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A BIBLIOGRAPHY OF THE GEOLOGY RELATING TO THE BARBERTON MOUNTAIN LAND AND SORROUNDING GRANITIC TERRANE 1996-2002

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UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

A BIBLIOGRAPHY OF THE GEOLOGY RELATING TO THE BARBERTON MOUNTAIN LAND AND SURROUNDING GRANITIC TERRANE 1996-2002

compiled by

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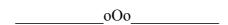
A BIBLIOGRAPHY OF THE GEOLOGY RELATING TO THE BARBERTON MOUNTAIN LAND AND SURROUNDING GRANITIC TERRANE 1996-2002

This compilation represents the fifth of a series of bibliographies dealing with a variety of aspects relating to the geology of the Barberton greenstone belt and surrounding granitic-gneiss terrane in the eastern part of Mpumalanga Province (formerly the Eastern Transvaal Lowveld) and Swaziland. The superb Archaean geology found in this region continues to attract attention from a wide range of South African and foreign earth scientists and hence it has become necessary to monitor the numerous publications that still emanate from the region. This bibliography attempts to record most references to works published between December 1996 and December 2002.

The first bibliography, complied by the author in 1976, appeared as **Information Circular No. 102** of the Economic Geology Research Unit, University of the Witwatersrand, and contains a comprehensive list of references pertaining to the geology, mineral deposits and mining in the Barberton region covering the period 1875 to June 1976.

The second bibliography, compiled by the author in 1986, appeared as **Information Circular No. 184** and covers the period 1976 to August 1986. The third compilation, compiled in 1992, appeared as **Information Circular No. 252** and covers the period September 1986 to June 1992. The fourth compilation, which appeared in December 1996 as **Information Circular No. 306**, covers the period 1992-1996.

As has been outlined previously the diverse nature of the earth science endeavours that continue in the Barberton-Swaziland region makes it difficult to keep abreast of all the findings reported at international and local conferences and workshops. It is also not easy to monitor all the material being published in a wide spectrum of books, journals, conference proceedings, abstract volumes and field guides. For this reason the bibliography cannot be regarded as fully comprehensive. References to some works appearing prior to 1996, and previously overlooked, have been included in the present compilation. While every effort has been made to ensure accuracy of the entries appearing herein, errors and omissions are inevitable and advice of such would be welcomed by the compiler.



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LIST OF PUBLICATIONS ARRANGED ALPHABETICALLY ACCORDING TO AUTHOR FOR THE PERIOD 1996 -2002

<u>A</u>

- ----(1996). South Africa's Barberton gold belt draws attention from juniors. African Mining, 1(2), p.7.
- -----(2002). Agnes Mine: new technology in its environmental management programme. RéSource, 4 (3), 44-45.
- **ANHAEUSSER, C. R.** (1996). Nature and evolution of the South African early Archaean terranes. Ext. Abstr., Sociedade Brasileira de Geologia Symposium on "Archaean Terranes of the South American Platform", Brasilia, p.3.
- ANHAEUSSER, C. R. (1998). Archaean volcano-sedimentary cyclicity and multiple komatiite flow units in the Schapenburg greenstone remnant, Barberton Mountain Land, South Africa. Abstr. IAVCEI Int. Volcanological Congress, "Magmatic Diversity: Volcanoes and their Roots", Univ. Cape Town, p.3.
- **ANHAEUSSER, C. R.** (1999). Archaean crustal evolution of the central Kaapvaal Craton, South Africa: evidence from the Johannesburg Dome. S. Afr. J. Geol., 102 (4), 303-322.
- **ANHAEUSSER, C. R.** (1999). Archaean layered ultramafic complexes and volcanosedimentary cyclicity in komatiite flow sequences, Barberton Mountain Land, South Africa. Abstr. "Komatiites, Norites, Boninites and Basalts (KNBB)" Conference, Univ. Portsmouth, UK, pp. 5-9.
- **ANHAEUSSER, C. R.** (1999). Barberton greenstone belt, 92-104. *In:* M.J. Viljoen and W. U. Reimold (Compilers), *An Introduction to South Africa's Geological and Mining Heritage*. Mintek Publishers, Randburg, 193pp.
- **ANHAEUSSER, C. R.** (2001). The anatomy of an extrusive-intrusive Archaean maficultramafic sequence: the Nelshoogte schist belt and Stolzburg layered ultramafic complex, Barberton greenstone belt, South Africa. S. Afr. J. Geol., 104 (2), 167-204.
- ANHAEUSSER, C. R. (2002). Ultramafic complexes along the northern flank of the Barberton greenstone belt, South Africa: remnants of oceanic lithosphere along an Archaean suture zone? Synopses in Conference Programme, 11th Quadrennial IAGOD Symposium and Geocongress 2002 (22-26 July, 2002), Windhoek, Namibia, p.18. Also: Ext. Abstr. on CD Rom, Geol. Soc. S. Afr., Namibia and Zambia.
- **ARNDT, N. T.** (1999). Why was flood volcanism on submerged continental platforms so common in the Precambrian? Precambrian Res., 97, 155-164.

- ARNDT, N. T., ALBAREDE, F., CHEADLE, M., HERZBERG, C. and JENNER, G. (1998). The case for dry komatiites. Abstr. IAVCEI Int. Volcanological Congress, "Magmatic Diversity: Volcanoes and their Roots" Univ. Cape Town, p.3.
- **ARNDT, N. T., ALBAREDE, F. and NISBET, E.G.** (1997). Mafic and ultramafic magmatism, 233-254. *In:* M.J. de Wit and L.D. Ashwal (eds.), *Greenstone Belts*. Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809 pp.
- **ARNDT, N. T., KERR, A.C. and TARNEY, J.** (1997). Dynamic melting in plume heads: the formation of Gorgona komatiites and basalts. Earth Planet. Sci. Lett., 146 (1-2), 289-301.
- **ASHWAL, L. D. and CAIRNCROSS, B.** (1997). Mineralogy and origin of stichtite in chromite-bearing serpentinites. Contrib. Mineral. Petrol., 127, 75-86.

