

11. REFERENCES CITED

- Allman-Ward, P., Halls, C., Rankin, A., and Bristow, C. W., 1982, An intrusive hydrothermal breccia body at Wheal Remfry in the western part of the St Austell granite pluton, Cornwall, England *in* Evans, A.M., Ed., *Metallization associated with acid magmatism*. Chichester John Wiley and Sons, p. 1-28.
- Alston, A.J., Hartley, J.S., and Sennitt, C.M., 1991, The geology of the Twin Hills epithermal gold deposit, Queensland: *World Gold '91*, Cairns, p. 331-339.
- Anderson, J.A., 1982, Characteristics of leached capping and techniques of appraisal, *in* Tittley, S.R., ed., *Advances in geology of porphyry copper deposits, southwestern North America*: Tucson, University of Arizona Press, p. 275-295.
- Aoki, M. 1989, Discovery of high grade gold mineralization from an active hydrothermal system at Osorezan: *Chishitsu News*, 413, p. 1-5. (in Japanese).
- Aoki, M., 1990, Evolving processes of the Osorezan hydrothermal system: *Trans. Soc. Mining Geos of Japan*, 40, p. 40-41 (in Japanese).
- Aoki, M., 1993, The Osorezan-type gold deposit *in* Shikazono, N., Naito, K., and Izawa, E., 1993, Editors preface, eds., *High grade epithermal mineralization - the Hishikari deposit: The Society of Resource Geology, Resource Geology Special Issue*, v. 14, Editors Preface, p. iii-x.
- Aoki, M., and Thompson, M., 1990, The Osorezan hydrothermal system: Gold-bearing hot springs: *Geothermal Resources Council Transactions*, vol 14, p. 1365-1369.
- Arnold, G. O., and Sillitoe, R. H., 1989, Mount Morgan Gold-Copper Deposit, Queensland, Australia: Evidence for an Intrusion-Related Replacement Origin: *Economic Geology* vol 84, p. 1805-1816.
- Ashley, R.P., 1982, Occurrence model for enargite-gold deposits: U.S. Geological Survey Open file report 82-795, p. 144-147.
- Aurelio, M. A., Pagado, E. S., and Tear, H.J., 1993, Kinematics of the Philippine Fault system at the Tongonan geothermal field, N. Leyte: Implications for geothermal exploration and development: *Geol. Soc. Phil.*, v.48, p. 1-20.
- Aydin, A., and Nur, A., 1982, Evolution of pull-apart basins and their scale independence: *Tectonophysics*, v. 1 p. 91-105.
- Babaahmadi, A., Rosenbaum, G., and Esterle, J., 2015, Alternating episodes of extension and contraction during the Triassic: evidence from Mesozoic sedimentary basins in eastern Australia: *Australian Journal of Earth Sciences*, v. 62, p. 563-579.
- Bagby, W.C., and Berger, B.R., 1985, Geologic characteristics of sediment-hosted, disseminated precious-metal deposits in the western United States, *in* Berger, B.R., and Bethke, P.M., eds., *Geology and geochemistry of epithermal systems: Reviews in Economic Geology*, v. 2, p. 169-202.
- Bainbridge, A.L., Corbett, G.J., and Leach, T.M., 1994, The Nena high sulphidation system, Frieda River Copper, Papua New Guinea, *in* Rogerson, R., ed., *Geology, exploration and mining conference, June 1994, Lae, Papua New Guinea, proceedings*: Parkville, The Australasian Institute of Mining and Metallurgy, p. 131-137.
- Baker, E.M., 1987, Geologic, petrographic and fluid inclusion study of breccia hosted gold mineralization at Kidston, north Queensland: Unpublished Ph.D. thesis, Townsville, James Cook University of North Queensland, 409 p.
- Baker, E.M., and Andrew, A.S., 1991, Geologic, fluid inclusion, and stable isotope studies of the gold-bearing breccia pipe at Kidston, Queensland, Australia: *Economic Geology*, v. 86, p. 810-830.
- Baker, E.M., Kirwin, D.J., and Taylor, R.G., 1986, Hydrothermal breccia pipes: *Economic Geology Research Unit, James Cook University, EGRU Contribution*, v. 12, p. 45.
- Baker, E.M., and Tulleman, F.J., 1990, Kidston gold deposit, *in* Hughes, F.E., ed., *Geology of the mineral deposits of Australia and Papua New Guinea: Australasian Institute of Mining and Metallurgy Monograph* 14, p. 1461-1465.
- Bakke, A.A., Morrell, R.P., and Odden, J.C., 1998, The Fort Knox porphyry gold deposit, eastern-central Alaska *in* *Porphyry and hydrothermal copper & gold deposits a global perspective*, *Proceedings, Australian Mineral Foundation*, p. 89-98.

- Baldwin, J., 2008, Kelian – a precursor to the carbonate-base metal Au model *in* The Terry Leach Symposium, *AIG Bulletin*, 48, p. 1-8.
- Baldwin, J.T., Swain, H.D., and Clark G.H., 1978, Geology and grade distribution of the Panguna porphyry copper deposit, Bougainville, Papua New Guinea: *Economic Geology*, v. 73, p. 690-702.
- Barker R.G., Torckler, L.K., and Brathwaite, R.L., 2006, Neavesville epithermal Au-Ag deposit, Haurkai goldfield *in* Braithwaite, R.L. and Christie A.B., Eds., *Geology and exploration of New Zealand mineral deposits*, Australian Institute of Mining and Metallurgy Monograph 25, p. 133-136.
- Barton, P.B., 1073, Solid solution in the system Cu-Fe-S. Part 1: The Cu-S and CuFe-S joins: *Economic Geology*, v. 68, p. 455-465.
- Bateman A.M., 1950, *Economic mineral deposits*: John Wiley & Sons, New York, 2nd edition, 916 p.
- Beane, R.E., and Titley, S.R., 1981, Porphyry copper deposits, Part II, Hydrothermal, alteration and mineralisation: *Economic Geology*, 75th Anniversary Volume, p. 235-269.
- Begbie, M.J., Spörli, K.B., and Mauk, J.L., 2007, Structural evolution of the Golden Cross Epithermal Au-Ag Deposit, New Zealand: *Economic Geology*, v. 102, p. 873-892.
- Berger, B.R., and Bagby, W.C., 1991, The geology and origin of Carlin-type gold deposits, *in* Foster, R.P., ed., *Gold metallogeny and exploration*: Glasgow, Blackie, p. 210-248.
- Berger, B.R., and Eimon, P.L., 1983, Conceptual models of epithermal precious metal deposits, *in* Shanks, W.C. III, ed., *Cameron volume on unconventional mineral deposits*: New York, American Institute of Mining, Metallurgy and Petroleum Engineering, and Society of Mining Engineers, p. 191-205.
- Berger, B.R., and Henley, R.W., 1989, Advances in the understanding of epithermal gold-silver deposits with special reference to the western United States: *Economic Geology Monograph* 6, p. 405-423.
- Bettles, K., 2008, Petrological studies by Terry Leach at the North Carlin Trend, Nevada: Terry Leach Symposium, Australian Institute of Geoscientists, *Bulletin* 48, p. 9-13.
- Bickford, D.A., 2007, Kisladag gold mine, Turkey – discovery of the Kisladag gold deposit *in* *NewGenGold 2007*, p. 21-27.
- Birak, D and Blair, K., 2012, Palmarejo Project, SW Chihuahua State, Mexico: 43-101 Report.
- Birak, D, Blair, K., and Triebel, K., 2013, Palmarejo Project, SW Chihuahua State, Mexico: 43-101 Report.
- Blake, D.H., and Miezitis, Y., 1967, The geology of Bougainville and Buka Islands, New Guinea: Bureau of Mineral Resources, Geology and Geophysics, Australia, *Bulletin* 93, and Geological Survey of Papua New Guinea *Bulletin* 1, 56 p.
- Blanchard, R., 1968, Interpretation of leached outcrops: Nevada Bureau of Mines, *Bulletin* 66, Mackay School of Mines, University of Nevada,
- Blès, J-L., and Feuga, B., 1986, The fracture of rocks: New York, Elsevier, 131 p. (French original “La fracturation des roches”, translated by Wanklyn, J.).
- Bonham, H.F., 1986, Models for volcanic hosted epithermal precious metal deposits: A review, *in* *Proceedings of Symposium 5, Volcanism, hydrothermal systems and related mineralisation*, February 1986, Auckland: Auckland, International Volcanological Congress, p.13-18.
- Bonham, H.F., Jr., 1988, Models for volcanic-hosted epithermal precious metal deposits, *in* Schafer, R.W., Cooper, J.J., and Vikre, P.G., eds., *Bulk mineable precious metal deposits of the western United States, symposium proceedings*, 6-8 April 1987, Reno, Nevada: Reno, Geological Society of Nevada, p. 259-271.
- Bonham, H.F., 1989, Bulk mineable gold of the Western United States *in* *The geology of gold deposits: The 1988 perspective*: *Economic Geology Monograph* 6, p. 193-207.
- Boric, R.P., Diaz, F.F., and Maksaev, V.J., 1990, Geología y yacimientos metalíferos de la region de Antofagasta: Instituto de Investigaciones Geológicas, Chile, *Boletín*, v. 40, 246 p. (in Spanish).
- Bow, C., 2012, Update of Cap-Oeste Project, Santa Cruz Province, Argentina, National Instrument 43-101 Technical Report for Patagonia Gold Plc, Chlumsky, Armbrust & Meyer, LLC, www.patagoniagold.com

- Branch, C.D., 1966, Volcanic Cauldrons, Ring Complexes, and Associated Granites of the Georgetown Inlier, Queensland: Bureau of Mineral Resources, Geology and Geophysics Bulletin No. 76, 214 p.
- Brathwaite, R.L., 1989, Geology and exploration of the Karangahake gold-silver deposit, *in* Kear, D., ed., Mineral deposits of New Zealand: Australasian Institute of Mining and Metallurgy Monograph 13, p. 73-78.
- Brathwaite, R.L., and Faure, K., 2002, The Waihi epithermal gold-silver-base metal sulphide –quartz vein system, New Zealand: temperature and salinity controls on electrum and sulphide deposition: *Economic Geology*, v. 97 p. 269-290.
- Brathwaite, R.L., Torkler, L.K., Jones, P.K., 2006, The Martha Hill Epithermal Au-Ag Deposits, Waihi – Geology and Mining History *in* Braithwaite, R.L. and Christie A.B., Eds., Geology and exploration of New Zealand mineral deposits, Australian Institute of Mining and Metallurgy Monograph 25, p. 171-178.
- Brewer, A., Mitchell, J.S., and Smart, G.A., 1990, Lucky Draw Mine *in* Gold Mines of Central Western NSW, Gilligan, L.B., Lewis, P., Suppel, D.W., and Seccombe, P.K., Editors, Geological Society of Australia Specialist Group in Economic Geology, Field Guide for excursion 30 April-3 May, 1991. NSW Dept. of Mineral Resources, Publ.
- Brooks, J.H., 1971, Geological map of the Cracow goldfield *in* Brooks, J.H., 1974, Departmental diamond drilling programme - Cracow goldfield: Geological Survey of Queensland, Report 81.
- Bromley, C.J., and Brathwaite, R.L., 1991, Waihi basin structures in light of recent geophysical surveys, *in* Proceedings of the 25th annual conference, New Zealand branch, Auckland, The Australasian Institute of Mining and Metallurgy, p. 225-238.
- Brown, K.L., 1986, Gold deposition from geothermal discharges in New Zealand: *Economic Geology*, v. 81, p. 979-983.
- Brown, K.L., 1989, Kinetics of gold precipitation from experimental hydrothermal sulphide solutions: *Economic Geology Monograph* 6, p. 320-327.
- Bryner, L., 1961, Breccia and pebble columns associated with epigenetic ore deposits: *Economic Geology*, v. 56, p. 488-508.
- Buchanan, L.J., 1981, Precious metal deposits associated with volcanic environments in the southwest *in* Relations of tectonics to ore deposits in the Southern Cordillera Ed., W.R. Dickenson and W.D. Payne: Arizona Geological Society Digest Vol XIV, p., 237-262.
- Burnham, C.W., 1979, Magmas and hydrothermal fluids, *in* Barnes, H.L., ed., *Geochemistry of hydrothermal ore deposits*, 2nd edition: New York, John Wiley & Sons, p. 71-136.
- Burnham, C.W., 1997, Magmas and hydrothermal fluids, *in* Barnes, H.L., ed., *Geochemistry of hydrothermal ore deposits*, 3rd edition: New York, John Wiley & Sons, p. 63-123.
- Burnham, C.W., 1985, Energy release in subvolcanic environments: Implications for breccia formation: *Economic Geology*, v. 80, p. 1515-1522.
- Butler, I., 2004, Update and Future Directions for the Pajingo Project: Northern Queensland Exploration & Mining 2004, Australian Institute of Geologists, Bulletin 40, p. 29-34.
- Candela, P.A., and Piccoli, P.M., 1995, Model ore-metal partitioning from melts into vapour/brine mixtures, *in* Thompson, J.F.H., ed., *Magmas, fluids and ore deposits: Mineralogical Association of Canada Short Course Handbook*, v. 23, p. 101.
- Candela, P.A., and Blevin, P.L., 1995, Physical and chemical magmatic controls on the size of magmatic-hydrothermal ore deposits, *in* Clark, A.H., ed., *Giant Ore Deposits II: Queens University, Kingston, Ontario*, p. 2-37.
- Candela, P.A., and Blevin, P.L., 1995, Do some mirolitic granites preserve evidence of magmatic volatile phase permeability?: *Economic Geology*, v. 90, p. 2310-2316.
- Candela, P. A., and Piccoli, P.M., 2005, Magmatic processes in the development of porphyry type ore systems: *Economic Geology 100th Anniversary Volume*, p.25-38.
- Carmen, G.D., 1995, Lihir gold deposit, Papua New Guinea: the dynamic role of magmatic-hydrothermal processes in its formation *in* Clark, A.H., Ed. *Giant Ore Deposits II, proceedings, 2nd Giant Ore Deposits Workshop, Kingston, Ontario, Queens University*, p. 675-696.
- Carmen, G.D., 2003, Gold mineralisation and hydrothermal evolution of the Ladolam gold deposit, Lihir Island, Papua New Guinea: *Economic Geology, Special Publication 10*, p. 247-284.

