

REFERENCES

- [Baker *et al.*, 2004] Baker, J., Peate, D., Waight, T., and Meyzen, C., Pb isotopic analysis of standards and samples using a Pb - 207 - Pb - 204 double spike and thallium to correct for mass bias with a double - focusing MC-ICP-MS, *Journal of Chemical Geology*, Vol. 211, 2004, p. 275-303.
- [Barr and Macdonald, 1987] Barr, S.M., and Macdonald, A.S., Nan river suture zone, Northern Thailand, *Journal of Geology*, Vol. 15, 1987, p. 907-910.
- [Barr *et al.*, 1990] Barr, S.M., Tantisukrit, C., Yaowanoiyothin, W., and Macdonald, A.S., Petrology and tectonic implications of Upper Paleozoic volcanic rocks of the Chiang Mai belt, Northern Thailand, *Journal of Southeast Asian Earth Sciences*, Vol. 4, 1990, p. 37-47.
- [Barr *et al.*, 2000] Barr, S.M., Macdonald, A.S., Dunning, G.R., Ounchanum, P., and Yaowanoiyothin, W., Petrochemistry, U-Pb (zircon) age, and palaeotectonic setting of the Lampang volcanic belt, northern Thailand, *Journal of Geological Society of London*, Vol. 157, 2000, p. 533-563.
- [Barr *et al.*, 2006] Barr, S.M., Macdonald, A.S., Ounjanum, P., and Hamilton, M.A., Age, tectonic setting and regional implications of the Chiang Khong volcanic suite, northern Thailand, *Journal of Geological Society of London*, Vol. 163, 2006, p. 1037-1046.
- [Beckinsale *et al.*, 1979] Beckinsale, R.D., Suensilpong, S., Nakapadungrat, S., and Walsh, J.N., Geochronology and geochemistry of granite magmatism in Thailand in relation to a plate tectonic model, *Journal of Geological Society of London*, Vol. 136, 1979, p. 529-540.

- [Black and Gulson, 1978] Black, L.P., and Gulson, B.L., The age of the Mud tank Carbonatite, Strangways Range, Northern Territory, BMR, *Journal of Australian Geology and Geophysics*, Vol. 3, 1978, p. 227-232.
- [Black *et al.*, 2003] Black, L.P., Kamo, S.L., Allen, C.M., Aleinikoff, J.N., Davis, D.W., Korsch, R.J., and Foudoulis, C., TEMORA 1: a new zircon standard for Phanerozoic U-Pb geochronology, *Journal of Chemical Geology*, Vol. 200, p2003,. 155-170.
- [Boonsue, 1986] Boonsue, S., *Petrography and geochemistry of the volcanic rocks in Changwat U-Thai Thani and Nakhon Sawan, Central Thailand*, M.Sc. Thesis, Chulalongkorn University, Thailand, 1986, 108 p.
- [Boonsoong *et al.*, 2011] Boonsoong, A., Panjasawatwong, Y., and Metparsopsan, K., Petrochemistry and tectonic setting of mafic volcanic rocks in the Chon Daen - Wang Pong area, Phetchabun, Thailand, *Journal of Island Arc*, Vol. 20, 2011, p. 107-124.
- [Bunopas, 1976] Bunopas, S., compiler, *Geologic map of Changwat Nakhon Sawan (Sheet ND 47-3), scale 1: 250,000*, Geological Survey Division, Department of Mineral Resources, Bangkok, 1976.
- [Bunopas, 1980] Bunopas, S., *Geology and Mineral Resource of Nakhon Sawan (ND 47-3)*, Geology Survey Report No.1, Geological Survey Division, Department of Mineral Resources, Bangkok, 1980.
- [Bunopas, 1981] Bunopas, S., *Palaeogeographic history of western Thailand and adjacent parts of Southeast Asia - a plate tectonic interpretation*, PhD Thesis, Victoria University of Wellington, New Zealand, 1981, 810 p.
- [Bunopas and Vella, 1978] Bunopas, S., and Vella, P., Late Paleozoic and Mesozoic structural evolution of northern Thailand-A plate tectonic model, *Proceedings of the Third Regional Conference on Geology and Mineral Resources of Southeast Asia*, Bangkok, Thailand, 1978, p. 133-140.

