volcanic-plutonic province of the central Queensland (Australia) coast—a rift related ‘calc-alkaline’ province. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **83**, 327–345.  
[The preceding five publications were also published in *Geol. Soc. Amer. Spec. Pap.* **272**, with the same page numbers as the original volume.]
138. Hill, R.I., Campbell, I.H. & Chappell, B.W. 1992. Crustal growth, crustal reworking, and granite genesis in the southeastern Yilgarn Block, Western Australia. *Geology Dept (Key Centre) & University Extension, The University of Western Australia Publ.* , **22**, 203–212.
139. Rudnick, R.L., McDonough, W.F. & Chappell, B.W. 1993. Carbonate metasomatism in the northern Tanzanian mantle: petrographic and geochemical characteristics. *Earth and Planetary Science Letters*, **114**, 463–475.
140. Blevin, P.L. & Chappell, B.W. 1993. The influence of fractionation and magma redox on the distribution of mineralisation associated with the New England Batholith. In Flood, P.G. & Aitchison, J.C. (eds), *New England Orogen, eastern Australia*, 423–429. University of New England, Armidale.
141. Allen, C.M. & Chappell, B.W. 1993. Contrasting Carboniferous-Permian and Cretaceous plutonism in the Urannah Batholith, northern New England Fold Belt. In Flood, P.G. & Aitchison, J.C. (eds), *New England Orogen, eastern Australia*, 573–579. University of New England, Armidale.
142. Pratson, E.L., Anderson, R.N., Dove, R.E., Lyle, M., Silver, L.T., James, E.W. & Chappell, B.W. 1992. Geochemical logging in the Cajon Pass drill hole and its application to a new, oxide, igneous rock classification scheme. *Journal of Geophysical Research*, **97**, 5167–5180.
143. Chappell, B.W., White, A.J.R. & Wyborn, D. 1993. The Cowra Granodiorite and its enclaves. IAVCEI Field Guide. *Australian Geological Survey Organisation, Record 1993/67*, 18 pp.
144. Chappell, B.W. 1994. Lachlan and New England: Fold belts of contrasting magmatic and tectonic development. *Journal and Proceedings of the Royal Society of New South Wales*, **127**, 47–59.
145. Ewart, A., Bryan, W.B., Chappell, B.W. & Rudnick, R.L., 1994. Regional geochemistry of the Lau-Tonga arc and backarc systems. In Hawkins, J.,

- Parson, L. & Allan, J. *et al.* (eds), *Proceedings ODP Scientific Results*, **135**, 385–425. Ocean Drilling Program, College Station, Texas.
146. Johnson, R.W., McKee, C.O., Eggins, S., Woodhead, J., Arculus, R.A., Chappell, B.W. & Sheraton, J. 1995. Taking petrologic pathways toward understanding Rabaul's restless caldera. *Eos*, **76**, 166–169.
147. Blevin, P.L. & Chappell, B.W. 1995. Chemistry, origin, and evolution of mineralized granites in the Lachlan Fold Belt, Australia: the metallogeny of I- and S-type granites. *Economic Geology*, **90**, 1604–1619.
148. Sha, L-K. & Chappell, B.W. 1996. Two-site multi-cation ordering-disordering in minerals: An alternative kinetic model. *American Mineralogist*, **81**, 881–890.
149. Sha, L-K. & Chappell, B.W. 1996. A kinetic model for three-site intracrystalline ordering-disordering in minerals. *Geochimica et Cosmochimica Acta*, **60**, 2075–2086.
150. Chappell, B.W. 1996. Magma mixing and the production of compositional variation within granite suites: Evidence from the granites of southeastern Australia. *Journal of Petrology*, **37**, 449–470.
151. Chappell, B.W. 1997. Compositional variation within granite suites of the Lachlan Fold Belt: its causes and implications for the physical state of granite magma. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **88**, 159–170.
152. Blevin, P.L., Chappell, B.W. & Allen, C.M. 1997. Intrusive metallogenic provinces in eastern Australia based on granite source and composition. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **88**, 281–290.
- [The preceding two publications were also published in *Geol. Soc. Amer. Spec. Pap.* **315**, with the same page numbers as the original volume.]
153. King, P.L., White, A.J.R., Chappell, B.W. & Allen, C.M. 1997. Characterization and origin of aluminous A-type granites from the Lachlan Fold Belt, southeastern Australia. *Journal of Petrology*, **38**, 371–391.
154. Bryant, C.J., Arculus, R.J. & Chappell, B.W. 1997. Clarence River Supersuite: 250 Ma Cordilleran tonalitic I-type intrusions in eastern Australia. *Journal of Petrology*, **38**, 975–1001.