- Cayley, R., 2015, The Giant Lachlan Orocline – a powerful new predictive tool for mineral exploration under cover across Eastern Australia: AIG Bulletin 62, p. 29-38.
- Cerpa, L.M., Bissig, T., Kyser, K., McEwan, C., Macassi, A., and Rios H.W., 2013, Lithologic controls on mineralisation at the Lagunas Norte high sulphidation epithermal gold deposit, northern Peru: *Mineralium Deposita*, v. 48, p. 653-673.
- Chávez, W., 2000, Supergene oxidation of copper deposits: zoning and distribution of copper oxide minerals: SEG newsletter, April 2000, p1 & 10-21.
- Christie, A.B., Brathwaite, R.L., Mauk, J.L., and Simpson, M.P., 2006. Hauraki goldfield: regional exploration databases and prospectivity studies; *in* Christie, A.B., and Brathwaite, R.L., eds., *Geology and Exploration of New Zealand Mineral Deposits*. Australasian Institute of Mining and Metallurgy Monograph, v. 25, p. 73–84.
- Clark, A.H., 1993, Are oversized porphyry copper deposits either anatomically or environmentally distinctive?: *Economic Geology Special Publication 2*, p. 213-282.
- Clark, A.H., and Arancibia, O.N., 1995, The occurrence, paragenesis and implications of magnetite-rich alteration-mineralisation in calc-alkaline porphyry copper deposits *in* Clark, A.H., Ed. *Giant Ore Deposits II*, proceedings, 2nd Giant Ore Deposits Workshop, Kingston, Ontario, Queens University, p. 583-640.
- Clarke, G.W., Paterson, R.G., and Taylor, R.G., 1985, The nature and origin of brecciation and mineralisation at the White Crystal ore deposit, Ardlethan tin mine, New South Wales: *Australian Journal of Earth Sciences*, v. 32, p. 343-348.
- Cline, J.S., Hofstra, A.H., Muntean, J.L., Tosdal, R.M., and Hickey, K.A., 2005, Carlin-type gold deposits in Nevada: Critical geologic characteristics and viable models: *Society of Economic Geologists 100th Anniversary Volume* p. 451-484.
- Coeur Mining, 2015, Palmarejo Complex, The path forward: Coeur Mining, Toronto.
- Coleman, P.J., Haig, D.W., and Wilkins, N.A., 1988, Puzzling occurrence of a deep sea ooze in a modern island arc terrain in the Solomon Islands: *Search*, v. 19, p. 90-91.
- Colley, H., and Flint, D.J., 1995, *Metallic mineral deposits of Fiji*: Mineral Resources Department of Fiji, Memoir 4, 196 p.
- Cooke, D.R., Wilson, A.J., Lickfold, V. and Crawford, A.J., 2002, The alkali Au-Cu porphyry province of NSW: Proceedings, Australasian Institute of Mining and Metallurgy Conference, Auckland September 2002, Publication series 6/02, p. 197-202.
- Cooke, D.R. and Deyell, C.L., 2003, Descriptive names for epithermal deposits: their implications for inferring fluid chemistry and ore genesis, *in* Eliopoulos, D. ed., *Mineral exploration and sustainable development*: Rotterdam, Mill press, v. 1, p. 457-460.
- Cooke, D.R., Hollings, P., and Walsh, J.L., 2005, Giant porphyry deposits: characteristics, distribution and tectonic controls: *Economic Geology*, v.100, p. 801-818.
- Cooke, D.R., Harris, A.C., and Zukowski, W., 2009, Gold and Copper deposits of the Macquarie Arc, NSW: Macquarie Arc Conference, Geological Society of Australia Abstracts, No 92, p. 42-47.
- Cooke, D.R., Hollings, P., Wilkinson, J.J., and Tosdal, R.M., 2014, *Geochemistry of Porphyry Deposits*, Elsevier Publishing, Vol 13, p. 357-381.
- Corbett, G.J., 1994, Regional structural control of selected Cu/Au occurrences in Papua New Guinea, *in* Rogerson, R., ed., *Geology, exploration and mining conference*, June 1994, Lae, Papua New Guinea, proceedings: Parkville, The Australasian Institute of Mining and Metallurgy, p. 57-70.
- Corbett, G.J. 2002a, Epithermal Gold for Explorationists: AIG Presidents Lecture, AIG On Line Journal April 2002, AIG website www.aig.asn.au
- Corbett, G.J., 2002b, Epithermal Gold for Explorationists: AIG News No 67, 8p.
- Corbett, G.J., 2002c, Structural controls to Porphyry Cu-Au and Epithermal Au-Ag deposits *in* *Applied Structural Geology for Mineral Exploration*: Australian Institute of Geoscientists Bulletin 36, p. 32-35.
- Corbett, G.J., 2004, Epithermal and porphyry gold – Geological models *in* Pacrim Congress 2004: Adelaide, The Australasian Institute of Mining and Metallurgy, p. 15-23.
- Corbett, G.J., 2005a, Epithermal Au-Ag deposit types – implications for exploration: Proexplo Conference Peru May 2005, published on CD.
- Corbett, G.J., 2005b, *Geology and Mineral Potential of Papua New Guinea*: ed., A Williamson & G Hancock, Papua New Guinea Department of Mining, 152p.

- Corbett, G.J., 2007, Controls to low sulphidation epithermal Au-Ag: Talk presented at a meeting of the Sydney Mineral Exploration Discussion Group (SMEDG) with powerpoint and text on SMEDG website www.smedg.org.au
- Corbett, G.J., 2008. Influence of magmatic arc geothermal systems on porphyry-epithermal Au-Cu-Ag exploration models: Terry Leach Symposium, Australian Institute of Geoscientists, Bulletin 48, p. 25-43.
- Corbett, G.J., 2009a, Anatomy of porphyry-related Au-Cu-Ag-Mo mineralised systems: Some exploration implications: Northern Queensland Exploration and Mining 2009, Extended Abstracts, Australian Institute of Geoscientists, Bulletin 49, p. 33-46.
- Corbett, G.J., 2009b, Geological models in epithermal-porphyry exploration: Terry Leach's legacy *in* Geological Society of Australia, Specialist Group in Economic Geology Newsletter v 1 & 2, p. 3-13..
- Corbett, G.J., 2009c, Tectonic/structural control to Papua New Guinea Au-Cu mineralisation: Macquarie Arc Conference, Geological Society of Australia Abstracts, No 92, p. 48-49.
- Corbett, G.J., 2012, Structural controls to, and exploration for, epithermal Au-Ag deposits: Australian Institute of Geoscientists Bulletin 56, pp 43-47.
- Corbett, G.J., 2013a, Tasmanides arc-style Au-Cu mineralisation, in a Pacific rim context: AIG Bulletin 55, p. 23-32.
- Corbett, G.J., 2013b, Pacific rim Epithermal Au-Ag: World Gold Conference Brisbane, Proceedings, Australasian Institute of Mining and Metallurgy, Publication Series 9/2013, p. 5-13.
- Corbett, G. J., and Phillips, G. N., 1981, Regional retrograde metamorphism of a high grade terrain: the Willyama Complex, Broken Hill, Australia: *Lithos*, 14, p. 59-73.
- Corbett, G.J., and Hayward, S.B., 1994, The Maragorik high sulphidation Cu/Au system - an update, *in* Rogerson, R., ed., Geology, exploration and mining conference, June 1994, Lae, Papua New Guinea, proceedings: Parkville, The Australasian Institute of Mining and Metallurgy, Publication Series 9/2013, p. 125-129.
- Corbett, G.J., and Taylor, G., 1994, The Mt Kasi high sulphidation system, Fiji, *in* Rogerson, R., ed., Geology, exploration and mining conference, June 1994, Lae, Papua New Guinea, proceedings: Parkville, The Australasian Institute of Mining and Metallurgy, p. 147-153.
- Corbett, G.J., and Leach, T.M., 1998, Southwest Pacific gold-copper systems: Structure, alteration and mineralization: Society of Economic Geologists Special Publication 6, 238 p.
- Corbett, G.J., Leach, T.M., Shatwell, D.O., and Hayward, S., 1994a, Gold mineralization on Woodlark Island, Papua New Guinea, *in* Rogerson, R., ed., Geology, exploration and mining conference, June 1994, Lae, Papua New Guinea, proceedings: Parkville, The Australasian Institute of Mining and Metallurgy, p. 92-100.
- Corbett, G.J., Leach, T.M., Thirnbeck, M., Mori, W., Sione, T., Harry, K., Digan, K., and Petrie P., 1994b, The geology of porphyry-related mesothermal vein gold mineralization north of Kainantu, Papua New Guinea, *in* Rogerson, R., ed., Geology, exploration and mining conference, June 1994, Lae, Papua New Guinea, proceedings: Parkville, The Australasian Institute of Mining and Metallurgy, p. 113-124.
- Corbett, G.J., Semple, D., and Leach, T.M., 1994c, The Tolukuma Au/Ag vein system, Papua New Guinea, *in* Rogerson, R., ed., Geology, exploration and mining conference, June 1994, Lae, Papua New Guinea, proceedings: Parkville, The Australasian Institute of Mining and Metallurgy, p. 230-238.
- Corbett, G.J., Leach, T.M., Stewart, R., and Fulton, B., 1995, The Porgera gold deposit: Structure, alteration and mineralisation, *in* Pacific Rim Congress 95, 19-22 November 1995, Auckland, New Zealand, proceedings: Carlton South, The Australasian Institute of Mining and Metallurgy, p. 151-156.
- Corbett, G., Hunt, S., Cook, A., Tamaduk, P., and Leach T., 2001, Geology of the Ladolam gold deposit, Lihir Island, from exposures in the Minifie open pit *in* Hancock, G., ed., Geology, exploration and mining conference, July 2001, Port Moresby, Papua New Guinea, Proceedings: Parkville, The Australasian Institute of Mining and Metallurgy, p. 69-78.
- Corbett, G., Lees, S. and Goody, J., 2009, Central Queensland porphyry Mo – Anthony and Rawbelle Projects: Northern Queensland Exploration and Mining 2009 Extended Abstracts, Australian Institute of Geoscientists, Bulletin 49, p. 25-31.