<u>B</u>

- **BARBROOK MINES** (1997). Barbrook has regional potential. South African Mining Coal Gold and Base Minerals, June 1997, 21-23.
- **BEST, M. G.** (2003). *Igneous and Metamorphic Petrology*, 2nd Ed., Blackwell Science Ltd., Oxford, 729 pp.
- **BRANDL, G. and DE WIT. M. J.** (1997). The Kaapvaal Craton, South Africa, 581-607. *In:* M.J. de Wit and L.D. Ashwal (eds.), *Greenstone Belts*. Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809 pp.
- BYERLY, G. R., LOWE, D. R., WOODEN, J. L. and XIE, X. (2002). An Archean impact layer from the Pilbara and Kaapvaal cratons. Science, 297, 1325-1327.

C

- CHANNER, D. M. DE R., DE RONDE, C. E. J. and SPOONER, E. T. C. (1997). The Cl⁻ Br⁻ l⁻ composition of ~3.23 Ga modified seawater: implications for the geological evolution of ocean halide chemistry. Earth Planet. Sci. Lett., 150 (3-4), 325-335.
- **CHESHIRE, P. A.** (1997). Geology and geomorphology of the Sabie River Basin and implications for the fluvial morphology of the Sabie River in the Kruger National Park. M.Sc thesis (unpubl.), Univ. Witwatersrand, Johannesburg.
- **CLOETE, M.** (1997). Evidence for plume-related volcanism in the 3.5 Ga Barberton greenstone belt, South Africa. Abstr. Int. Symposium on "Plumes, Plates and Mineralization", Univ. Pretoria, p. 20.

- **CLOETE, M.** (1999). Aspects of volcanism and metamorphism of the Onverwacht Group lavas in the southwestern portion of the Barberton greenstone belt. Mem. Geol. Surv. S. Afr., 84, 232pp.
- **CONDIE, K. C., DES MARAIS, D.J. and ABBOTT, D.** (2001). Precambrian superplumes and supercontinents: a record in black shales, carbon isotopes and paleoclimates? Precambrian Res., 106, 239-260.
- **CONWAY, G. P.** (1997). The geology and geochemistry of the Sterkspruit Intrusion, Barberton Mountain Land, Mpumalanga Province. M.Sc thesis (unpubl.), Univ. Witwatersrand, Johannesburg, 164 pp.

D

- **DALTRY, V.D.C.** (1997). Mineralogy of South Africa: type-mineral species and type-mineral names. Handbk. Geol. Surv. S. Afr., 15, 114pp.
- **DANN, J.C.** (2000). The 3.5Ga Komati Formation, Barberton greenstone belt, South Africa, Part I: new maps and magmaaatic architecture. S. Afr. J. Geol., 103 (1), 47-68.
- **DANN, J.C.** (2001). Vesicular komatiites, 3.5 Ga Komati Formation, Barberton greenstone belt, South Africa: inflation of submarine lavas and origin of spinifex zones. Bull. Volcanology, 63 (7), 462-481.
- **DANN, J. C., DE WIT, M. J., GROVE, T.L. and PARMAN, S.** (1998). Segregation vesicles in 3.5 Ga komatiites, South Africa. Abstr. IAVCEI Int. Volcanological Congress, "Magmatic Diversity: Volcanoes and their Roots", Univ. Cape Town, p.15.
- **DANN, J. C., WILSON, A. H. and CLOETE, M.** (1998). Field Excursion C1: Komatiites in the Barberton and Nondweni greenstone belts. *In*: IAVCEI Int. Volcanological Congress, "Magmatic Diversity: Volcanoes and their Roots", Univ. Cape Town, p. 61.
- **DE RONDE, C. E. J., CHANNER, D. M. DE R., FAURE, K., BRAY, C. J. and SPOONER, E. T. C.** (1997). Fluid chemistry of Archean seafloor hydrothermal vents: implications for the composition of circa 3.2 Ga seawater. Geochim. Cosmochim. Acta, 61 (19),4025-4042.
- **DE RONDE, C. E. J. and EBBESEN, T. W.** (1996). 3.2 b.y. of organic compound formation near sea-floor hot springs. Geology, 24 (9), 791-794.
- **DE RONDE, C. E. J. and KAMO, S. L.** (2000). An Archaean arc-arc collisional event: a short-lived (ca. 3 Myr) episode, Weltevreden area, Barberton greenstone belt, South Africa. J. Afr. Earth Sci., 30 (2), 219-248.
- **DERWENT, S.** (2001). Eureka it's gold. Getaway (magazine), October 2001, p. 126-128.
- **DE VRIES, S. T. and NIJMAN, W.** (2001). Environmental conditions and hydrothermal systems: Buck Ridge Chert complex, Barberton, SA, 224-226. *In:* K. F. Cassidy, J. M.

- Dunphy and M. J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr.. AGSO Geoscience Australia, Record 2001/37, 542pp.
- **DE WIT, M. J.** (1997). Origin and amalgamation of the first continents, crustal recycling and metallogenesis. Abstr. Int. Symposium on "Plumes, Plates and Mineralization", Univ. Pretoria, p. 27-28.
- **DE WIT, M. J.** (1998). On Archean granites, greenstones, cratons and tectonics: does the evidence demand a verdict? Precambrian Res., 91 (1-2), 181-226.
- **DE WIT, M. J. and ASHWAL, L. D.** Editors (1997). *Greenstone Belts* Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809pp.
- **DE WIT, M. J. and ASHWAL, L. D.** (1997). Preface. Convergence towards divergent models of greenstone belts, ix-xvii. *In:* M. J. de Wit and L. D. Ashwal (eds.), *Greenstone Belts* Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809pp.
- **DURRHEIM, R. J. and MOONEY, W. D.** (1991). Archean and Proterozoic crustal evolution: evidence from crustal seismology. Geology, 19, 606-609.
- **DZIGGEL, A.** (2002). The petrogenesis of lower Onverwacht Group clastic metasediments and related metavolcanic rocks in the southeastern part of the Barberton Mountain Land, South Africa. Ph.D thesis (unpubl.), Univ. Witwatersrand, Johannesburg, 230pp.
- **DZIGGEL, A., STEVENS, G., ARMSTRONG, R. A., DROOP, G. T. R., POUJOL, M.** and ANHAEUSSER, C. R. (2001). Metamorphism during terrane accretion in the Barberton greenstone belt, 39-41. *In:* K. F. Cassidy, J. M. Dunphy and M. J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr.. AGSO Geoscience Australia, Record 2001/37, 542pp.
- **DZIGGEL, A. STEVENS, G., POUJOL, M. ANHAEUSSER, C. R. and ARMSTRONG, R. A.** (2002). Metamorphism of the granite-greenstone terrane south of the Barberton greenstone belt, South Africa: an insight into the tectono-thermal evolution of the lower portions of the Onverwacht Group. Precambrian Res., 114, 221-247.