155. Sha, L.-K. & Chappell, B.W. 1997. Multi-site order-disorder kinetics in crystalline solids: A generalized formulation. *American Mineralogist*, **82**, 325–336.
156. Allen, C.M., Wooden, J.L. & Chappell, B.W. 1997. Late Paleozoic crustal history of central coastal Queensland interpreted from geochemistry of Mesozoic plutons: The effects of continental rifting. *Lithos*, **42**, 67–88.
157. Bultitude, R.J., Garrad, P.D., Donchak, P.J.T., Domagala, J., Champion, D.C., Rees, I.D., Mackenzie, D.E., Wellman, P., Knutson, J., Fanning, C.M., Fordham, B.G., Grimes, K.G., Oversby, B.S., Rienks, I.P., Stephenson, P.J., Chappell, B.W., Pain, C.F., Wilford, R.J., Rigby, J.F. & Woodbury, M.J., 1997. Cairns Region. *AGSO Bulletin*, **240**, 225–325.
158. Chappell, B.W. & White, A.J.R. 1998. Development of P-rich granites by sequential restite fractionation and fractional crystallisation: the Koetong Suite in the Lachlan Fold Belt. *Acta Universitatis Carolinae Geologica*, **42**, 23–27.
159. Sha, L.-K. & Chappell, B.W. 1998. Contribution of feldspars to the whole-rock phosphorus budget of I- and S-type granites: a quantitative estimation. *Acta Universitatis Carolinae Geologica*, **42**, 125–128.
160. Wyborn, D. & Chappell, B.W. 1998. Compositional changes during fractionation of felsic granites from western Tasmania, Australia. *Acta Universitatis Carolinae Geologica*, **42**, 189–193.
161. Chappell, B.W. 1998. Tectonic evolution of eastern Australia viewed from a granite-based perspective: 1998 Mawson Lecture. *The Australian Geologist*, **109**, 24–30.
162. Chappell, B.W., Bryant, C.J., Wyborn, D., White, A.J.R. & Williams, I.S. 1998. High- and low-temperature I-type granites. *Resource Geology*, **48**, 225–235.
163. White, A.J.R., Chappell, B.W. & Wyborn, D. 1999. Application of the restite model to the Deddick Granodiorite and its enclaves—a re-interpretation of the observations and data of Maas *et al.* (1997). *Journal of Petrology*, **40**, 413–421.
164. Chappell, B.W. 1999. Aluminium saturation in I- and S-type granites and the characterization of fractionated haplogranites. *Lithos*, **46**, 535–551.
165. Chappell, B.W., White, A.J.R., Williams, I.S., Wyborn, D., Hergt, J.M. & Woodhead, J.D. 1999. Discussion and reply: Evaluation of petrogenetic

- models for Lachlan Fold Belt granitoids: implications for crustal architecture and tectonic models. *Australian Journal of Earth Sciences*, **46**, 827–836.
166. Sha, L.-K. & Chappell, B.W. 1999. Apatite chemical composition, determined by electron microprobe and laser-ablation inductively coupled plasma mass spectrometry, as a probe into granite petrogenesis. *Geochimica et Cosmochimica Acta*, **63**, 3861–3881.
167. Thompson, M., Potts, P.J., Kane, J.S. & Chappell, B.W., 1999. GeoPT3. International proficiency test for analytical geochemistry laboratories – Report on Round 3. *Geostandards Newsletter*, **23**, 87–121.
168. Chappell, B.W., White, A.J.R., Williams, I.S., Wyborn, D. & Wyborn, L.A.I. 2000. Lachlan Fold Belt granites revisited: high- and low-temperature granites and their implications. *Australian Journal of Earth Sciences*, **47**, 123–138.
169. Hoskin, P.W.O., Kinny, P.D., Wyborn, D. & Chappell, B.W. 2000. Identifying accessory mineral saturation during differentiation in granitoid magmas: an integrated approach. *Journal of Petrology*, **41**, 1365–1396.
170. Chappell, B.W. & White, A.J.R. 2001. Two contrasting granite types: 25 years later. *Australian Journal of Earth Sciences*, **48**, 489–499.
171. King, P.L., Chappell, B.W., Allen, C.M. & White, A.J.R. 2001. Are A-type granites the high temperature felsic granites? Evidence from fractionated granites of the Wangrah Suite. *Australian Journal of Earth Sciences*, **48**, 501–514.
172. White, A.J.R., Allen, C.M., Beams, S.D., Carr, P.F., Champion, D.C., Chappell, B.W., Wyborn, D. & Wyborn, L.A.I. 2001. Granite suites and supersuites of eastern Australia. *Australian Journal of Earth Sciences*, **48**, 515–530.
173. Wyborn, D., Chappell, B.W. & James, M. 2001. Examples of convective fractionation in high-temperature granites from the Lachlan Fold Belt. *Australian Journal of Earth Sciences*, **48**, 531–541.
174. Sinton, J.M., Ford, L.L., Chappell, B.W. & McCulloch, M.T. 2003. Magma genesis and mantle heterogeneity in the Manus back-arc basin, Papua New Guinea. *Journal of Petrology*, **44**, 159–195.
175. Teng, F.-Z., McDonough, W.F., Rudnick, R.L., Dalpé, C., Tomascak, P.B., Chappell, B.W. & Gao, S. 2004. Lithium isotopic composition and