- Cornelius, K.D., 1967, Hydrothermal pebble dykes at Mount Morgan, Queensland: *Economic Geology*, v 62, p. 853-860.
- Cornelius, K.D., 1969, The Mt Morgan Mine Queensland – Massive Gold-Copper pyritic replacement deposit: *Economic Geology*, v. 64, p. 885-902.
- Coulson, M., 2012, *The History of Mining: The events, technology and people involved in the industry that forged the modern world*: Harriman House Limited.
- Crane, D. and Kavalieris, I., 2012, Geologic overview of the Oyu Tolgoi porphyry Cu-Au-Mo deposits, Mongolia: *Economic Geology Special Publication 10*, p. 187-214.
- Creenaune, P., Braund, K., McLeod, R., 2003, The Cracow gold project, Cracow, Queensland, A discovery case history *in* *NewGenGold 2003*, Conference Proceedings, p. 159-170.
- Crocker, H.A., Mauk, J.L., and Rabone, S.D.C., 2013, The origin of Ag-Au-S-Se minerals in adularia-sericite epithermal deposits: constraints from the Broken Hills deposit, Haurkai Goldfield, New Zealand: *Mineralium Deposita* v. 48, p. 249-266.
- Crowell, J.C., 1974, Origin of late Cenozoic basins in southern California, *in* W.R. Dickinson, ed., *Tectonics and sedimentation: Society of Economic Paleontologists and Mineralogists Special Paper 22*, p. 190-204; *reproduced in* *Wrench Fault Tectonics*, Ed., A. G. Sylvester, AAPG Reprint Series, 28, p. 195-209.
- Cumming, C., and James, R., Salam, A., Meffre, S., Zaw, K., Lunwongsa, W., Nuanla-ong, S., 2008, Geology and Mineralisation of the Chatree Epithermal Au-Ag Deposit, Petchabun Province, Central Thailand, *Proceedings to the 2008 Pacrim Conference*.
- Cumming, G., Worland, R., and Corbett, G., 2013, The collapse caldera environment for Au-Ag mineralisation within the Drake Volcanics, New England: Implications for exploration: *Proceedings, Mineral Exploration in the Tasmanides*, AIG Bulletin 25, p. 33-40.
- Damasco, F.V., and de Guzman, M.T., 1977, The G.W. gold orebodies in the Acupan mine of the Benguet Corporation: 6th Symposium on Mineral Resources Development, Baguio City, Philippines, *proceedings* 6 p.
- Dana, E.S., 1932, *A textbook of mineralogy*: John Wiley and sons 4th Edition edited by W.E. Ford, 851 p.
- Davies, A G S, Cooke D R, Gemmell J B, 2000, Breccias associated with epithermal and porphyry systems – towards a systematic approach to their description and interpretation in *Gold in 2000*, Short Course Poster Session Extended Abstract Volume Lake Tahoe, Nevada, November 2000, Eds., Bucci L. A., & Mair, J. L., Centre for Global Metallogeny p. 98-102.
- Davies, G.S., Cooke, D.R., Gemmell, B., 2008, Biatreme breccias at the Kelian Gold Mine, Kalimantan, Indonesia: Precursors to epithermal gold mineralisation: *Economic Geology*, v. 103, p.689-718.
- Davies, G.S., Cooke, D.R., Gemmell, B., van Leeuwen, T., Cesare, P., and Hartshorn, G., 2008, Hydrothermal Breccias and Veins at the Kelian Gold Mine, Kalimantan, Indonesia: Genesis of a Large Epithermal Gold Deposit: *Economic Geology*, v. 103, p.717-758.
- Deckart, K., Clark, A.H., Cuadra, P., and Fanning, M., 2013, Refinement of the time-space evolution of the giant Mio-Pliocene Rio Blanco-Los Bronces porphyry Cu-Mo cluster, Central Chile: new U-Pb (SHRIMP II) and Re-Os geochronology and 40Ar/39Ar thermochronology data: *Mineralium Deposita*, v. 48, p. 57-79.
- Deitrich, A., Gutierrez, R., Nelson, E.P., and Layer, P.W., 2012, Geology of the epithermal Au-Ag Huevos Verde vein system and San Jose district, Deseado Massif, Patagonia, Argentina: *Mineralium Deposita*, v. 47, p. 233-250.
- Dentith, M. and Mudge, A. T., 2015, *Geophysics for the mineral exploration geoscientist*: Cambridge University Press, 438 p.
- Dilles, J.H., and Einaudi, M.T., 1992, Wall-rock alteration and hydrothermal flow paths about the Ann-Mason porphyry copper deposit - Nevada: A 6 km vertical reconstruction: *Economic Geology*, v. 87, p. 1963-2001.
- Dilles, J. H., Tomlinson, A.J., Martin, M.W., and Blanco, N., 1997, El Abra and Fortuna complexes: a porphyry copper batholith structurally displaced by the Falla Oeste *in* VIII Congreso Geológico Chileno, Universidad Católica del Norte, Actas vol. III, p. 1883-1887.
- Dogliani, C., Carminati, E., and Cuffaro, M., 2006, [Simple Kinematics of Subduction Zones](#), *International Geology Reviews*, vol. 48, p. 479-493.

- Eastoe, C.J., 1978, A fluid inclusion study of the Panguna porphyry copper deposit, Bougainville, Papua New Guinea: *Economic Geology*, v. 73, p. 721-728.
- Egert, E, and Kasaneva, S., 1995, The San Cristobal Gold District, Antofagasta, Chile, *in* Pacific Rim Congress 95, 19-22 November 1995, Auckland, New Zealand, proceedings: Carlton South, The Australasian Institute of Mining and Metallurgy, p. 197-202.
- Enaudi, M.T., Meinert, L.D., and Newberry, R.J., 1981, Skarn deposits: *Economic Geology*, Seventy-Fifth Anniversary Volume, p. 317-391.
- Einaudi, M.T., Hedenquist, J.W., and Inan, E.E., 2003, Sulfidation state of fluids in active and extinct hydrothermal systems: Transitions from porphyry to epithermal environments in *Society of Economic Geologists Special Publication 10*, p. 285-312.
- Ewers, G.R., Torrey, C.E., and Erceg, M.M., 1990, Red Dome gold deposit, *in* Hughes, F.E., ed., *Geology of the mineral deposits of Australia and Papua New Guinea: Australasian Institute of Mining and Metallurgy Monograph 14*, p.1455-1460.
- Farmin, R., 1934, Pebble dykes and associated mineralisation at Tinic, Utah: *Economic Geology*, v. 29, p. 356-370.
- Fifarek, R.H., and Gerike, G. N., 1990, Oxidation of hydrothermal sulphides at Round Mountain, Nevada – Origin and relation to gold mineralisation *in* *Geology and Ore Deposits of the Great Basin, Symposium Proceedings*, Eds., Raines, G.L., Lisle, R.E., Schafer, R.W., and Wilkinson, W.H., Geological Society of Nevada and United States Geological Survey, p. 1111-1121.
- Fischl, P., Thomson, B., Morozov, S., Mamatysupov, V., Halley, S., and Tellez, C., 2013, Kupol LSE vein district, Russian Federation; integration of exploration datasets to understand post-mineral disruption of the vein-alteration system: Poster at SEG Conference Whistler.
- Fleming, A.W., Handley, G.A., Williams, K.L., Hills, A.L., and Corbett, G.J., 1986, The Porgera gold deposit, Papua New Guinea: *Economic Geology*, v. 81, p. 660-680.
- Ford, J.H., and Green, D.C., 1977, An oxygen and hydrogen isotope study of the Panguna porphyry copper deposit, Bougainville: *Journal of the Geological Society of Australia*, v. 24, p. 63-80.
- Fournier, R.O., 1985a, The behaviour of silica in hydrothermal solutions, *in* Berger, B.R., and Bethke, P.M., eds., *Geology and geochemistry of epithermal systems: Reviews in Economic Geology*, v. 2, p. 45-62.
- Fournier, R.O., 1985b, Carbonate transport and deposition in the epithermal environment, *in* Berger, B.R., and Bethke, P.M., eds., *Geology and geochemistry of epithermal systems: Reviews in Economic Geology*, v. 2, p. 63-72.
- Fox, N., Cooke, D.R., Harris, A.C., Collett, D., and Eastwood, G., 2015, Porphyry Au-Cu mineralization controlled by reactivation of an arc-transverse volcanosedimentary subbasin: *Geology*, v. 43, p. 811-814.
- Fraser, C., 1910, The geology of the Thames subdivision, Hauraki, Auckland: *New Zealand Geological Survey Bulletin*, v. 10, p. 136.
- Frisch, W., Meschede, M., and Blakey, R., 2011, *Plate Tectonics – Continental drift and mountain building*: Springer, 211 p.
- Garrett, S., 1996, The geology and mineralization of the Dinkidi porphyry related Au-Cu deposit, *in* *Porphyry related copper and gold deposits of the Asia Pacific Region*, Cairns, Australia, 12-13 August 1996, proceedings: Adelaide, Australian Mineral Foundation, p. 6.1-6.15.
- Garwin, S., 2002, The geologic setting of intrusion-related hydrothermal systems near the Batu Hijau porphyry copper-gold deposit, Sumbawa, Indonesia: *Economic Geology Special Publication 9*, p. 333-366.
- Giggenbach, W.F., 1992a, Magma degassing and mineral deposition in hydrothermal systems along convergent plate boundaries: *Economic Geology*, v. 87, p. 1927-1944.
- Giggenbach, W.F., 1992b, The composition of gasses in geothermal and volcanic systems as a function of tectonic setting *in* *Proceedings of the International Symposium Water-Rock Interaction*, Park City, Utah, 7, p. 873-878.
- Giggenbach, W.F., 1997, The origin and evolution of fluids in magmatic-hydrothermal systems *in* *Geochemistry of hydrothermal ore deposits*, Third Edition, Ed., H.L. Barnes, p. 937-996.
- Giles, D.I., and Nelson, C.F., 1982, Principle features of epithermal lode deposits of the circum-Pacific rim: 3rd Circum Pacific Energy and Mineral Resources Conference, Honolulu, *Transactions American Association of Petroleum Geologists* p. 273-287.

- Glen, R.A., 1987, Copper and gold deposits in deformed turbidites at Cobar, Australia: Their structural control and hydrothermal origin: *Economic Geology*, v. 82, p. 124-140.
- Glen R. A. 2013, Refining accretionary orogen models for the Tasmanides of eastern Australia: *Australian Journal of Earth Sciences*, vol. 60, p. 315-370.
- Golden, H., Thomson, B., Paulsen, H-K., Fischl, P., Shpanov, V., Nikitenkov, Y., and Davis, G., 2011, Clay alteration zonation in geothermal systems: implications for exploration at the Kupol epithermal Au deposit, Russia: *Gold in the North Pacific rim, II International Mining and Geology Forum, Magadan*, p. 32-33.
- Goldfarb, R.J., Groves, D.I., and Gardoll, S., 2001, Orogenic gold and geologic time synthesis: *Ore Geology Reviews* v 18, p. 1-75.
- Gray, N., Mandyczewsky, A. and Hine, R., 1995, Geology of the zoned gold skarn system at Junction Reefs, New South Wales: *Economic Geology*, v. 90, p. 1533-1553.
- Grieve, P., Corbett, G., and Leach, T., 1997, A conceptual model for gold-silver mineralization at Puhupuhi, Northland, New Zealand *in* Braithwaite, R.L. and Christie A.B., Eds., *Geology and exploration of New Zealand mineral deposits*, Australian Institute of Mining and Metallurgy Monograph 25, p. 133-139.
- Grieve, P.L., Corbett, G.J., and Leach, T.M., 2006, Exploration at Ohakuri North epithermal Au-Ag prospect, Taupo Volcanic Zone: *Australasian Institute of Mining and Metallurgy Monograph* 25, p. 197-202.
- Gustafson, L.B., and Hunt, J.P., 1975, The porphyry copper deposit at El Salvador, Chile: *Economic Geology*, v. 70, p. 857- 912.
- Gustafson, L.B., Vidal, C.E., Pinto R., and Noble, D.E., 2004, Porphyry-epithermal transition, Cajamarca Region, Northern Peru: *Economic Geology, Special Publication* 11, p. 279-299.
- Güven, I. H., 1993, Geological and metallurgical map of the Eastern Black Sea Region, 125,000 MTA Trabzon
- Gruen, G., Heinrich, C.A., and Schroeder, K., 2010, The Bingham Canyon porphyry Cu-Mo-Au Deposit. II. Vein geometry and ore shell formation by pressure-driven rock extension: *Economic Geology*, v. 105, 69-90.
- Hackman, B.D., 1980, The geology of Guadalcanal, Solomon Islands: Institute of Geological Sciences, Natural Environment Research Council, London, *Overseas Memoirs*, v. 6, 115 p.
- Hall, R., 2002, Cenozoic geological and plate tectonic evolution of SE Asia and the SW Pacific: computer-based reconstructions, model and animations: *Journal of Asian Earth Sciences* 20, p. 353-431.
- Harris, A.C., and Holcombe, R.J., 2014, Quartz vein emplacement mechanisms at the E26 porphyry Cu-Au deposit, New South Wales; *Economic Geology*, v. 109, p. 1035-1050.
- Harris, T., Pontius, J., and Pan, G., 2002, Mineral potential mapping for gold deposits in the Cripple Creek Mining District, Colorado, USA: *Field Trip Guide, 2002, Cripple Creek and Victor Gold Mining Company*, 8 p.
- Hayba, D.O., Bethke, P.M., Heald, P., and Foley, N.K., 1985, Geologic, mineralogic and geochemical characteristics of volcanic-hosted epithermal precious-metal deposits, *in* Berger, B.R., and Bethke, P.M., eds., *Geology and geochemistry of epithermal systems: Reviews in Economic Geology*, v. 2, p. 129-162.
- Hayward, S., Muller, C., Bandy, L., Finn, D., Golias, P., Menzies, D., Shakesby, S., Tekeve, B., and Wina, M., 2011, Unveiling a hidden giant: Discovery of the Golpu gold-copper porphyry deposit, Papua New Guinea: *NewGen Gold, November 22-23 2011, Perth, Conference Proceedings*, 213-227.
- Hayward, S., Corianiz, G., Ferric, B., and Corbett, G., 2015, Copper Hill Project; Integration of traditional geology and new technologies to build a deposit model: *Mines and Wines 2015 Conference Proceedings, AIG Bulletin* 62, p. 111-121.
- Heald, P., Foley, N.K., and Hayba, D.O., 1987, Comparative anatomy of volcanic hosted epithermal deposits: acid-sulfate and adularia-sericite types: *Economic Geology*, v. 82, p. 1-26.
- Heaney, P.J., 1993, A proposed mechanism for the growth of chalcedony: *Contributions to Mineralogy and Petrology*, 115, p. 66-74.