\mathbf{E}

- ELWORTHY, T., EGLINGTON, B.M., ARMSTRONG, R. A. and MOYES, A. B. (2000). Rb-Sr isotope constraints on the timing of late- to post-Archaean tectonometamorphism affecting the southeastern Kaapvaal Craton. J. Afr. Earth Sci., 30, 641-650.
- ERIKSSON, K. A. and SIMPSON, E. L. (2000). Quantifying the oldest tidal record: the 3.2 Ga Moodies Group, Barberton greenstone belt, South Africa. Geology, 28 (9), 831-834.

- **ERIKSSON, K. A. and KRAPEZ, B.** (2001). Archaean sedimentary rocks and sedimentary basins: processes and products, 9-10. *In:* K. F. Cassidy, J. M. Dunphy and M. J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr.. AGSO Geoscience Australia, Record 2001/37, 542pp.
- ERIKSSON, K. A., KIDD, S. F. and KRAPEZ, B. (1988). Basin analysis in regionally metamorphosed and deformed early Archean terrains: examples from southern Africa and Western Australia, 371-404. *In*: K.L. Kleinspehn and C. Paola (eds.), *New Perspectives in Basin Analysis, Frontiers in Sedimentary Geology*, Springer-Verlag, New York.
- ERIKSSON, K.A., KRAPEZ, B. and FRALICK, P.W. (1997). Sedimentological aspects (of greenstone belts). *In:* M. J. de Wit and L. D. Ashwal (eds.), *Greenstone Belts* Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809pp.

F

- **FAURE, G.** (2001). *Origin of Igneous Rocks the Isotopic Evidence*. Springer-Verlag, New York, 496pp.
- **FERREIRA FILHO, C. F. and LESHER, C. M.** (2001). The komatiite-associated Nisulfide deposit of Boa Vista, Brazil, 429-431. *In:* K. F. Cassidy, J. M. Dunphy and M.J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr.. AGSO Geoscience Australia, Record 2001/37, 542pp.
- **FLETCHER, J. A.** (2002). A geological, geochemical and fluid inclusion study of the Wyldesdale gold-bearing pluton, Swaziland. Ph.D thesis, Univ. Witwatersrand, Johannesburg (in preparation).
- **FRANCIS, S., BARGHOORN, E. S. and MARGULIS, L.** (1978). On the experimental silicification of microorganisms III: implications of the preservation of the green prokaryotic alga *prochloron* and other coccoids for the interpretation of the microbial fossil record. Precambrian Res., 7, 377-383.
- **FRIPP, R.E. P. and JONES, M.G.** (1997). Sheeted intrusions and peridotite-gabbro assemblages in the Yilgarn Craton, Western Australia: elements of Archaean ophiolites, 422-437. *In:* M. J. de Wit and L. D. Ashwal (eds.), *Greenstone Belts* Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809pp.

\mathbf{G}

GALLEY, A. G. (2001). Mineralization in Archaean volcanic belts, 11-13. *In:* K. F. Cassidy, J. M. Dunphy and M.J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr.. AGSO – Geoscience Australia, Record 2001/37, 542pp.

- **GIBSON, S.A.** (1999). Picrites from Phanerozoic CFB provinces: analogues of Archean high-Mg melts. Abstr., "Komatiites, Norites, Boninites and Basalts (KNBB)" Conference, Univ.Portsmouth, UK, (separate loose sheets 4 pp).
- GILMOUR, I. and KOEBERL, C. (2000). Preface to "Impacts and the Early Earth", v viii. In: I. Gilmour and C. Koeberl (eds.), Impacts and the Early Earth, Lecture Notes in Earth Sciences, Springer, London, 445pp.
- **GLIKSON, A. Y.** (1999). The Archaean 3.26-3.24 Ga mega-impact cluster: correlated magmatic and rifting events, Pilbara Craton, Western Australia, 30-31. *In:* E. Buffetaut and J. Le Loeuff (eds.), *Workshop on Geochemical and Biological Evidence for Global Catastrophes*, Quillan/ Espéraza (Aude France), September 1999, Programme, Abstracts and Field Guide.
- **GLIKSON, A. Y.** (2001). Evidence for ca. 3.2 Ga asteroid cluster in the Earth-Moon system, with consequences for Archaean crustal evolution, 44-45. *In:* K. F. Cassidy, J. M. Dunphy and M.J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr.. AGSO Geoscience Australia, Record 2001/37, 542pp.
- **GRANT, D., CRONWRIGHT, T. and KNIGHT, R.** (1998). The Sofala pit at Makonjwaan Mine: a case study of an open-pit gold mine in the Barberton Mountain Land. Ext. Abstr. Geocongress '98, Geol. Soc. S. Afr., Pretoria, 101-104.
- **GROVE, T. L., DE WIT, M. J. and DANN, J.C.** (1997). Komatiites from the Komati type section, South Africa, 438-456. *In:* M. J. de Wit and L. D. Ashwal (eds.), *Greenstone Belts* Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809pp.
- GROVE, T. L., PARMAN, S. W. and DANN, J. C. (1999). Conditions of magma generation for Archaean komatiites from the Barberton Mountain Land, South Africa. *In:* Y. Fei., C. M. Bertka and B. O. Mysen (eds.), *Mantle Petrology: Field Observations and High Pressure Experimentation: a Tribute to Francis R. (Joe) Boyd* Geochemical Society, pp. 155-167.

<u>H</u>

- HALL, A. (1996). Igneous Petrology, 2nd Edition, Prentice Hall, London, 551 pp.
- **HAMILTON, W. B.** (1998). Archean magmatism and deformation were not products of plate tectonics. Precambrian Res., 91 (1-2), 143-179.
- **HAMMOND, N. Q.** (2002). The geochemistry of ore fluids and control of gold mineralization in banded iron-formation at the Kalahari Goldridge deposit, Kraaipan greenstone belt, South Africa. Ph.D thesis (unpubl.), Rhodes University, Grahamstown, 230 pp.
- **HANSKI**, E.J. (1992). Petrology of the Pechenga ferropicrites and cogenetic, Ni-bearing gabbro-wehrlite intrusions, Kola Peninsula, Russia. Bull. Geol. Surv. Finland, 367, 192 pp.