- concentration of the upper continental crust. *Geochimica et Cosmochimica Acta*, **68**, 4167–4178.
176. White, A.J.R. & Chappell, B.W. 2004. Petrographic discrimination of low- and high-temperature I-type granites. *Resource Geology*, **54**, 215–226.
177. Chappell, B.W. & Wyborn, D. 2004. Cumulate and cumulative granites and associated rocks. *Resource Geology*, **54**, 227–240.
178. Chappell, B.W. 2004. Towards a unified model for granite genesis. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **95**, 1–10.
179. Chappell, B.W., White, A.J.R., Williams, I.S. & Wyborn, D. 2004. Low- and high-temperature granites. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **95**, 125–140.
180. Bryant, C.J., Chappell, B.W., Bennett, V.C. & McCulloch, M.T. 2004. Lithium isotope compositions of the New England Batholith: correlations with inferred source rock compositions. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **95**, 199–214.
- [The preceding three publications were also published in *Geol. Soc. Amer. Spec. Pap.* **389**, with the same page numbers as the original volume.]
181. Chappell, B.W. & Hine, R. 2006. The Cornubian Batholith: an example of magmatic fractionation on a crustal scale. *Resource Geology*, **56**, 203–244.
182. Ishihara, S. & Chappell, B.W. 2007. Chemical compositions of the late Cretaceous Ryoke granitoids of the Chubu District, central Japan – Revisited. *Bulletin of the Geological Survey of Japan*, **58**, 323–350.
183. Ishihara, S. & Chappell, B.W. 2008. Chemical compositions of the late Cretaceous granitoids across the central part of the Abukuma Highland, Japan – Revisited. *Bulletin of the Geological Survey of Japan*, **59**, 151–170.
184. Ishihara, S. & Chappell, B.W. 2008. Chemical compositions of the Paleogene granitoids of eastern Shimane Prefecture, Sanin District, Southwest Japan. *Bulletin of the Geological Survey of Japan*, **59**, 225–254.
185. Li, W., Jackson, S.E., Pearson, N.J., Alard, O. & Chappell, B.W. 2009. The Cu isotopic signature of granites from the Lachlan Fold Belt, SE Australia. *Chemical Geology*, **258**, 38–49.
186. Li, W-Y, Teng, F-Z, Ke, S., Rudnick, R.L., Gao, S., Wu, F-Y & Chappell, B.W. 2010. Heterogeneous magnesium isotopic composition of the upper continental crust. *Geochimica et Cosmochimica Acta*, **74**, 6867–6884.

187. Blevin, P.L. & Chappell, B.W. 2010. The use of the K/Rb ratio as a metallogenic discriminant; the example of the eastern Australian granites. *Zeitschrift fuer Geologische Wissenschaften*, **38**, 235–241.
188. Ishihara, S. & Chappell, B.W. 2010. Petrochemistry of I-type magnetite-series granitoids of the northern Chile, Highland Valley, southern B.C., Canada, Erdenet mine, Mongolia, Dexing mine, China, Medet mine Bulgaria, and Ani mine, Japan. *Bulletin of the Geological Survey of Japan*, **61**, 383–415.
189. Ishihara, S. & Chappell, B.W. 2010. Chemical compositions of the Miocene granitoids of the Okueyama, Hoei mine and Takakumayama plutons, Outer Zone of SW Japan. *Bulletin of the Geological Survey of Japan*, **61**, 17–38.
190. Jeon, H., Williams, I.S. & Chappell, B.W. 2012. Magma to mud to magma: Rapid crustal recycling by Permian granite magmatism near the eastern Gondwana margin. *Earth and Planetary Science Letters*, **319-320**, 104–117.
191. Chappell, B.W. & Wyborn, D. 2012. Origin of enclaves in S-type granites of the Lachlan Fold Belt. *Lithos*, **154**, 235–247.
192. Chappell, B.W., Bryant, C.J. & Wyborn, D. 2012. Peraluminous I-type granites. *Lithos*, **153**, 142–153.
193. Ishihara, S. & Chappell, B.W. 2012. Petrochemistry of the Late Cretaceous-Paleogene igneous rocks in the Ikuno-Aeknobe mines area, Southwest Japan. *Bulletin of the Geological Survey of Japan*, **63**, 181–202.
194. Savage, P.S., Georg, R.B., Williams, H.M., Turner, S., Halliday, A.N. & Chappell, B.W. 2012. The silicon isotopic composition of granites. *Geochimica et Cosmochimica Acta*, **92**, 184–202.