- Heberlein, D., 2008, Spatial and temporal zonation at the El Indio Cu-Au-Ag deposit, Chile: Evidence for an evolving high sulphidation epithermal system: Terry Leach Symposium, Australian institute of Geoscientists, Bulletin 48, p. 67-73..
- Hedenquist, J.W., 1987, Mineralization associated with volcanic related hydrothermal systems in the Circum Pacific Basin, *in* Horn, M.K., ed., Transactions of the 4th Circum Pacific energy and mineral resources conference, 17-22 August 1987, Singapore: Tulsa, American Association of Petroleum Geologists, p. 513-523.
- Hedenquist, J.W., 1990, The thermal and geochemical structure of the Broadlands-Ohaaki Geothermal System, New Zealand: *Geothermics*, v. 19, p. 151-185.
- Hedenquist, J.W., 1991, Boiling and dilution in the shallow portion of the Waiotapu geothermal system, New Zealand: *Geochimica et Cosmochimica Acta*, v. 55, p. 2753-2765.
- Hedenquist, J.W., Matsuhisa, Y., Izawa, E., White, N.C., Giggenbach, W.F., and Oaki, M., 1994, [Geology, geochemistry, and origin of high sulfidation Cu-Au mineralization in the Nansatsu District, Japan: *Economic Geology*, v. 89, p. 1-30.](#)
- Hedenquist, J.H., Arribas, A., Renyolds, T.J., 1998, Evolution of an intrusion-centred hydrothermal system: Far southeast-Lepanto porphyry-epithermal Cu-Au deposits, Philippines: *Economic Geology* v.93, p. 373-405.
- Hedenquist, J.W. Arribas A.R., Golzalez-Urien, E., 2000, Exploration for epithermal gold deposits in *Gold in 2000, Reviews in Economic Geology*, Vol 13, p. 245-277.
- Heidrick, T.L., and Titley, S.R., 1982, Fracture and dike patterns in Laramide Plutons and their structural and tectonic implications, *in* Titley, S.R., ed., *Advances in geology of porphyry copper deposits, southwestern North America*: Tucson, University of Arizona Press, p. 73-92.
- Heithersay, P.S., O'Neill, W.J., van der Helder, P., Moore, C.R., and Harbon, P.G., 1990, Goonumbla porphyry copper district - Endeavour 26 North, Endeavour 22 and Endeavour 27 copper-gold deposits, *in* Hughes, F.E., ed., *Geology of the mineral deposits of Australia and Papua New Guinea*: Australasian Institute of Mining and Metallurgy Monograph 14, p. 1385-1398.
- Hemley, J.J., Montoya, J.W., Marinenko, J.W., and Luce, R.W., 1980, Equilibria in the systems Al_2O_3 - SiO_2 - H_2O and some general implications for alteration/mineralization processes: *Economic Geology*, v. 75, p. 210-228.
- Henderson, R. A., Donchak, p.J.T., and Withnall, I.W., 2013, Mossman Orogen in Jell, P.A. Ed. *Geology of Queensland*, Geological Survey of Queensland, 970 p.
- Henley, R.W., 1985a, The geothermal framework for epithermal deposits, *in* Berger, B.R., and Bethke, P.M., eds., *Geology and geochemistry of epithermal systems: Reviews in Economic Geology*, v. 2, p. 1-24.
- Henley, R.W., 1985b, Ore transport and deposition in epithermal environments, *in* Herbert, H.K., and Ho, S.E., eds., *Stable isotopes and fluid processes in mineralization: Geology Department and University Extension, The University of Western Australia, Publication*, v. 23, p. 51-69.
- Henley, R.W., and Ellis, A.J., 1983, Geothermal systems ancient and modern: a geothermal review: *Earth Sciences Review*, v. 19, p. 1-50.
- Henley, R.W., and Hedenquist, J.W., 1986, Introduction to the geochemistry of active and fossil geothermal systems, *in* Henley, R.W., Hedenquist, J.W., and Roberts, P.J., eds., *Guide to the active epithermal (geothermal) systems and precious metal deposits of New Zealand: Monograph Series in Mineral Deposits*, Berlin, Gebruder Borntraeger, v. 26, p. 1-22.
- [Herve, M., Sillitoe, R.H., Wong, C., Hernandez, P., Crignola, F., Ipinza, M. and Urauz, F., 2012, *Geologic Overview of the Escondida Porphyry Copper District, Northern Chile: Economic Geology Special Publication 16*, p. 55-78.](#)
- Hill, K.C., Kenrick, R.D., Crowhurst, P.C., and Gow P.A., 2002, Copper Au mineralization in New Guinea: tectonics, lineaments, thermochronology and structure: *Australian Journal of Earth Sciences*, 49, p. 737-752.
- Hobbins, J.M., Torckler, L.K., Rhys, D.A., Ross, K.V., Mauk, J.L., 2012. The Correnso Epithermal Gold-Silver Deposit, a New Blind Discovery in Waihi, New Zealand. Annual General Meeting and Conference *in* The Australasian Institute of Mining and Metallurgy, New Zealand Branch 45: 227-240

- Holliday, J, McMillan, C., Tedder, I., 1999, Discovery of the Cadia Ridgeway gold-copper porphyry deposit *in* New generation gold mines '99 Case histories of discovery, Conference Proceedings: Australian Mineral Foundation, p. 101-107.
- Hollings, P., Cooke, D.R., and Clark, A., 2005, Regional geochemistry of tertiary igneous rocks in central Chile: Implications for the geodynamic environment of giant porphyry copper and epithermal gold mineralisation: *Economic Geology*, v. 100, p. 887-904.
- Honda, M., Motomura, Y., Zeng, N., Watanabe, K., Izawa, E., 2001, Paragenesis at the high grade Hosen No 1 vein of the Hishikari gold deposit, Japan *in* Izawa, E., Watanabe, K., Taguchi, S., Eds. International Symposium on Gold and Hydrothermal Systems, 2001, Fukuoka, Japan, Kyushu, University, p. 117-122.
- Hoschke, T., Sextan, M., 2005, Geophysical exploration for epithermal gold deposits at Pajingo, North Queensland, Australia: *Exploration Geophysics* (2005) 36, p. 401-406.
- Houghton, B.F. and Nairn, I.A., 1991, The 1976-1982 Strombolian and phreatomagmatic eruptions of White Island, New Zealand: eruptive and depositional mechanisms at a 'wet' volcano: *Bulletin of Volcanology*, 54, p. 25-49.
- Houghton, B. and Scott, B., 2002, Geysersland, A guide to the volcanoes and geothermal areas of Rotorua: Geological Society of New Zealand Guide Book 13, 48 p.
- Hudson, D.M., 2003, Epithermal Alteration and Mineralisation in the Comstock District, Nevada: *Economic Geology*, v. 98, p. 367-385.
- Ibaraki, K., and Suzuki, R., 1990, Wall rock alteration in the Hishikari gold mine, Kagoshima Prefecture, Japan: *Mining Geology*, 40 (2), p. 97-106. In Japanese abstract in English.
- Ibaraki, K., and Suzuki, R., 1993, Gold-silver quartz-adularia veins of the Main, Yamada and Sanjin deposits, Hishikari gold mine; a comparative study of their geology and ore deposits, *in* Shikazono, N., Naito, K., and Izawa, E., eds., High grade epithermal mineralization - the Hishikari deposit: The Society of Resource Geology, Resource Geology Special Issue, v. 14, p. 1-12.
- Illanes, J.L., Peralta, C., and Fuentes, M., 2005, Puren discovery, A high sulphidation system in the Maricunga Belt, Northern Chile *in* NewGenGold 2005, Conference proceedings, p. 137-150.
- Izawa, E., Urashima, Y., Ibaraki, K., Suzuki, R., Yokoyama, T., Kawasaki, K., Koga, A., and Taguchi, S., 1990, The Hishikari gold deposit: High grade epithermal veins in Quaternary volcanics of southern Kyushu, Japan, *in* Hedenquist, J.W., White, N.C., and Siddeley, G., eds., Epithermal gold mineralization of the Circum Pacific: *Journal of Geochemical Exploration*, v. 35, p. 1-56.
- Izawa, E., Naito, K., Ibaraki, K., and Suzuki, R., 1993, Mudstones in a hydrothermal eruption crater above the gold-bearing vein system of the Yamada deposit at Hishikari, Japan, *in* Shikazono, N., Naito, K., and Izawa, E., eds., High grade epithermal mineralization - the Hishikari deposit: The Society of Resource Geology, Resource Geology Special Issue, v. 14, p. 85-92.
- Izawa, E., Etho, J., Honda, M., Motomura, Y., and Sekine, R., 2001, Hishikari gold mineralisation: A case study of the Hosen No 1 vein hosted by basement Shimanto sedimentary rocks, Southern Kyushu, Japan: Society of Economic Geologists, Guidebook Series vol. 34, p. 21-30. Special Publication 6, 238 p. 21-30.
- Jannas, R.R., 1995, Reduced and oxidised high sulphidation deposits of the El Indio district, Chile; Unpubl. PhD thesis, Harvard University, Cambridge, Massachusetts, 421pp.
- Jannas, R.R., Beane, R.E., Ahler, B.A., and Brosnahan, D.R., 1990, Gold and copper mineralization at the El Indio deposit, Chile, *in* Hedenquist, J.W., White, N.C., and Siddeley, G., eds., Epithermal gold mineralization of the Circum Pacific: *Journal of Geochemical Exploration*, v. 35, p. 197-232.
- Jannas, R.R., Bowers, T.S., Petersen, U., and Beane, R.E., 1999, High-Sulfidation deposit Types in the El Indio District, Chile; *Geology and Ore Deposits of the Central Andes*, Economic Geology Special Publication 78, p. 219-266.
- Jerome, S.E., 1966, Some features pertinent in exploration of porphyry copper deposits *in* *Geology of porphyry copper deposits, Southwestern North America*: Titley, S.R. & Hicks C.L., Eds., University of Arizona Press, p. 75-86.

- John, D.A., 2001, Miocene and early Pliocene epithermal gold-silver deposits in the northern Great Basin, western USA: Characteristics, distribution and relationships to magmatism: *Economic Geology*, v. 96, p. 1827-1853.
- Jones I.W.O., and Golding, S.D., 1994, The Mount Morgan Mine Central Queensland: Three dimensional relationships of the mineralisation in the Mount Morgan gold-copper deposit: Geological Society of Australia Conference 1994, Capricorn Region. Ed., Holcombe, R.J., Stephens, C.J., and Fielding, C.N., p. 64-78.
- Jones, D., Barreno, J.E., Perez, P., Naranjo, G., Viera, F., and Camino, M., 2005, The high sulphidation Quimsacocha deposit, Ecuador *in* NewGenGold 2005, Conference proceedings, p. 117-134.
- Karadjov, M., 2003, Phase Diagram of the FeCu-S-O System at T=400 °C and P = 1 kbar, by Data from Computer Modelling: *Comptes Rendus de l'Academie Bulgare des Sciences*, v.56, p. 43-48
- Kesler, S.E., Chrysioulis, S.L., and Simon, G., 2002, Gold in porphyry copper deposits: its abode and style: *Ore Geology Reviews*, v. 21, p. 103-124.
- Kidd, R., 2008, Lihir, Papua New Guinea – The application of petrology to geological model development: Terry Leach Symposium, Australian Institute of Geoscientists, Bulletin 48, p. 76-82.
- Kiyosaki, J., Tanaka, K., Taguchi, S., Chiba, H., Motomura, Y., Takeuchi, K., Fujino, T. and Nagahama, N., 2003, Subsurface high temperature hypogene acid alteration at the Hatchobaru Geothermal Field, Kyushu, Japan; *Proceedings 25th NZ Geothermal Conference 2003*, p. 149-153.
- Kwak, T.A.P., 1990, Vein genesis, geochemical and flow controls on ore mineralization at the Emperor Gold Mine, Vatukoula, Fiji, *in* Hedenquist, J.W., White, N.C. and Siddley, G., eds., *Epithermal gold mineralization of the Circum-Pacific: Geology, geochemistry, origin and exploration, II: Journal of Geochemical Exploration*, v. 36, p. 297-337.
- Landtwing, M.H., Furrer, C., Redmond, P.B., Pettke, T., Guillong, M., and Heinrich, C., 2010, The Bingham Canyon porphyry Cu-Mo-Au deposit. III. Zoned copper-gold ore deposition by magmatic vapour expansion: *Economic Geology*, v. 105, p. 91-118.
- Lang J R and Baker T 2001 [Intrusion-related gold systems – the present level of understanding : Mineralium Deposita](#), v. 36, p. 477-489.
- Laznicka, P., 1988, Breccias and coarse fragmentites, *Developments in Economic Geology*, 25, p. 832.
- Leach, T.M., 1999, Evolution of selected porphyry Cu-Au systems in the southwest Pacific region and its relevance to exploration Environments *in* Pacrim '99 Proceedings, Bali, Indonesia: The Australasian Institute of Mining and Metallurgy, Melbourne, p. 211-225.
- Leach, T.M., 2004, Distribution of alteration and mineralisation in Northern Carlin Trend Gold Deposits, Nevada *in* Proceedings, Pacrim 2004: Adelaide, Australasian Institute of Mining and Metallurgy, p. 153-159.
- Leach, T.M., and Corbett, G.J., 1993, Porphyry-related carbonate base metal gold systems: The transition between the epithermal and porphyry environments, *in* Second national meeting, Specialist Group in Economic Geology, Armidale, New South Wales, abstracts: Geological Society of Australia Abstracts, v. 34, p. 39-40.
- Leach, T.M., and Corbett, G.J., 1994, Porphyry-related carbonate base metal gold systems: Characteristics, *in* Rogerson, R., ed., *Geology, exploration and mining conference*, June 1994, Lae, Papua New Guinea, proceedings: Parkville, The Australasian Institute of Mining and Metallurgy, p. 84-91.
- Leach, T.M., and Corbett, G.J., 1995, Characteristics of low sulphidation gold-copper systems in the southwest Pacific, *in* Pacific Rim Congress 95, 19-22 November 1995, Auckland, New Zealand, proceedings: Carlton South, The Australasian Institute of Mining and Metallurgy, p. 327-332.
- Leach, T.M. and Corbett, G.J., 2008, Fluid mixing as a mechanism for bonanza grade epithermal gold formation: Terry Leach Symposium, Australian Institute of Geoscientists, Bulletin 48, p. 83-92.
- Leach, T.M., Umali, D.U., and del Rosario, R.C., 1985, Epithermal mineral zonation in an active island arc: The Bacon-Manito geothermal system, Philippines, *in* 7th New Zealand geothermal