- HART, R., MOSER, D. and ANDREOLI, M. (1999). Archean age for the granulite facies metamorphism near the center of the Vredefort structure, South Africa. Geology, 27 (12), 1091-1094.
- HERRINGTON, R. J., EVANS, D.M. and BUCHANAN, D. L. (1997). Metallogenic aspects (of greenstone belts), 176-220. *In:* M. J. de Wit and L. D. Ashwal (eds.), *Greenstone Belts* Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809pp.
- **HERZBERG, C. and O'HARA, M. J.** (1998). Phase equilibrium constraints on the origin of basalts, picrites and komatiites. Earth-Science Reviews, 44, 39-79.
- **HERZBERG, C. and ZHANG, J.** (1996). Melting experiments on anhydrous peridotite KLB-1: compositions of magmas in the upper mantle and transition zone. J. Geophys. Res., 101 (B4), 8271-8295.
- **HERZBERG, C. and ZHANG, J.** (1997). Melting experiments on komatiite analog compositions at 5 Gpa. Amer. Mineral., 82, 354-367.
- HORN, G. F. J. and STRYDOM, J. H. (1997). Clay, 106 135. *In:* M. G. C. Wilson and C. R. Anhaeusser (eds.), *The Mineral Resources of South Africa*, Handbk, Council for Geoscience, Pretoria, 16, 740 pp.
- HORSTMANN, U. E., JORDAAN, L.J., SCHURMANN, L. W., WARD, J. H. W. and EATON, B. (1996). Feasibility study of the application of C, O and S isotope compositions on gangue minerals to hydrothermal gold deposits. Ann. Tech. Rep. Geol. Surv. S. Afr., Council for Geoscience, Pretoria, p.95.
- **HOULE, M., LESHER, C. M., GIBSON, H.L. and FOWLER, A. D.** (2001). Komatiite lava flow classification, 161-163. *In:* K. F. Cassidy, J. M. Dunphy and M.J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr.. AGSO Geoscience Australia, Record 2001/37, 542pp.
- **HUDLESTON, P. J. and SCHWERDTNER, W. M.** (1997). Strain (in greenstone belts), 296-308. *In:* M. J. de Wit and L. D. Ashwal (eds.), *Greenstone Belts* Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809pp.
- **HUNTER, D. R. and STOWE, C. W.** (1997). A historical review of the origin, composition and setting of Archaean greenstone belts (pre-1980), 3-30. *In:* M. J. de Wit and L. D. Ashwal (eds.), *Greenstone Belts* Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809pp.

I

ISHIHARA, S., ANHAEUSSER, C. R. and ROBB, L. J. (1998). Formation of the oldest continental crust: greenstones and tonalities of the Barberton area, South Africa. Chshitsu News, No. 529, 40-55 (in Japanese).

- **ISHIHARA, S., ANHAEUSSER, C. R. and ROBB, L. J.** (2002). Granitoid-series evaluation of the Archaean Johannesburg Dome granitoids, South Africa. Bull. Geol. Surv. Japan, 53 (1), 1-9.
- **ISHIHARA, S., ROBB, L. J., ANHAEUSSER, C. R. and IMAI, A.** (2002). Granitoid series in terms of magmatic susceptibility: a case study from the Barberton region, South Africa. Gondwana Res., 5 (3), 581-589.

<u>J</u>

- JOHNSON, S. F., REIMOLD, W. U., KOEBERL, C. and PRZYBYLOWICZ, W. J. (1998). Mineralogical and geochemical controls on sulphide mineralization in siderophile-element-enriched spherule layers of the Barberton Mountain Land. Ext. Abstr. Geocongress'98, Pretoria, 227-228.
- JOHNSON, S. F., REIMOLD, W. U., KOEBERL, C. and Mc DONALD, I. (1999). Early Archean spherule beds in the Barberton Mountain Land, South Africa: impact or terrestrial origin? Meteoritics & Planetary Science, Supplement 34 (4), A59-A60.

K

- **KAKEGAWA, T. and OHMOTO, H.** (1999). Sulfur isotope evidence for the origin of 3.4 to 3.1 Ga pyrite at the Princeton gold mine, Barberton greenstone belt, South Africa. Precambrian Res., 96 (3/4), 209-224.
- **KERR, A. C. and ARNDT, N. T.** (2001). A note on the IUGS reclassification of the high-Mg and picritic volcanic rocks. J. Petrol., 42 (11), 2169-2171.
- KIMURA, G., LUDDEN, J.N., DESROCHERS, J-P. and HORI, R. (1993). A model of ocean-crust accretion for the Superior Province, Canada. Lithos, 30, 337-355.
- KLEINHANNS, I. C., NÄGLER, Th.F. and KRAMERS, J. D. (2001). Geochemical constraints on Archaean intracrustal processes, Kaapvaal Craton, South Africa, 175-177. *In:* K. F. Cassidy, J. M. Dunphy and M. J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr.. AGSO Geoscience Australia, Record 2001/37, 542pp.
- KOMIYA, T., MARUYAMA, S., SHIMIZU, K. and HIROSE, K. (1998). Geology of Komati Fm. and mineralogy of relict igneous minerals, Barberton greenstone belt (3.5 Ga), South Africa. Abstr. IAVCEI Int. Volcanological Congress, "Magmatic Diversity: Volcanoes and their Roots", Univ. Cape Town, p.31.
- KOMIYA, T., MARUYAMA, S., MASUDA, T., NOHDA, S., HAYASHI, M. and OKAMOTO, K. (1999). Plate tectonics at 3.8-3.7 Ga: field evidence from the Isua Accretionary Complex, southern West Greenland. J. Geol., 107, 515-554.
- **KUSKY, T. M. and POLAT, A.** (1999). Growth of granite-greenstone terranes at convergent margins, and stabilization of Archean cratons. Tectonophysics, 305, 43-73.

KUSKY, T. M. and VEARNCOMBE, J. (1997). Structural aspects (of greenstone belts), 91-124. *In:* M. J. de Wit and L. D. Ashwal (eds.), *Greenstone Belts* – Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809pp.