- workshop, 6-8 November 1985, Auckland, New Zealand, proceedings: Auckland, University of Auckland Geothermal Institute, p. 109-114.
- Leary, S., Galarza, J., Lwma, J., Pazmay, V., Mera, F., San Martin, A., Santa Cruz, C. and Soto J., The Frute del Norte epithermal gold-silver discovery, SE Ecuador in NewGenGold 2007, Conference Proceedings, p. 113-128.
- Lehrman, N.J., 1986, The McLaughlin Mine, Napa and Yolo Counties, California, *in* Tingley, J.V., and Bonham, H.F. Jr., eds., Precious metal mineralization in hot springs systems, Nevada-California: Nevada Bureau of Mines and Geology Report, v. 41, p. 85-89.
- Letham-Brake, M.J., 2013, Geological constraints on fluid flow at Whakaari volcano (White Island): unpubl. Thesis, University of Canterbury, New Zealand.
- Levitan, G. 2008, Gold deposits of the CIS: Xlibris Corporation, USA, 352 p.
- Leys, C.A, Cloos, M., New, B. T. E. and MacDonald, G.D, 2012, Copper-gold \pm molybdenum deposits of the Ertzberg-Grasberg district, Papua, Indonesia: Economic Geology Special Publication 16, p. 215-235.
- Lindgren, W., 1922, A suggestion for the terminology of certain mineral deposits, *Economic Geology*, v. 17, p. 292-294.
- Lindgren, W., 1933, *Mineral deposits*: New York, McGraw-Hill, 930 p.
- Lindsay, D.D, 1997, Structural control and anisotropy of mineralisation within the Chuquicamata porphyry deposit, Northern Chile: PhD thesis, Dalhousie University, Halifax.
- Lindsay, D.D., Zentilli, M. and Ossandon, G.C., 1995, Evolution of permeability in an active ductile to brittle shear system controlling the mineralisation at the Chuquicamata porphyry copper deposit, Chile: *Giant Ore Deposits II*, Proceedings, p. 62-113.
- Locke, A., 1926, The formation of certain orebodies by mineralisation stoping: *Economic Geology*, v. 21, p. 431-453.
- Lowell, D.J., and Guilbert, J.D., 1970, Lateral and vertical alteration-mineralization zoning in porphyry ore deposits: *Economic Geology*, v. 65, p. 373-408.
- Lowell, D.J., 1991b, [The discovery of the La Escondida orebody: Economic Geology Monograph 8, p. 286-288.](#)
- Lowell, J.D., 1985, *Structural styles in petroleum exploration*: Tulsa, OGCI Publications, 477 p.
- Lloyd, E.F., and Keam, R.F., 1975, Waimangu hydrothermal field: *New Zealand journal of Geology and Geophysics* vol. 27, No 3, p. 23-26.
- McKay, D., Torckler, L.K., and Hobbins, J., 2006, Geology and Exploration of the Favona gold-silver deposit *in* Pacrim Congress 2004: Adelaide, The Australasian Institute of Mining and Metallurgy.
- MacKenzie, D., Craw, ad., Cooley, M., and Fleming, A., 2010, Lithogeochemical localisation of disseminated gold in the White River area, Yukon, Canada: *Mineralium Deposita*, v. 45, p. 683-705.
- Malihan, T.D., 1987, The gold-rich Dizon porphyry copper mine in the western central Luzon Island, Philippines; its geology and tectonic setting, *in* Pacific Rim Congress 87, 26-29 August 1987, Gold Coast, Queensland, proceedings: Parkville, The Australasian Institute of Mining and Metallurgy, p. 303-307.
- Masterman, G.J., Cooke, D.R., Berry, R.F., Walshe, J.L., Lee, A.W., and Clark, A.H., 2005, Fluid chemistry, structural setting and emplacement history of the Rosario Cu-Mo porphyry and Cu-As-Au epithermal veins, Collahuasi District, Northern Chile: *Economic Geology*, v. 100, p. 835-862.
- Masterman, G., Phillips, K., Larnet, I., Stewart, H., Beckton, J., Cordery, J., and Skeet, J., 2005, Palmarejo Silver-Gold Project, Chihuahua, Mexico: Discovery of Ag-Au Deposit in the Mexican Sierra: Proceedings, NewGenGold 2005, p. 99-116.
- Maula, S., and Levet, B., Porphyry copper-gold signatures and the discovery of the Batu Hijau deposit, Sumbawa, Indonesia, *in* Porphyry related copper and gold deposits of the Asia Pacific Region, Cairns, Australia, 12-13 August 1996, proceedings: Adelaide, Australian Mineral Foundation, p. 8.1-6.13.
- Maydagán, L., Franchini, M., Lentz, D., Pons, J., and McFarlane, C., 2013, Sulfide composition and isotopic signature of the Altar Cu-Au deposit, Argentina: constraints on the evolution of the porphyry-epithermal system: *Canadian Mineralogist*, v 51, No 6, p. 813-840.

- McClay, K., and Moody, T., 1995, Analogue models of pull-apart basins: *Geology*, v. 23, p. 711-714.
- McKinstry, H.E., 1948, *Mining geology*: New York, Prentice-Hall, 680 p.
- McPhie, J., Doyle, M., and Allen, R., 1993, *Volcanic textures: A guide to the interpretation of textures in volcanic rocks*: Hobart, Centre for Ore Deposit and Exploration Studies, University of Tasmania, 198 p.
- Meinert, L.D., 2000, Gold skarns related to epizonal intrusions: *SEG Reviews* v. 13, p.347-375.
- Meinert, L.D., Dipple, G.M., Nicolescu, S., 2005, World skarn deposits: *Economic Geology* 100th Anniversary Volume, p. 299-336.
- Meldrum, S.J., Aquino, R.S., Gonzales, R.I., Burke, R.J., Suyadi, A., Irianto, B., and Clarke, D., 1994, The Batu Hijau porphyry copper-gold deposit, Sumbawa Island, Indonesia: *Journal of Geochemical Exploration*, v. 50, p. 203-220.
- Menzies, D., Shakesby, S., Wass, J., Finn, D., Fitzpatrick, N., Morehari, G., Tekeve, B., Alupian, B., Kur, J., Kulinasi, N., Miam, G., Larsen, J., Peter, D., Golias, P., 2013., The Wafi-Golpu porphyry Cu-Au deposit: Mineralisation and alteration zonation, surface geochemical expression and paragenesis: *Australian Institute of Geoscientists Bulletin* 57, p. 60-63.
- Merchant, R.J., 1986, Mineralization in the Thames district - Coromandel, *in* Henley, R.W., Hedenquist, J.W., and Roberts, P.J., eds., *Guide to the active epithermal (geothermal) systems and precious metal deposits of New Zealand: Monograph Series in Mineral Deposits*, Berlin, Gebruder Borntraeger, v. 26, p. 147-163.
- Mill, J. W., 1972, Origin of Cu-bearing breccia pipes: *Economic Geology*; v. 67, p. 533-535.
- Miranda, M.A., Vidal, C.E. & Corrales E., 2014, Relacion especial, temporal y transicion de un ambiente de "lithocapa" enargite-alunite a alteration filica: características mineralógicas, termometria de fluidos y potencial por um deposito tipo porfido Cu-Mo-Au y skarn en Tantauatay, Cajamarca, Peru: *Geol. Soc. Peru, Conference*.
- Mitchell, A.H.G., and Leach, T.M., 1991, *Epithermal gold in the Philippines; island arc metallogenesis, geothermal systems and geology*: London, Academic Press, 457 p.
- Mock, C.M., 1989 *Gold deposits of New South Wales, Datafile (MINDEP)*. Bureau of Mineral Resources, Canberra, 486p.
- Moon, C.J., Gotsiridze, G., Gugushvili, V., Kekekia, M., Kekelia, S., Migineishvilv, R., Otkhmezuri, Z., and Özgür, N., Compariaon of mineral deposits between Georgian and Turkish Sectors of the Tethyan Metallogenic Belt: *Mineral Deposits at the Beginning of the 21st Century*, Piestrzniski et al., Eds., Swets & Zetlinger Publ. Lisse, p. 309-312.
- Moore, C.R., 1979, *Geology and mineralisation of the former Broken Hills gold mine, Hikuai, Coromandel, New Zealand: New Zealand Journal of Geology and Geophysics* v. 22, p. 339-351.
- Morrison, I., and Beaton, A., 2015, The zinc-rich skarn deposits in the Chillagoe district of north-east Queensland *in* *Mineral Exploration in the Tasmanides*, AIG Bulletin 62, p. 199-208.
- Moyle, A.J., Doyle, B.J., Hoogvliet, H., and Ware, A.R., 1990, The Ladolam gold deposit, Lihir Island, Papua New Guinea, *in* Hughes, F.E., ed., *Geology of the mineral deposits of Australia and Papua New Guinea: Australasian Institute of Mining and Metallurgy Monograph* 14, p.1793-1805.
- Müller, D., and Groves, D.I., 1993, Direct and indirect associations between potassic igneous rocks, shoshonites and gold-copper deposits: *Ore Geology Reviews*, v. 8, p. 383-406.
- Müller, D., and Groves, D.I., 2000, *Potassic igneous rocks and associated gold-copper mineralisation*: Springer, 3rd edition, 252 pp.
- Müller, D., and Groves, D.I., 2016, *Potassic igneous rocks and associated gold-copper mineralisation*: Springer, 4rd edition, 311 pp.
- Münchmeyer, C., 1997, Exotic copper deposits – products of lateral migration of supergene solutions from porphyry copper deposits: *Economic Geology Special Publication* 5, p. 43-58.
- Muntean, J.L., and Einaudi, M.T., 2001, Porphyry-epithermal Transition: Maricunga Belt, Northern Chile: *Economic Geology*, v. 96, p. 743-772.
- Muntean, J.L., and Einaudi, M.T., 2001, Porphyry godl deposits of the Refugio district, Maricunga Belt, Northern Chile: *Economic Geology*, v. 95, p. 1445-1472.
- Mustard, R., Barker T., Brown, V., Goddard, D., Davy., Blenkinsop, T.G., Stanley, C.R., and Butler, I., 2005, part1. *The Geology of the Vera-Nancy Low Sulphidation Epithermal Deposit*,

- Queensland, Australia: Discrimination of Barren Versus God-Bearing Epithermal Systems and Vectoring of Ore in the Pajingo Mining Area, North Queensland, EGRU Contribution 63, p. 1-25.
- Nairn, I.A., Houghton, B.F., and Cole, J.W., 1996, Volcanic hazards at White Island. 2nd edn., Volcanic hazards information series 3, 27 p. Ministry of Civil Defence, Palmerston North, New Zealand.
- Nally, M., 2003, Kamchatka – The richest underdeveloped gold province in Russia in Asian Update on Mineral Exploration and Development, Sydney 10 October, 2003, Australian Institute of Geoscientists Bulletin 39, p. 83-88.
- Nash, J.T., Utterback, W.C., and Saunders, J.A., 1990, Geology and geochemistry of the Sleeper gold deposits, Humboldt County, Nevada, An interim report *in* Geology and Ore Deposits of the Great Basin, Symposium Proceedings, Eds. Raines, G.L., Lisle, R.E., Schafer, R.W., and Wilkinson, W.H., Geological Society of Nevada and United States Geological Survey, p. 1063-1084.
- Nelson, C.E., and Giles, D.L., 1985, Hydrothermal eruption mechanisms and hot spring gold deposits: *Economic Geology*, v. 80, p. 1633-1639.
- Nethery, J.E., 2015, Chillagoe district mineralisation – A tectonic model *in* Mineral Exploration in the Tasmanides, AIG Bulletin 62, p. 209-219.
- Newberry, R.J., Allegro, G.L., Cutler, S.E., Hagen-Levelle, J.H., Adams, D.D., Nicholson, L.C., Weglarz, T.B., Bakke, A.A., Clautice, K.H., Coulter, G.A., Ford, M.J., Myers, G.L., Szumigala, D.J., 1997, Skarn deposits of Alaska; *Economic Geology Monograph* 9, p. 355-395.
- Newcrest Mining Staff, 1996, The Cadia “Wallrock-porphry” style copper-gold deposit *in* Porphyry related copper gold deposits of the Asia Pacific region, Cairns 12-13 August 1996, Conference proceedings, Australian Mineral Foundation, p. 16.1-16.10.
- Noble D.C., Vidal, C. E., Miranda, M., Amaya, A., and McCormack, J.K., 2010, Ovoidal and mottled-textured rock and associated silica veinlets and their formation by high temperature outgassing of subjacent magma in Great Basin Evolution and Metallogeny, Ed. Steiger, R. and Pennell, W., Geological Society of Nevada, p. 795-811.
- Norton, D.L., and Cathles, L.M., 1973, Breccia pipes – products or exsolved vapour from magmas: *Economic Geology*, v. 68, p. 540-546.
- Orr, T.H., 1995, The Mt Leyshon Gold Mine: Geology and mineralization, *in* Beams, S., ed., Mineral Deposits of Northeast Queensland, Australia, Economic Geology Research Unit, James Cook University, EGRU Contribution, 52, p 116-136.
- Oversby, B.S., Black, L.O., and Sheraton, J.W., 1980, Late Palaeozoic continental volcanism in Northeastern Queensland *in* The Geology and Geophysics of Northeastern Australia Ed., R.A. Henderson & P.J. Stephenson, Geological Society of Australia, Queensland Division, p. 247-268.
- Overton, R., 1990, Sheahan-Grants gold skarn deposit, Junction reefs: Australian Institute of Mining and Metallurgy Monograph 14, p. 1403-1407.
- Oviedo, L., Fuster, N., Tschischow, N., Ribba, L., Zuccone, A., Grez, E., and Aguliar, A., 1991, General geology of the La Coipa precious metal deposit: *Economic Geology*, v. 86, p. 1287-1300.
- Owens, J., Priest, D., Jago, C., and Pace, D., in press, Northparkes copper-gold deposits *in* Monograph on Australian Ore Deposits, Ed. GN Phillips, : Australian Institute of Mining and Metallurgy
- Page, R.W., 1975, Geochronology of Later tertiary and Quaternary mineralized intrusive porphyries in the Star Mountains of Papua New Guinea and Iran Jaya: *Economic Geology*, 70, p. 928-936.
- Parsons, A.B., 1933, The porphyry coppers: American Institute of Mining and Metallurgical Engineers, Inc., New Your, 581 p.
- Paull, P.L., Hodkinson, I.P., Morrison, G.W., and Teale, G.S., 1990, Mount Leyshon gold deposit, *in* Hughes, F.E., ed., Geology of the mineral deposits of Australia and Papua New Guinea: Australasian Institute of Mining and Metallurgy Monograph 14, p. 1471-1481.
- Pease, R., 2003, Discovery and exploration of the Donlin Creek gold deposit: A world class intrusive related gold system *in* NewGen Gold 2003, Conference proceedings, p. 117-118.
- Perkins, J., and Williams, T., 2007, Technical report Cerro Moro Project, Santa Cruz Province, Argentina, Exeter Resource Corporation, Vancouver, Canada: www.exeterresource.com.

- Perry, V.D., 1961, The significance of mineralised breccia pipes: *Mining Engineering*, v. 13, p. 367-376.
- Pettijohn, F.J., 1975, *Sedimentary rocks*, Harper & Row, New York.
- Phillips, 1972, Hydraulic fracturing and mineralisation: *Jour of the Geological Society of London*, v. 128, p. 337-359.
- Phillips, W.J., 1973, Mechanical effects of retrograde boiling and its probable importance in the formation of some porphyry ore deposits: *Transactions of the Institute of Mining and Metallurgy*, v. 82, p. B90-98.
- Phillips, W.J., 1974, The dynamic emplacement of cone sheets: *Tectonophysics*, v. 24, p. 69-84.
- Phillips, W.J., 1986, Hydraulic fracturing effects in the formation of mineral deposits: *Transactions of the Institute of Mining and Metallurgy, Section B*, v. 95, p. 17-24.
- Pirajno, F., 1992, *Hydrothermal mineral deposits principles and fundamental concepts for the exploration geologist*: Berlin, Springer-Verlag, 709 p.
- Pope, J. G., Grown, K.L., and McConchie, D.M., 2006, Gold concentrates in springs at Waipitau, New Zealand: Implications for precious metal deposition in geothermal systems: *Economic Geology*, 100, p. 677-687.
- Porter J.P., Schroeder, K., and Austin, G., 2012, *Geology of the Bingham Canyon porphyry Cu-Mo-Au deposit, Utah: Economic Geology Special Publication 16*, p. 127-146.
- Price, N.J., 1966, *Fault and joint development in brittle and semi-brittle rock*: Pergamon Press, Oxford, 176 p.
- Price, N. J., and Cosgrove, J. W., 1990, *Analysis of Geological Structures*: Cambridge University Press, Cambridge, 602 p.
- Pudjowaluyo, H., 1990, Cenozoic tectonics of North Sumatra with particular reference to the Sumatran fault system, *in Pacific Rim Congress 90, 6-12 May 1990, Gold Coast, Queensland, proceedings*: Parkville, The Australasian Institute of Mining and Metallurgy, p. 209-215.
- Rabone, S.D.C., 2006, Broken Hills rhyolite-hosted high level epithermal vein system, Hauraki goldfield-100 years on *in* Braithwaite, R.L. and Christie A.B., Eds., *Geology and exploration of New Zealand mineral deposits*, Australian Institute of Mining and Metallurgy Monograph 25, p. 117-122.
- Rae, A.J., Cooke, D.R. and Brown, K.L., 2011, The trace element geochemistry of deep geothermal water, Palinpinon geothermal field, Negros Island, Philippines: Implications for precious metal deposition in epithermal gold deposits: *Economic Geology*, v. 106, p. 1425-1440.
- Read, H.H., 1970, *Rutley's elements of mineralogy*, Thomas Murby & Co, London, 26th edition, 560 p.
- Redman, P.B., and Einaudi, M. T., 2010, The Bingham Canyon porphyry Cu-Mo-Au deposit, I Sequence of intrusions, vein formation and sulphide deposition: *Economic Geology*, v. 105, p. 43-68.
- Rehrig, W.A. and Heidrick, T, L., 1972, Regional fracturing in Laramide Stocks of Arizona and its relationship to porphyry copper mineralisation: *Economic Geology*, v. 67. P. 198-213.
- Reyes, A.G., 1990, [Mineralogy, distribution and origin of acid alteration in Philippine geothermal systems](#), *in Third symposium on deep-crust fluids, 15-16 October 1990, Tsukuba, Japan, extended abstracts: Tsukuba, Geological Survey of Japan*, p. 51-58.
- Reyes, A.G., 1990, Petrology of Philippines geothermal systems and the application of alteration mineralogy to their assessment: *Journal of Volcanology and Geothermal Research*, v. 43, p. 279-309.
- Reyes, A.G., Giggenbach, W.F., Saleros, J.D.M., Salonga, N.D., and Vergara, M.C., 1993, Petrology and geochemistry of Alto Peak, a vapour-cored hydrothermal system, Lyete Province, Philippines, *in* Sussman, D., Ruaya, J.R., Reyes, A.G., and Hedenquist, J.W., eds., *Geothermal systems of the Philippines: Geothermics*, v. 22, p. 479-519.
- Reyes, A.G., Grapes, R., and Clemente, V.C., 2003, Fluid-rock interaction at the magmatic-hydrothermal interface of the Mount Cagua geothermal system, Philippines: *Economic Geology, Special Publication 10*, p. 197-222.
- Reynolds, T.J., and Beane, R.E., 1985, Evolution of hydrothermal fluid characteristics at the Santa Rita, New Mexico, porphyry copper deposit: *Economic Geology*, v. 80, p. 1328-1347.

- Richards, J.P., 1995, Alkalic-type epithermal gold deposits - a review, *in* Thompson, J.F.H., ed., *Magma, fluids, and ore deposits: Mineralogical Association of Canada Short Course Handbook*, v. 23, p. 367-400.
- Richards, J.P., 2003, Tectono-magmatic precursors for porphyry Cu- (Mo-Au) deposit formation: *Economic Geology*, v. 98, p. 1515-1533.
- Richards, J.P., 2005, Cumulative factors in the generation of giant calc-alkaline porphyry Cu deposits *in* Porter, T.M., Ed., *Super porphyry copper & gold deposits: a global perspective*, PGG Publishing, Adelaide v. 1, p. 7-25.
- Richards, J.P., 2009, Postsubduction porphyry Cu-Au and epithermal Au deposits: products of remelting of subduction modified lithosphere: *Geology*, v. 37. P. 247-250.
- Richards, J.P., 2011, Magmatic to hydrothermal fluxes in convergent and collided margins: *Ore Geology Reviews*, v. 40, p. 1-26.
- Richards, J.P., 2015, Tectonic, magmatic, and metallogenic evolution of the Tethyan orogen: from subduction to collision: *Ore Geology Reviews*, v. 70, p. 323–345.
- Richards, J.P., and Kerrich, R., 1993, The Porgera gold mine, Papua New Guinea: Magmatic hydrothermal to epithermal evolution of an alkalic-type precious metal deposit: *Economic Geology*, v. 88, p. 1017-1052.
- Richards, J.P., and Ledlie, I., 1993, Alkalic intrusive rocks associated with the Mt Kare gold deposit, Papua New Guinea: Comparison with the Porgera Intrusive Complex: *Economic Geology*, v. 88, p. 755-788.
- Richards T.H., Suyadnya KG., Tyasmudadi N., Darmawan D., Muryanto., A, 2005, The discovery of the Kencana Low Sulphidation Epithermal Deposit, Gosowong, Halmahera Island, East Indonesia: *NewGenGold 2005 Conference Proceedings* p. 151-167.
- Rivera, S.L., Alcota, H., Proffett, J., Diaz, J., Leiva, G., and Vergara, M., 2012, Update of the Geologic Setting and Porphyry Cu-Mo Deposits of the Chuquicamata, Northern Chile: *Economic Geology Special Publication 16*, p. 19-54.
- Roberts, P.S., Smith, M.T., Thompson, J.F.H., 2001, The Pogo deposit – A discovery case history *in* *NewGen Gold*, Conference proceedings, p. 161-170.
- Rock, N.M.S., Groves, D.I., Perring, C.S., and Golding, S.D., 1989, Gold, lamprophyres and porphyries: What does their association mean? *Economic Geology Monograph 6*, p. 609-626.
- Ronacher, E., Richards, J.P., Villeneuve, M.E., Johnston, M.D., 2002, Short life span of the ore forming system at the Porgera Gold Deposit PNG: Laser $^{40}\text{Ar}/^{39}\text{Ar}$ dated from roscoelite, biotite and hornblende: *Mineralium Deposita*, V 37, p. 75-86.
- Rusk, B.G., Reed, M.H., and Dilles, J.H., 2008, Fluid inclusion evidence for magmatic-hydrothermal fluid evolution in the porphyry copper-molybdenum deposit at Butte, Montana: *Economic Geology*, v. 103, p. 307-334.
- Rush, P.M., and Seegers, H.J., 1990, Ok Tedi copper-gold deposit, *in* Hughes, F.E., ed., *Geology of the mineral deposits of Australia and Papua New Guinea: Australasian Institute of Mining and Metallurgy Monograph 14*, p. 1747-1754.
- Ryan, P., 1991, *Black bonanza: a landslide of gold*. Hyland House Publishing, Melbourne, 140 p..
- Rye, R.O., Bethke, J.W., and Wasserman, M.D., 1992, The stable isotope geochemistry of acid sulfate alteration: *Economic Geology*, v. 87, p. 225-262.
- Salazar, J.C., Sarmiento, J.C., Vidal, C. E. and Noble, D.C., 2009, Bonanza gold-telluride epithermal vein mineralisation of the Chipmo Zone, Orcopampa District, Southern Peru: Bruce, V.B., Ed. *Volumen Especial No 7 Victor Benavides Caceres (2009)*, Geological Society of Peru, p. 107-148.
- Sajona, R.G., Izawa, E., Claveria, R-J.R., Motomura, Y., Imai, A., Sakakibara, H., and Watanabe, K., 1998, The Victoria gold deposit of the Mankayan district, Luzon, Philippines: *International Symposium on Gold and Hydrothermal Systems 2001*, Fukuoka, Japan, Proceedings p. 25-36.
- Sander, M.V., 1988, geologic setting and the relation of epithermal gold-silver mineralisation to wall rock alteration at Round Mountain mine, Rye County, Nevada *in* Shafer, R.W., Cooper, J.J., and Vikre, P. G., Ed., *Bulk mineable precious metal deposits of Western United States, Symposium Proceedings*, Geological Society of Nevada, p. 375-416.