$\underline{\mathbf{L}}$

- LAHAYE, Y., ARNDT, N., BYERLY, G., CHAUVEL, C., FOUCADE, S. and GRUAU, G. (1995). The influence of alteration on the trace-elemnet and Nd-isotopic compositions of komatiites. Chem. Geol., 126, 43-64.
- LAYER, P. W., KRÖNER, A. and McWILLIAMS, M. (1996). An Archean geomagnetic reversal in the Kaap Valley pluton, South Africa. Science, 943-946.
- LAYER, P. W., LOPEZ-MARTINEZ, M., KRÖNER, A., YORK, D. and McWILLIAMS, M. (1998). Thermochronometry and palaeomagnetism of the Archaean Nelshoogte pluton, South Africa. Geophys. J. Int., 135, 129-145.
- **LE BAS, M. J.** (2001). Reply to Comment by Kerr and Arndt in J. Petrol., 42 (11), 2173-2174.
- **LOWE, D. R. and BYERLY, G. R.** (2002). Environmental effects of large impacts recorded in the 3.5-3.2 Ga Barberton greenstone belt, South Africa. Abstr. 16th International Sedimentological Congress, Rand Afrikaans University, Johannesburg, p. 230.

\mathbf{M}

MAPHALALA, R. M. and TRUMBULL, R. B. (1998). A geochemical and Rb-Sr isotopic study of Archaean pegmatite dykes in the tin belt of Swaziland. S. Afr. J. Geol., 101 (1), 53-65.

N

- **NELSON, D. R., TRENDALL, A. F. and ALTERMANN, W.** (1999). Chronological correlations between the Pilbara and Kaapvaal cratons. Precambrian Res., 97, 165-189.
- NIJMAN, W., DE VRIES, S. T. and HOUTZAGER, O. (2001). Earth's earliest sedimentary basins: the lower Archaean of the Pilbara and Kaapvaal compared, 520-522. *In*: K. F. Cassidy, J. M. Dunphy and M.J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr., AGSO Geoscience Australia, Record 2001/37, 542pp.

0

O'HANLEY, D. S. (1997). Serpentinites and rodingites as records of metasomatism and fluid history, 164-175. *In:* M. J. de Wit and L. D. Ashwal (eds.), *Greenstone Belts* – Oxford

Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809pp.

<u>P</u>

- PARMAN, S. W., DANN, J. C., GROVE, T. L. and DE WIT, M. J. (1997). Emplacement conditions of komatiite magmas from the 3.49 Ga Komati Formation, Barberton greenstone belt, South Africa. Earth Planet. Sci. Lett., 150 (3-4), 303-324.
- **PARMAN, S. W., GROVE, T. L. and DANN, J. C.** (1999). Petrologic and experimental evidence for high H₂O contents in Barberton komatiite magmas. Abstr. "Komatiites, Norites, Boninites and Basalts (KNBB)" Conference, Univ. Portsmouth, UK, pp. 65-68.
- **PERCIVAL, J., ROERING, C., VAN REENEN, D. D. and SMIT, C. A.** (1997). Tectonic evolution of associated greenstone belts and high-grade terrains, 398-420. *In:* M. J. de Wit and L. D. Ashwal (eds.), *Greenstone Belts* Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809 pp.
- **PFLUG, H. D.** (2001). Earliest organic evolution. Essay to the memory of Bartholomew Nagy. Precambrian Res., 106, 79-91.
- **PHILLIPS, G. N.** (2001). Professor David I. Groves' contribution to metallogenic studies, 22-24. *In:* K. F. Cassidy, J. M. Dunphy and M.J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr., AGSO Geoscience Australia, Record 2001/37, 542pp.
- **POUJOL, M.** (1997). Etude U-Pb et Pb-Pb de la Murchison greenstone belt et du bassin aurifere D'Evander, Afrique du Sud: implications pour l'evolution du Kaapvaal Craton. Ph.D thesis (unpubl.), Univ. Montpellier II, Montpellier, France, 248 pp.
- **POUJOL, M**. (2001). U-Pb isotopic evidence for episodic granitoid emplacement in the Murchison greenstone belt, South Africa. J. Afr. Earth Sci., 33 (1), 155-163.
- **POUJOL, M. and ANHAEUSSER, C. R.** (2001). The Johannesburg Dome, South Africa: new single zircon U-Pb isotopic evidence for early Archaean granite-greenstone development within the central Kaapvaal Craton. Precambrian Res., 108, 139-157.
- **POUJOL, M., ANHAEUSSER, C. R., ARMSTRONG, R.A., KIEFER, R. and HIRNER, A.** (2001). Age constraints on the central and western Kaapvaal Craton, 78-80. *In:* K. F. Cassidy, J. M. Dunphy and M.J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr., AGSO Geoscience Australia, Record 2001/37, 542pp.
- **POUJOL, M., ROBB, L. J. and ANHAEUSSER, C. R.** (2000). A comparison between the Barberton and Murchison greenstone belts, South Africa: implications for the evolution of the Kaapvaal Craton. Abstr. J. Afr. Earth Sci., 30 (4A), 70-71.

- POUJOL, M., ROBB, L. J., RESPAUT, J-P. and ANHAEUSSER, C. R. (1996). 3.07-2.97 Ga greenstone belt formation in the northeastern Kaapvaal Craton: implications for the origin of the Witwatersrand Basin. Econ. Geol., 91 (8), 1455-1461.
- **PUCHTEL, I. and HUMAYUN, M.** (2000). Platinum group elements in the Kostomuksha komatiites and basalts: implications for oceanic crust recycling and core-mantle interaction. Geochim. Cosmochim. Acta, 64 (24), 4227-4242.

\mathbf{R}

- **RANSOM, W. A.** (2000). Margarite-corundum phyllites from the Appalachian orogen of South Carolina: mineralogy and metamorphic history. Amer. Mineral., 85 (11-12), 1617-1624.
- **RAPP, R. P.** (1997). Heterogeneous source regions for Archaean granitoids: experimental and geochemical evidence, 267-279. *In:* M. J. de Wit and L. D. Ashwal (eds.), *Greenstone Belts* Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809 pp.
- **REIMOLD, W. U., KOEBERL, C. and JOHNSON, S.** (1998). Archean and Proterozoic spherule layers remnants of distal ejecta from ancient impact events. Abstr. 1st Int. Workshop on "Response of the Earth System to Impact Processes", European Science Foundation, Cambridge, p. 29.
- **REIMOLD, W. U., KOEBERL, C., JOHNSON, S. and McDONALD, I.** (2000). Early Archean spherule beds in the Barberton Mountain Land, South Africa: impact or terrestrial origin, 117-180. *In:* I. Gilmour and C. Koeberl (eds.), *Impacts and the Early Earth, Lecture Notes in Earth Sciences*, Springer, London, 445pp.
- **RIDLEY, J. R., VEARNCOMBE, J. R. and JELSMA, H. A.** (1997). Relations between greenstone belts and associated granitoids, 376-397. *In:* M. J. de Wit and L. D. Ashwal (eds.), *Greenstone Belts* Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809 pp.

<u>S</u>

- SAKURAI, R., KOMIYA, T., OKAMOTO, K., SHIMIZU, K. and HIROSE, K. (2001). Structural geology and petrology of the Barberton gereenstone belts, South Africa, 87-89. *In*: K. F. Cassidy, J. M. Dunphy and M.J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr., AGSO Geoscience Australia, Record 2001/37, 542pp.
- **SÁNCHEZ CELA, V.** (1999). Formation of mafic-ultramafic rocks in the crust. Need for a new upper mantle. Zaragoza: Institución Fernando el Católico, Dept. de Geologia-Petrologia de la Universidad de Zaragoza, 442 pp.
- **SCHÜRMANN**, **L. W.** (1996). Rare-earth raw materials for advanced technologies. Ann. Tech. Rep. of the Geol. Surv. S. Afr., Council for Geoscience, p. 85-86.

- SCHÜRMANN, L. W., HORSTMANN, U. E., WARD, J. H. W. and EATON, B. (1997). A carbonatitic dyke and Archaean lode-gold mineralization, Barberton greenstone belt, South Africa an isotopic link. Abstr. Int. Symposium on "Plumes, Plates and Mineralization", Univ. Pretoria, p. 87-88.
- SCHÜRMANN, L. W., WARD, J. H. W., HORSTMANN, U. E., JORDAAN, L. J. and EATON, B. (2000). Carbonate dykes associated with Archaean lode-Au mineralization, Barberton greenstone belt, South Africa. J. Afr. Earth Sci., 30 (2), 249-266.
- SCOTT, J. (2002). New life for 'pioneer' gold mine. Mining Weekly, 27 September 3 October, Vol. 8, No. 37, p. 24.
- SHUKOLYUKOV, A., KYTE, F. T., LUGMAIR, G. W. and LOWE, D. R. (1998). The oldest impact deposits on Earth first confirmation of an extraterrestrial component. Abstr. 1st Int.Workshop on "Response of the Earth System to Impact Processes", European Science Foundation, Cambridge, p. 29.
- SHUKOLYUKOV, A., KYTE, F. T., LUGMAIR, G. W., LOWE, D. R. and BYERLY, G. R. (1999). Extraterrestrial chromium in Early Archean spherule beds further evidence for an impact origin, 66-67. *In:* E. Buffetaut and J. Le Loeuff (eds.), *Workshop on Geochemicaland Biological Evidence for Global Catastrophes*, Quillan/Espéraza (Aude France), September 1999, Programme, Abstracts and Field Guide.
- SHUKOLYUKOV, A., KYTE, F. T., LUGMAIR, G. W., LOWE, D. R. and BYERLY, G. R. (2000). The oldest impact deposits on earth first confirmation of an extraterrestrial component, 99-115. *In:* I. Gilmour and C. Koeberl (eds.), *Impacts and the Early Earth, Lecture Notes in Earth Sciences*, Springer, London, 445pp.
- **SIMPSON, E. L. and ERIKSSON, K. A.** (2002). Tidally modified fluvial deposits in the 3.2 Ga Moodies Group, South Africa. Abstr. 16th International Sedimentological Congress, Rand Afrikaans University, Johannesburg, p. 329.
- **SMITHIES, R, H.** (2000). The Archaean tonalite-trondhjemite-granodoirite (TTG) series is not an analogue of Cenozoic adakite. Earth Planet. Sci. Lett., 182, 115-125.
- SPROULE, R. A., LESHER, C. M., AYER, J. A. and THURSTON, P. C. (2001). Spatial and temporal variations in geochemistry of komatiitic rocks in the Abitibi greenstone belt, 193-195. *In:* K. F. Cassidy, J. M. Dunphy and M.J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr., AGSO Geoscience Australia, Record 2001/37, 542pp.
- **STETTLER, E. H., DE BEER, J. H., EBERLE, D., LUDDEN, J. and MARESCHAL, M.** (1997). Geophysics and deep structures (in greenstone belts), 339-375. *In:* M. J. de Wit and L. D. Ashwal (eds.), *Greenstone Belts* Oxford Monographs on Geology and Geophysics, No. 35. Oxford University Press, Oxford, 809 pp.
- STEVENS, G., ANHAEUSSER, C. R., ARMSTRONG, R. A. and DROOP, G. T. R. (1998). Gold mineralization in the Schapenburg svhist belt: a mid-crustal analogue for

the Sheba Hills region of the Barberton greenstone belt, South Africa. Abstr. IAVCEI Int. Volcanological Congress, "Magmatic Diversity: Volcanoes and their Roots", Univ. Cape Town, p. 58.

STEVENS, G., DROOP, G. T. R., ARMSTRONG, R. A. and ANHAEUSSER, C. R. (2002). Amphibolite facies metamorphism of Fig Tree Group metasediments: a record of the mid-crustal response to ~ 3.23 Ga terrane accretion in the Barberton greenstone belt, South Africa. S. Afr. J. Geol., 105 (3), 271-284.

$\underline{\mathbf{T}}$

- **TASSELL, A.** (1999). Cluff pours first gold at Svengali. African Mining, 4 (5), pp. 35.
- THOMAS, R. J., GOLD, D. J. C., VERBEEK, J. A. and WALRAVEN, F. (1997). Geology of the Archaean Nzimane Inlier, Zululand. S. Afr. J. Geol., 100 (2), 123-136.
- TOULKERIDIS, T., GOLDSTEIN, S. L., CLAUER, N., KRÖNER, A., TODT, W. and SCHIDLOWSKI, M. (1998). Sm-Nd, Rb-Sr and Pb-Pb dating of silicic carbonates from the early Archaean Barberton greenstone belt, South Africa. Evidence for post-depositional isotopic resetting at low temperature. Precambrian Res., 92 (2), 129-144.

U

UKEN, R. and WATKEYS, M. K. (1997). An interpretation of mafic dyke swarms on the north-eastern Kaapvaal Craton. Abstr. Int. Symposium on "Plumes, Plates and Mineralization", Univ. Pretoria, p. 108-109.