- Sander, M.V., and Einaudi, M. T., 1990, Epithermal deposition of gold during transition from propylitic to potassic alteration at Round Mountain, Nevada: *Economic Geology*, v. 85, p. 285-311.
- Saunders J.A, and Schoenly, P.A., 1995, Boiling, colloidal nucleation and aggregation, and the genesis of bonanza Au-Ag ores of the Sleeper deposit, Nevada: *Mineralium Deposita*, v. 30, p. 199-210.
- Sawkins, F.J., 1990, *Metal deposits in relation to plate tectonics*: Springer-Verlag, 461 p.
- Scheibner, E., and Stevens, B.P.J., 1974, The Lachlan River Lineament and its relationship to metallic deposits: *Quarterly Notes, Geological Survey of New South Wales*, p. 8-18.
- Seedorff, E., Dilles, J.H., Proffett, J.M., Einaudi, M.T., Zurcher, L., Stavast, W.J.A., Johnson, J.A., and Barton, M.D., 2005, Porphyry deposits: Characteristics and origin of Hypogene features: *Economic Geology 100th anniversary volume*, p. 251-208.
- Simple, D.G., Corbett, G.J., and Leach, T.M., 1995, The Tolukuma gold-silver vein system, Papua New Guinea, *in Pacific Rim Congress 95, 19-22 November 1995, Auckland, New Zealand, proceedings: Carlton South, The Australasian Institute of Mining and Metallurgy*, p. 509-514.
- Simple, D.G., Corbett, G.J., and Leach, T.M., 1998, The Tolukuma gold-silver veins deposit, Papua New Guinea, *in Geology of the mineral deposits of Australia and Papua New Guinea: Australasian Institute of Mining and Metallurgy Monograph 22, Berkman, D.A. & Mackenzie D. H. Eds.*, p. 837-842.
- Seward, T.M., 1982, The transport of gold in hydrothermal systems *in Gold '82 Rotterdam, A.A. Bolkema*, p. 165-181.
- Seward, T.M., 1991, The hydrothermal geochemistry of gold *in Gold Metallogeny and exploration*, R.P. Foster, Ed., Blackie, Glasgow and London, p. 37-62.
- Seward, T.M., and Barnes, H.L., 1997, Metal transport by hydrothermal ore fluids *in Geochemistry of hydrothermal ore deposits, 3rd Edn.* H.L. Barnes Ed., John Wiley and Sons, p. 435-486.
- Shatwell, D., Vidal, C.P., Guido, D., and López, R., in prep, The Cerro Negro precious metal district, Argentina: Regional tectonics, district-scale geology and deposit-scale ore controls:
- Shatwell, D., Clifford, J.A., Echavarría, D., Irusta, G. and Lopez, D., 2011, Discoveries of low-sulfidation epithermal Au-Ag veins at Cerro Negro, Deseado Massif, Argentina: *SEG Newsletter no.85, April 2011*.
- Shalamov, V., 1994, *Kolyma Tales*: (translated by John Glad), Penguin Books, 508 p.
- Sheppard, S., Walshe, J. L., and Pooley, G. D., 1995, Noncarbonate, skarnlike Au-Bi-Te mineralisation, Lucky Draw, New South Wales, Australia: *Economic Geology* v. 90, p. 1553-1569.
- Sharp, J.E., 1978, A molybdenum mineralised breccia pipe complex, Redwell Basin, Colorado: *Economic Geology*, v. 73, p. 369-382.
- Sheppard, S.M.F., Nielson, R.L., and Taylor, H.P. Jr., 1971, Hydrogen and oxygen isotope ratios in minerals from porphyry copper deposits: *Economic Geology*, v. 66, p. 515-542.
- Sherlock, R.L., 1993, The genesis of the McLaughlin Mine sheeted vein complex, fluid inclusion and stable isotope evidence, *in Rytuba, J.J., ed., Active geothermal systems and gold-mercury deposits in the Sonoma-Clear Lake volcanic fields, California: Society of Economic Geologists Guide Book Series*, v. 16, p. 330-349.
- Sherlock, R.L., Tosdal, R.M., Lehrman, N.J., Graney, J.R., Losh, S., Jowett, E.C., and Kesler, S.E., 1995, Origin of the McLaughlin mine sheeted vein complex: Metal zoning, fluid inclusion, and isotopic evidence: *Economic Geology*, v. 90, p. 2156-2181.
- Sheppard, S., Walshe, J.L., and Pooley, G.D., 1995, Noncarbonate skarnlike Au-B-Te mineralisation, Lucky Draw, New South Wales, Australia: *Economic Geology*, v.90, p. 1553-1569.
- Shikazono, N., Naito, K., Izawa, E., Editors Preface *in Shikazono, N., Naito, K., and Izawa, E., eds., High grade epithermal mineralization - the Hishikari deposit: The Society of Resource Geology, Resource Geology Special Issue*, v. 14, p. iii-v.
- Shikazono, N., and Nagayama, T., 1993, Origin and depositional mechanism of the Hishikari gold-quartz-adularia mineralization, *in Shikazono, N., Naito, K., and Izawa, E., eds., High grade epithermal mineralization - the Hishikari deposit: The Society of Resource Geology, Resource Geology Special Issue*, v. 14, p. 47-56.

- Shikazono, N., Yonekawa, N., Karakizawa, T., and Takahashi, H., 2001, Mass transfer, oxygen and sulphur isotope variation and gold precipitation in epithermal system: A case study of the Hishikari Deposit, southern Kyushu, Japan *in* Izawa, E., Watanabe, K., Taguchi, S., Eds. International Symposium on Gold and Hydrothermal Systems, 2001, Fukuoka, Japan, Kyushu, University, p. 89-93.
- Sibson, R.H., 1987, Earthquake rupturing as a mineralizing agent in hydrothermal systems: *Geology*, v. 15, p. 701-704.
- Sillitoe, R.H., 1972, A plate tectonic model for the origin of porphyry copper deposits: *Economic Geology*, v. 67, p. 184-197.
- Sillitoe, R.H., 1985, Ore breccias in volcanoplutonic arcs: *Economic Geology*, v. 80, p. 1467-1514.
- Sillitoe, R.H., 1989, Gold deposits in Western Pacific island arcs: The magmatic connection, *in* Keys, R.R., Ramsay, W.R.H., and Groves, D.I., eds., *The geology of gold deposits: The perspective in 1988: Economic Geology Monograph 6*, p. 274-291.
- Sillitoe, R.H. 1993, Gold-rich porphyry copper deposits: geological model and exploration implications *in* Kirkham R.V., Sinclair, W.D., Thorpe, R.I., and Duke, J.M., eds., *Mineral deposit modelling*, Geological Association of Canada, Special paper 40, p. 465-478.
- Sillitoe, R.H., 1995a, Exploration and discovery of base- and precious metal deposits in the Circum-Pacific region during the last 25 years: *Metal Mining Agency of Japan*, 127 p.
- Sillitoe, R.H., 1995b, Exploration of porphyry copper lithocaps, *in* Pacific Rim Congress 95, 19-22 November 1995, Auckland, New Zealand, proceedings: Carlton South, The Australasian Institute of Mining and Metallurgy, p. 527-532.
- Sillitoe, R.H., 1997, Characteristics and controls of the largest porphyry copper-gold and epithermal gold deposits in the Circum-Pacific region: *Australian Journal of Earth Sciences*, v. 44, p. 373-388.
- Sillitoe, R.H., 1998, Porphyry related copper-gold systems - field recognition and interpretation: AMF short course November 28-29, 1998, Perth.
- Sillitoe, R.H., 2000, Gold-rich porphyry deposits: Descriptive and genetic models and their role in exploration and discovery, *in* Gold in 2000 Eds. Hagemann, S.G., and Brown, P.E., *Reviews in Economic Geology*, v. 13, p. 315-344.
- Sillitoe, R.H., 2010, Porphyry Copper Systems: *Economic Geology*, v. 105, p. 3-41.
- Sillitoe, R.H., and Gappe, I.M. Jr, 1984, Philippine porphyry copper deposits: Geologic settings and characteristics: United Nations Economic and Social Commission for Asia and the Pacific, Bangkok, CCOP Technical Publication, v. 14, 89 p.
- Sillitoe, R.H., Grauberg, G.L., and Elliott, J.S., 1985, A diatreme hosted gold deposit at Montana Tunnels, Montana: *Economic Geology*, v. 80, p. 1707-1721.
- Sillitoe, R.H., Baker, E.M., and Brooks, W.A., 1984, Gold deposits and hydrothermal eruption breccias associated with a maar volcano at Wau, Papua New Guinea: *Economic Geology*, v. 79, p. 638-655.
- Sillitoe, R.H., and Hedenquist, J. W., 2003, Linkages between Volcanotectonic Settings, Ore-Fluid Compositions, and Epithermal Precious Metal Deposits in Volcanic, Geothermal, and Ore-Forming Fluids: Rulers and Witnesses of Processes within the Earth, No 10, Society of Economic Geologists Special Publication 10, p. 315-345.
- Sillitoe, R.H., and Sawkins, F.J., 1971, Geologic, mineralogic, and fluid inclusion studies relating to the origin of copper-bearing tourmaline breccia pipes, Chile: *Economic Geology*, v. 66, p. 1028-1041.
- Sillitoe, R.H., Baker, E.M., and Brooks, W.A., 1984, Gold deposits and hydrothermal eruption breccias associated with a maar volcano at Wau, Papua New Guinea: *Economic Geology*, v. 79, p. 638-655.
- Sillitoe, R.H., Tolman, J., and Van Kerkvoort, G., 2013, Geology of the Caspiche porphyry gold-copper deposit, Maricunga belt, northern Chile: *Economic Geology*, v. 108, p. 585-604.
- Sillitoe, R.H., McKee, E.H., and Vila, T., 1991, Reconnaissance K-Ar geochronology of the Maricunga gold-silver belt, northern Chile: *Economic Geology*, v. 86, p. 1261-1270.
- Simon, G., Kesler, S.E., Essene, E., and Chryssoulis, S.L., 2000, Gold in porphyry deposits: Experimental determination of the distribution of gold in the Cu-Fe-S system at 400° to 700°: *Economic Geology*, v. 95, p. 259-270.

- Simms, D., 2000, Controls on high-grade gold distribution at Vera Nancy mine *in* Northern Queensland Exploration & Mining 2000, Extended Abstracts, K. Camuti, Ed., Australian Institute of Geoscientists, Bulletin 31, p. 43-50.
- Simmons, S.F., Brown, P.R.L., and Brathwaite, R.L., 1992, Active and extinct hydrothermal systems of the North Island, New Zealand: Society of Economic Geologists Guide Book Series, v. 15, 121 p.
- Simmons, S.F., Keywood, M., Scott, B.J., and Keam, R.F., 1993, Irreversible change of the Rotomahana-Waimangu hydrothermal system (New Zealand) as a consequence of a volcanic eruption: *Geology*, v. 21, p. 643-646.
- Simmons, S.F., and Browne, P.R.L., 2000a, Hydrothermal minerals and precious metals in the Broadlands-Ohaaki Geothermal System: Implications for understanding Low-sulphidation epithermal environments: *Economic Geology*, v. 95. p. 971-999.
- Simmons, S.F., and Browne, P.R.L., 2000b, Mineralogical indicators of boiling in two modern low sulphidation epithermal environments: the Broadlands-Ohaaki and the Waitapu geothermal systems, New Zealand *in* *Geology and Ore Deposits 2000 The Great Basin and Beyond*, Symposium Proceedings, Geological Society of Nevada, 683-690.
- Simmons, S.F., White, N.C., and John, D.A., 2005, Geological characteristics of epithermal precious and base metal deposits: *Economic Geology 100th Anniversary Volume*, p. 485-522.
- Simpson M. P., Mauk, J. L., and Simmons, S.F., 2001, Hydrothermal alteration and hydraulic evolution of the Golden Cross epithermal Au-Ag deposit, New Zealand: *Economic Geology*, v. 96, p. 773-796.
- Singh, R.V., 2015, Identifying Mineralogical and Geochemical Vectors towards the Epithermal Au-Ag Correnso Mine, Waihi. MSc Thesis, University of Waikato, New Zealand, 127pp.
- Skewes, M.A. and Stern, C.R., 1994, Tectonic trigger for the formation of late Miocene Cu-rich breccia pipes in the Andes of central Chile: *Geology*, v. 22, p. 551-554.
- Skewes, M.A., Holmgren, C., and Stern, C.R., 2003, The Donoso copper-rich, tourmaline breccia pipe in central Chile: petrographic, fluid inclusion and stable isotope evidence for an origin from magmatic fluids: *Mineralium Deposita*, v. 38, p. 2-21.
- Solomon, M., 1990, Subduction, arc reversal, and the origin of porphyry copper-gold deposits in island arcs: *Geology*, v. 18, p. 630-633.
- Steinberger, I., Hinks, D., Driesner, T., and Heinrich, C. A., 2013, Source plutons driving porphyry copper formation: Combining geomagnetic data, thermal constraints and chemical mass balance to qualify the magma chamber beneath the Bingham Canyon deposit: *Economic Geology*, v. 108, p. 605-624.
- Stoffregen, R., 1987, Genesis of acid-sulfate alteration and Au-Cu-Ag mineralisation at Summitville, Colorado: *Economic Geology*, v. 82, p. 1575-1591.
- Sutherland Brown, A., 1976, Editor, *Porphyry Deposits of the Canadian Cordillera*: Canadian Institute of Mining and Metallurgy, Bulletin 15, 510 p.
- Sutopo, B, Jones, M.L., Levet, B., 2003, The Matabe gold discovery: A high sulphidation epithermal gold-silver deposit, North Sumatra, Indonesia *in* *NewGenGold 2003*, Conference Proceedings p. 147-158.
- Swarthout, A., Leduc, M., and Rios, C., 2010, The discovery history and geology of Corani: A significant new Ag-Pb-Zn epithermal deposit, Puno Department, Peru *in* *The challenge of finding new mineral resources: Global metallogeny, innovative exploration and new discoveries*: *Economic Geology*, Special Publication 15, 165-179.
- Sylvester, A.G., 1988, Strike-slip faults: *Geol. Soc. Am. Bull.* V. 100, p.1666-1703.
- Taguchi, S., and Hayashi, M., 1984, Cross section of the Hatchobaru Geothermal Field, Japan *in* *Geothermal Gold, Modes for exploration*: Short Course Notes, Reid, F., and Hedenquist, J., University of Sydney 1-5 October, 1984.
- Taguchi, S., Oikawa, K., Kiyosaki, H., Chiba, H., and Motomura. Y., 2003, Manifestation of high temperature hypogene acid alteration in steaming ground at the Hatchobaru Geothermal field, Kyushi, Japan, p. 161-165.
- Taguchi, S., Shimada, Y., Arikado, Y., Motomura, Y. and Chiba, H., 2006, Acid alteration at the surface of Otahe Geothermal Field, Kyushu, Japan: *Proceedings 28th NZ Geothermal Workshop*, 2006,

- Tau-Loi, D. and Andrew, R.L., 1998, Wafi copper-gold deposit in *Geology of Australian and Papua New Guinean Mineral Deposits*, Eds D. A. Burkman & D. H. Mackenzie, The Australasian Institute of Mining and Metallurgy. P. 827-832.
- Taupe, A., 1986, *The Mount Morgan Gold-Copper Mine and Environment*, Queensland: A Volcanogenic Massive Sulphide Deposit Associates with Penecontemporaneous Faulting: *Economic Geology* vol. 81, p. 1322-1340.
- Taupe, A., 1990, Mount Morgan gold-copper deposit, in *Geology of the Mineral Deposits of Australia and Papua New Guinea* (Ed F.E. Hughs) p. 1499-1504., Australasian Institute of Mining and Metallurgy, Melbourne.
- Taylor, G., Corbett, G., and Cumming, G., 2013, Cirianiu Epithermal Au, Vanua Levu, Fiji: *Australian Institute of Geoscientists Bulletin* 56, p. 89-90.
- Taylor, R.G., 2009, *Ore textures, Recognition and Interpretation*: Springer-Verlag Berlin Heidelberg, 288 p.
- Taylor, R.G., and Pollard, P.J., 1993, Mineralized breccia systems; methods of recognition and interpretation: *Economic Geology Research Unit, James Cook University, EGRU Contribution*, v. 46, 31 p.
- Tchalenko, J.S., and Ambraseys, N.N., 1970, Structural analysis of the Dasht-Bayaz (Iran): *Earthquake fractures: Geological Society of America Bulletin*, v. 81, p.41-60.
- Thomson, B., and Golden, H., 2011, Kupol and Dvoynoye Au-Ag deposits: Field guide. *International Geological-Mining Forum, Gold of the North Pacific Rim II, Magadan, September 3-5, 2011*.
- Thomson B. and Golden, H., 2011, Kupol and Dvoynoye Au-Ag deposits: *International Geological and Mining Forum Gold of the North Pacific Rim II, Magadan, Field trip guide*, 28 p.
- Thomson, B., and Golden, H., Paulsen, H-K., Fischl. P., Shpanov, V., Nikitenkov, Y., Davis, G., 2011, Clay alteration zonation in Geothermal systems, Implications for exploration at Kupol epithermal gold deposit, Russia *in International Geological-Mining Forum, Gold of the North Pacific Rim II, Magadan, September 3-5, 2011, Abstracts* p. 32-33.
- Thompson, J.F.H., Sillitoe, R.H., Baker, T., Lang, J.R., Mortensen, J.K., 1999, Intrusion-related Au deposits associated with tungsten-tin provinces: *Mineralium Deposita*, 34, p. 323-334.
- Thompson T, B., 1992, *Mineral Deposits of the Cripple Creek District, Colorado: Mining Engineering*, February 1992, p. 135-138.
- Thompson, T.B., Tripple, A.D., and Dwelley, P.C., 1985, Mineralized veins and breccias of the Cripple Creek district, Colorado: *Economic Geology*, v. 80, p. 1669-1688.
- Tikhomirov, P. L., Kalinina, E. A., Moriguti, T., Makishima, A., Kobayashi, K., Cherepanova, I. Yu, and Nakamura, E., 2012, The Cretaceous Okhotsk – Chukotka Volcanic Belt (NE Russia): geology, geochronology, magma output rates, and implications on the genesis of silicic LIPs: *Journal of Volcanology and Geothermal Research*, v. 221-222, p. 14-32.
- Titley, S.R., 1982a, Preface *in* Titley, S.R., Ed., *Advances in geology of the porphyry copper deposits, Southwestern North America*, University of Arizona Press, Tucson, Arizona, 560p.
- Titley, S. R., 1982b, The style and progress of mineralisation and alteration in porphyry copper systems *in* Titley, S.R., Ed., *Advances in geology of the porphyry copper deposits, Southwestern North America*, University of Arizona Press, Tucson, Arizona, p. 93-116.
- Titley, S.R., 1990, Evolution and style of fracture permeability in intrusion centred hydrothermal systems *in* *The role of fluids in crustal processes*, National Academy Press, 1990, p. 50-63.
- Titley, S.R., 1993, Characteristics of porphyry copper occurrence in the American Southwest, *in* Kirkham, R.V., Sinclair, W.D., Thorpe, R.I., and Duke, J.M., eds., *Mineral exploration modelling: Geological Association of Canada Special Paper*, v. 40, p. 433-464.
- Titley, S.R. and Beane, R.E., *Porphyry copper deposits. Part I: Geologic setting, petrology and tectogenesis: Economic Geology, 75th Anniversary Volume*, p. 214-235.
- Titley, S.R., and Heidrick, T.L., 1978, Intrusion and fracture styles of some mineralized porphyry systems *in* the southwestern Pacific and their relationship to plate interactions: *Economic Geology*, v. 73, p. 891-903.
- Titley, S.R., and Hicks C.L., 1966, Editors, *Geology of porphyry copper deposits, Southwestern North America: Titley, S.R. & University of Arizona Press*, 287 p.

- Titley, S.R., and Marozas, D.C., 1995, Processes and products of supergene copper enrichment, in Porphyry copper deposits of the American Cordillera, Arizona Geological Society Digest 20, p. 156-168.
- Tomlinson, A.J., and Blanco, N., 1997, Structural evolution and displacement history of the West Fault system, Precordillera, Chile: Part 2, Post mineral history VIII Congreso Geologico Chileno, Universidad Catolica del Norte, Actas vol. III, p. 1878-1882.
- Torckler, L.K., McKay, D. and Hobbins, J., 2006, Geology and Exploration of the Favona Au-Ag deposit, Waihi, Hauraki goldfield *in* Braithwaite, R.L. and Christie A.B., Eds., Geology and exploration of New Zealand mineral deposits, Australian Institute of Mining and Metallurgy Monograph 25, p. 179-184.
- Tosdal, R.M., Enderlin, D.A., Nelson, G.C., and Lehrman, N.J., 1993, Overview of the McLaughlin precious metal deposit, Napa and Yolo Counties, Northern California, *in* Rytuba, J.J., ed., Active geothermal systems and gold-mercury deposits in the Sonoma-Clear Lake volcanic fields, California: Society of Economic Geologists Guide Book Series, v. 16, p. 312-329.
- Turner, S.J., 1999, Settings and styles of high sulphidation gold deposits in the Cajamarca Region, Northern Peru *in* Weber, G., Ed., Pacrim '99 Congress, Bali, Indonesia, Australasian Institute of Mining and Metallurgy, 461-468.
- van Leeuwen, T.M., Leach, T.M., Hawke, A.A., and Hawke, M.M., 1990, The Kelian disseminated gold deposit, East Kalimantan, Indonesia, *in* Hedenquist, J.W., White, N.C., and Siddeley, N., eds., Epithermal gold mineralization of the Circum Pacific: Journal of Geochemical Exploration, v. 35, p. 1-61.
- Vardiman, D.M., Roy, E., Thornton, D., Nicholson D., White, D., Melker, M., 2006, Geology and Exploration Developments Cripple Creek Mining District, Colorado, USA: Field trip guide, Cripple Creek & Victor Gold Mining Company, 12 p.
- Vaughan, D.J., and Craig, J.A., 1997, Sulfide ore mineral stabilities, morphologies and intergrowth textures *in* Ed., H. L. Barnes, Geochemistry of hydrothermal ore deposits, 3rd Edn, John Wiley and Sons, p. 367-434.
- Vila, T., Sillitoe, R.H., 1991, Gold-rich porphyry systems in the Maricunga Belt, Northern Chile: Economic Geology, v. 86, p. 1238-1260.
- Volkert, D.F., McEwan, C.J.A, and Garay, M.E., 1998, Pierina Au-Ag deposit, Cordillera Negra, north-central Peru *in* Pathways '98, Extended abstracts G. Walton & J Jambor Eds., British Columbia and Yukon Chamber of Mines, p. 33-35
- Vry, V.H., Wilkinson, J.J., Seguel, J., and Millán, J., 2010, Multistage intrusion, brecciation and veining at El Teniente, Chile: Evolution of a nested porphyry system: Economic Geology, v. 105, p. 119-153.
- Wake, B.A., Silvio, N.M, Lattore, A.Q., Iswahyudi, A.S., and Purwanto, A., 1996, Geology of the Toka Tindung epithermal gold deposit, North Sulawesi, Indonesia, *in* Porphyry related copper and gold deposits of the Asia Pacific Region, Cairns, Australia, 12-13 August 1996, proceedings: Adelaide, Australian Mineral Foundation, p. 9.1-9.8.
- Wallace, D.A., Johnson, R.W., Chappell, B.W., Arculus, R., Perfit, M.R., and 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, Geology and Geophysics Report, v. 243, B.M.R. Microfilm MF 197.
- Walthier, T.N., Sirvas, E. and Araneda, R., 1985, The El Indio gold, silver, copper deposit: E&MJ, October 1985, p. 38-42.
- Warnaars, F.W., Holmgren, C. and Barassi, S., 1985, Porphyry Copper and tourmaline breccias at Los Bronces-Rio Blanco, Chile: Economic Geology, v. 80, p. 1544-1565.
- Warren, I., Zukuaga, J.I., Robbins, C.H., Wulfange, W.H., and Simmons, S.H., 2004, Geology and geochemistry of epithermal Au-Ag mineralisation in the El Peñon district, Northern Chile: Andean Metallogeny: New Discoveries, Concepts and Updates: Special Publication 11, Society of Economic Geologists, p. 113-139.
- Weissberg, B.G., 1969, Gold-silver ore-grade precipitates from New Zealand thermal waters: Economic Geology, v. 64, p. 95-108.
- White, G., 1986, Puhupuhi mercury deposit, *in* Henley, R.W., Hedenquist, J.W., and Roberts, P.J., eds., Guide to the active epithermal (geothermal) systems and precious metal deposits of New

- Zealand: Monograph Series in Mineral Deposits, Berlin, Gebruder Borntraeger, v. 26, p. 193-198.
- White, W.H., Bookstorm, A.A., Kamilli, R.J., Ganster, M.W., Smith, R.P., Ranta, D.E., and Steininger, 1981, Character and Origin of Climax-Type Molybdenum Deposits: Economic Geology 75th Anniversary Volume, p. 270-316
- White, N.C., and Hedenquist, J.W., 1990, Epithermal environments and styles of mineralization: variations and their causes, and guidelines for exploration: Journal of Geochemical Exploration, v. 35, p. 445-474.
- Wilkins, C., and Smart, G., 1998, Browns Creek gold-copper deposit *in* Geology of Australian and Papua New Guinean Mineral Deposits, Eds. D.A. Berkman and D.H. Mckenzie, Australasina Institute of Mining and Metallurgy, p. 575-580.
- Wilson ,A.J., Cooke, D.R., and Harper, B.J., 2003, [The Ridgeway gold-copper deposit: A high grade alkali porphyry deposit in the Lachlan Fold Belt, New South Wales, Australia: Economic Geology](#), v. 98, p. 1637-1666.
- Wilson ,A.J., Cooke, D.R., Harper, B.J., and Deyell, C.L., 2007, Sulphur isotopic zonation in the Cadia District, southeastern Australia: exploration significance and implications for the genesis of alkali porphyry gold-copper deposits: Mineralium Deposita v. 42, p. 465-488.
- Win, K.U., and Kirwin, D., 1998, Exploration, geology and mineralisation of the Monywa copper deposits, central Myanmar *in* Porphyry and hydrothermal copper and gold deposits, A Global Perspective, Conference Proceedings: Australian Mineral Foundation, p. 61-74.
- Wolfe, R., 1994, Geology, paragenesis and alteration geochemistry of E48: Unpublished B.Sc. (Honours) thesis, Hobart, University of Tasmania, 106 p.
- Wormald, P.J., in press, The Mount Leyshon gold deposits *in* Monograph on Australian Ore Deposits, Ed. GN Phillips, Australian Institute of Mining and Metallurgy.
- Worsley, M.R., and Golding, S.D., 1990, Golden Plateau gold deposits, *in* Hughes, F.E., ed., Geology of the mineral deposits of Australia and Papua New Guinea: Australasian Institute of Mining and Metallurgy Monograph 14, p. 1709-1514.
- Wylie, R.J.M., 1988, El Indio: E&MJ, March 1988, p. 34-41.
- Zubia,M.A., Genini, A, D., Schalamuk, I. B., 1999, Yacimiento Cerro Vanguardia, Santa Cruz, *in* Recursos Minerales de la Republica Argentina, Ed. E. O. Zappetini, Instituto de Geologia y Recourcos Minerales, Buenos Aires, SEGEMAR, Anales 35, p. 1189-1201 (in Spanish).