V

- **VALIGY, A. M.** (2000). A brief description of a GIS study in the northern Barberton greenstone belt, South Africa. Hons. Project Rep. Dept. Geography, Univ. Witwatersrand, Johannesburg, 29 pp.
- **VENNEMANN, T. W. and SMITH, H. S.** (1999). Geochemistry of mafic and ultramafic rocks in the type section of the Kromberg Formation, Barberton greenstone belt, South Africa, 133-149. *In:* D. R. Lowe and G. R. Byerly (eds.), *Geologic Evolution of the Barberton Greenstone Belt, South Africa.* Spec. Paper, Geol. Soc. Amer., 329, 319 pp.

$\underline{\mathbf{W}}$

- **WARD, J. H. W.** (1997). The older Archaean Barberton protobasin: platelet or plumelet. Abstr. Int. Symposium on "Plumes, Plates and Mineralization", Univ.Pretoria, p. 118-119.
- **WARD, J. H. W.** (1999). The metallogeny of the Barberton greenstone belts, South Africa and Swaziland. Mem. Geol. Surv. S. Afr., Council for Geoscience, 86, 108 pp.

- **WESTALL, F.** (1998). The oldest fossil mineral bacteria from the Early Archean of South Africa and Australia., 181-185. *In:* J. Chela-Flores and F. Raulin (eds.), *Exobiology: Matter and Information in the Origin and Evolution of Life in the Universe*. Kluwer, Acad. Nowell, Mass.
- **WESTALL, F.** (1999). The nature of fossil bacteria: a guide to the search for extraterrestrial life. J. Geophys. Res., 104 (E7), 16437-16451.
- WESTALL, F., DE WIT, M. J., DANN, J. C., VAN DER GAAST, S., DE RONDE, C. E. J. and GERNEKE, D. (2001). Early Archean fossil bacteria and biofilms in hydrothermally influenced sediments from the Barberton greenstone belt, South Africa. Precambrian Res., 106, v-vi, 93-116.
- **WESTALL, F. and GERNEKE, D.** (1998). Electron microscope methods in the search for the earliest life forms on earth (in 3.5-3.3 Ga cherts from the Barberton greenstone belt, South Africa): applications for extraterrestrial life studies. Proc. SPIE, Int. Soc. Opt. Eng., 3441, 158-169.
- WESTALL, F., WALSH, M. M., DE VRIES, S. and NIJMAN, W. (2001). Fossil microbial biofilms from Early Archaean volcaniclastic sediments, 266-268. . *In:* K. F. Cassidy, J. M. Dunphy and M.J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr., AGSO Geoscience Australia, Record 2001/37, 542pp.
- WILLIAMS, P. J. (1997). A metamorphosed, stratabound-epigenetic origin for a gruneritic Archaean gold deposit, Barberton, South Africa. Ore Geology Reviews, 12, 135-151.
- WILLIAMS, Q. and HEMLEY, R. J. (2001). Hydrogen in the deep earth. Ann. Rev. Earth Planet. Sci., 29, 365-418.
- **WILSON, A. H.** (2001). Orthopyroxene-bearing komatiites in the Kaapvaal Craton, South Africa, 205-207. *In:* K. F. Cassidy, J. M. Dunphy and M.J. van Kranendonk (eds.), 4th International Archaean Symposium 2001, Ext. Abstr., AGSO Geoscience Australia, Record 2001/37, 542pp.
- WILSON, M. G. C. and ANHAEUSSER, C. R. (Editors) (1998). *The Mineral Resources of South Africa*. Handbk, South African Council for Geoscience, 16, 740 pp.
- **WINDLEY, B. F.** (1996). *The Evolving Continents*, Third Edition, John Wiley & Sons, London, 526 pp.

$\underline{\mathbf{X}}$

XIE, X., BYERLY, G.R. and FERRELL, R. J. Jr. (1997). II b trioctahedral chlorite from the Barberton greenstone belt: crystal structure and rock composition constraints with implications to geothermometry. Contrib. Mineral. Petrol., 126 (3), 275-291.

Z

ZIETSMAN, A. L. (1988). Reappraisal of the report on the mineral potential of the Songimvelo Nature Reserve, Kangwane. South African Development Trust Corp. Ltd. (STK) Mineral Development Division, Council for Geoscience, Rep. 2520, 41 pp. (incorporating the Feasibility Report on Songimvelo Natural Resources Area, by Chris Mulder and Associates, 1985).

oOo	

ALPHABETICAL LIST OF PUBLICATIONS APPEARING BEFORE 1996 AND NOT PREVIOUSLY RECORDED IN EARLIER BIBLIOGRAPHIES ON THE GEOLOGY OF THE BARBERTON REGION

<u>A</u>

- **ANTENEN, D.** (1991). A review of southern African verdites. Rep. Geol. Surv. S. Afr. (1991-0393; unpubl.), 23pp.
- ASHWAL, L.D., CAIRNCROSS, B. KRUGER, G. and VAN SCHALKWYK, J. (1992). Stichtite: occurrence, chemistry, crystallography and petrogenesis. Abstr. 24th Geocongress, Geol. Soc. S. Afr, Bloemfontein, pp.17-19.

<u>B</u>

- **BREVART, O., DUPRE, B. and ALLEGRE, C. J.** (1986). Lead-lead age of komatiitic lavas and limitations on the structure and evolution of the Precambrian mantle. Earth Planet. Sci. Lett., 77, 293-302.
- **BURDEN, P.L.A.** (1981). The geology of a portion of the northeastern Barberton Mountain Land. B.Sc Hons. Project (unpubl.), Dept. Geology, Univ. Witwatersrand, Johannesburg, 48pp (with Appendix p. I-xvii).
- **BUSH, D. E.** (1981). *The surface geology of the New Consort Gold Mine, Barberton greenstone belt, South Africa*. B.Sc Hons. Project (unpubl.), Dept. Geology, Univ. Witwatersrand, Johannesburg, 48pp.

C

- **CAMPBELL, I. H. and GRIFFITHS, R.W.** (1993). The evolution of the mantle's chemical structure. Lithos, 30, 389-399.
- **CAMPBELL, I. H., GRIFFITHS, R.W. and HILL, R.I.** (1989). Melting in an Archaean mantle plume: heads it's basalts, tails it's komatiites. Nature, 339 (6227), 697-699.

- CATTELL, A. C. and TAYLOR, R. N. (1990). Archaean basic magmas, 11-39. *In:* R.P. Harper and D. J. Hughes (eds.), *Early Precambrian Basic Magmatism*, Blackie, Glasgow, 486pp.
- **CONWAY, G. P.** (1985). A geochemical study of tholeitic metabasalts from the Barberton Mountain Land. Geochem. Hons. Project, Dept. Geochemistry, Univ. Cape Town, 80pp.
- **CORNELL, D. H.** (1975). *Petrology of the Marydale metabasites*. Ph.D thesis (unpubl.), Univ. Cambridge, U.K., 216pp.

\mathbf{D}

- **DE BEER, J. H. and EGLINGTON, B.M.** (1991). Archaean sedimentation on the Kaapvaal Craton in relation to tectonism in the granite-greenstone terrains: geophysical and geochronological constraints. J. Afr. Earth Sci., 13 (1), 27-44.
- **DE RONDE, C. E. J., CHANNER, D. M. DE R. and SPOONER, E. T. C.** (1992). Early Archean (~3.2 3.5 Ga) marine evaporative conditions; [Cl⁻]/[Br⁻]/[I⁻] (fluid inclusion) evidence, Barberton greenstone belt, South Africa. Abstr. Programs. Geol. Soc. Amer., pp.138.
- **DE RONDE, C. E. J. and DE WIT, M. J.** (1993). Focussing of large-scale fluid release and associated gold mineralization during a change in tectonic regime, Barberton greenstone belt, South Africa. Ext. Abstr. Geofluids '93 Conference on "Fluid Evolution, Migration and Interaction in Rocks". British Gas and Explor.Prod., Torquay, England, 4 -7 May, pp.383-386.
- **DUNN, E. J.** (1918). Early history of the South African diamond fields. Industrial Australian and Mining Standard 60:775, Melbourne, July 18, 1918 (Mineral Abstr 1:47).

G

GLIKSON, A. Y. (1995). Asteroid/comet mega-impacts may have triggered major episodes of crustal evolution. EOS, Trans. Amer. Geophys. Union, 76 (6), 49, 54-55.

<u>H</u>

- **HERZBERG, C.** (1992). Depth and degree of melting of komatiites. J. Geophys. Res., 97 (B4), 4521-4540.
- **HERZBERG, C.** (1993). Lithosphere peridotites of the Kaapvaal Craton. Earth Planet. Sci. Lett., 120, 13-29.
- **HERZBERG, C.** (1995). Generation of plume magmas through time: an experimental perspective. Chem. Geol., 126, 1-16.

- **HOCHREITER, R. C.** (1979). The geology of the area between Honeybird Siding and the New Consort Mine on the northern margin of the Barberton greenstone belt, Eastern Transvaal. Hons. Project Dissertation, Geological Engineering Branch of Mining Geology, Faculty of Engineering, Univ. Witwatersrand, Johannesburg, 108 pp.
- **HUNTER, D. R.** (1991). Crustal processes during Archaean evolution of the southeastern Kaapvaal province. J. Afr. Earth Sci., 13 (1), 13-25.

$\underline{\mathbf{L}}$

LOPEZ-MARTINEZ, M. (1984). A ⁴⁰ Ar/ ³⁹ Ar geochronological study of komatiite and related rocks. Ph.D thesis (unpubl.), Univ. Toronto, Canada.

$\underline{\mathbf{N}}$

NIEMÖLLER R. (1982). Dalmein tin project: Kangwane Mining Corporation Limited. Unpubl. Rep. Geol. Surv. S. Afr., 1773, 6 pp.

$\underline{\mathbf{0}}$

OHTANI, E., KAWABE, I., MORIYAMA, J. and NAGATA, Y. (1989). Partitioning of elements between majorite garnet and melt and implications for petrogenesis of komatiite. Contrib. Mineral. Petrol., 103, 263-269.

<u>R</u>

- **REIMER, T.O.** (1983). Accretionary lapilli and other spheroidal rocks from the Archaean Swaziland Supergroup, Barberton Mountain Land, South Africa, 619-634. *In:* T.M. Peryt (ed.), *Coated Grains*, Springer-Verlag, New York, 655 pp.
- **REIMER, T. O.** (1983). Accretionary lapilli in volcanic ash falls: physical factors governing their formation, 56-68. *In:* T.M. Peryt (ed.), *Coated Grains*, Springer-Verlag, New York, 655 pp.
- **REIMER, T. O.** (1990). Discussion on "Re-evaluation of gold source in Witwatersrand ores". S. Afr. J. Geol., 93 (3),549-550.

<u>S</u>

- **SATO, K. and DE RONDE, C. E. J.** (1993). The Barberton greenstone belt. Chishitsu (Geology) News, No. 464 (April), Geol. Surv. Japan, p. 1-4 (in Japanese).
- **SMITH, A. J.** (1981). *The geology of the farms Hooggenoeg 731 JT and Avontuur 721 JT, southwestern Barberton greenstone belt.* Hons. Project (unpubl.), Geol. Dept, Univ. Witwatersrand, Johannesburg, 26 pp.

<u>T</u>

TREDOUX, M., HART, R. J., SELLSCHOP, J. P. F., DE WIT, M. J. and ARMSTRONG, R. A. (1985). PGE in the 3.6 Ga Bon Accord Ni-Fe-Co-Cr occurrence, Barberton, South Africa: implications for crust-mantle-core segregation. Canadian Mineralogist, 23, p. 317.

\mathbf{V}

VAN VUUREN, C. J. J. (1959). Geologiese verslag oor pegmatietale met lepidoliet op Oshoek 102 en Houtbosch 94, Distrik Carolina. Unpubl. Rep. Geol. Surv. S. Afr., 958-028, 4 pp. (Eg 57/14; Ref. No. GSO 8/51).

$\underline{\mathbf{W}}$

WIDENBAR, L. (1976). Report on barite occurrences in the Barberton greenstone belt. Open File Rep. Geol. Surv. S. Afr., 1976-0047, 10 pp (Ref. No. Eg 27/27).

$\underline{\mathbf{X}}$

XIE, Q., McCUAIG, T. C. and KERRICH, R. (1995). Secular trends in the melting depths of mantle plumes: evidence from HFSE/REE systematics of Archean high-Mg lavas and modern oceanic basalts. Chem. Geol., 126, 29-42.

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