- [Cabanis and Lecolle, 1989] Cabanis, B., and Lecolle, M., Le diagramme La/10-Y/15-Nb/8: un outil pour la discrimination des series volcaniques et la mise en evidence des processus de mélange et/ ou de contamination crustale, *Journal of Comptes Rendus de l'Académie des Sciences. Série II*, Vol. 309, 1989, p. 2023-2029.
- [Caridroit, 1993] Caridroit, M., Permian radiolarian from NW Thailand, *Proceedings of the International symposium on Biostratigraphy of Mainland Southeast Asia, Facies and Paleontology (BIOSEA)*, Vol. 1, Chiang Mai, Thailand, 1993, p. 83-91.
- [Chaodumrong, 1992] Chaodumrong, P., *Stratigraphy, sedimentology and tectonic implications of the Lampang Group, Central Northern Thailand*, PhD Thesis, University of Tasmania, Australia, 1992, 230 p.
- [Charusiri et al., 1993] Charusiri, P., Clark, A. H., Farrar, E., Archibald, D., and Charusiri, B., Granite belt in Thailand: evidence from the $^{40}\text{Ar}/^{39}\text{Ar}$ geochronological and geological synthesis, *Journal of Southeast Asian Earth Sciences*, Vol. 8, 1993, p. 127-136.
- [Chuaviroj et al., 1980] Chuaviroj, S., Chaturongkawanich, S., and Sukawattananan, S., *Geology of Geothermal Resources of Northern Thailand: Part I San Kamphaeng*, Report of Geological Survey Division, Department of Mineral Resources, Bangkok, 1980, 45 p.
- [Crawford and Panjasawatwong 1996] Crawford, A.J., and Panjasawatwong, Y., Ophiolites, ocean crust, and the Nan suture in NE Thailand, *Proceedings of International Symposium on Lithosphere Dynamics of East Asia-Geology, Energy and Mineral Resources of the Indochina Region, Geological of Society China, R.O.C., Program and Extended Abstracts*, Taipei, Taiwan, 1996, p. 84-89.
- [Department of Mineral Resources^a, 2007] Department of Mineral Resources^a, compiler, *Geological map of Changwat Nakhon Sawan, scale 1: 1,000,000*, Geological Survey Division, Department of Mineral Resources, Bangkok, 2007.

- [Department of Mineral Resources^b, 2007] Department of Mineral Resources^b, compiler, *Geological Map of Changwat Uthai Thani, scale 1:1,000,000*, Geological Survey Division, Department of Mineral Resources, Bangkok, 2007.
- [Duncan, 1987] Duncan, R.A., The Karoo igneous province – A problem area for inferring tectonic setting from basalt geochemistry, *Journal of Volcanology and Geothermal Research*, Vol. 32, 1987, p. 13-34.
- [D’Orazio *et al.*, 2003] D’Orazio, M., Innocenti, F., Manetti, P., Tamponi, M., Tonarini, S., González-Ferrá’n, O., Lahsen, A., and Omarini, R., The Quaternary calc-alkaline volcanism of the Patagonian Andes close to the Chile triple junction: geochemistry and petrogenesis of volcanic rocks from the Cay and Maca volcanoes (~ 45°S, Chile), *Journal of South American Earth Sciences*, Vol. 16, 2003, p. 219–242.
- [Feng *et al.*, 2002] Feng, Q., Chonglakmani, C., Helmcke, D., and Ingavat, R., Middle Triassic radiolarian fauna from Lamphun, northern Thailand. *Proceedings of the Symposium on Geology of Thailand, Department of Mineral Resources*, Bangkok, Thailand, 2002, p. 108-116.
- [Feng *et al.*, 2008] Feng, Q., Yang, W.Q., Shen, S.Y., Chonglakmani, C., Malila, K., The Permian seamount stratigraphic sequence in Chiang Mai, North Thailand and its tectogeographic significance, *Journal of Science China Series D Earth Science*, Vol. 51, 2008, p. 1768–1775.
- [Floyd and Winchester, 1975] Floyd, P.A., and Winchester, J.A., Magma types and tectonic discrimination using immobile elements, *Journal of Earth Planetary Science Letters*, Vol. 27, 1975, p. 211-218.
- [Fontaine *et al.*, 2002] Fontaine, H., Salyapongse, S., Tien, N.D., and Vachard, D., Permian fossils recently collected from limestone of Nan Area, Northern Thailand, *Proceedings of the Symposium on Geology of Thailand, Department of Mineral Resources*, Bangkok, Thailand, 2002, p. 45-57

- [Hada *et al.*, 1991] Hada, S., Bunopas, S., Salyapongse, S., Thitisuwan, V., Panjasawatwong, Y., Yaowanoyothin, W., Ishii, K., and Yoshikura, S., Terrane analysis and tectonics of the Nan-Chanthaburi suture zone, *Proceedings of Seventh Regional Conference on Geology, Mineral and Energy Resources of Southeast Asia (GEOSEA VII)*, Abstracts, Geological Society of Thailand, Bangkok, 1991, p. 40-41.
- [Hada *et al.*, 1999] Hada, S., Bunopas, S., Ishii, K., and Yoshikura, S., Rift-drift history and the amalgamation of Shan-Thai and Indochina/East Malaya blocks; in I. Metcalfe, R. Jishun, J. Charvet and S. Hada eds., *Gondwana Dispersion and Asian Accretion: IGCP 321 Final Results Volume*, 1999, p. 67-87.
- [Harley and Kelly, 2007] Harley, S.L. and Kelly, N.M., Zircon: Tiny but Timely, *Journal of Element*, Vol. 3, 2007, p. 13-18.
- [Helmcke and Kraikhong, 1982] Helmcke, D., and Kraikhong, C., On the geosynclinal and orogenic evolution of Central and Northeast Thailand, *Journal of Geological Society of Thailand*, Vol. 5, 1982, p. 52-74.
- [Hellman and Henderson, 1979] Hellman, P.L., and Henderson, P., Are rare earth mobile during spilitization?, *Journal of Nature*, Vol. 267, 1979, p. 38-40.
- [Hess, 1989] Hess, P.C., *Origin of Igneous Rocks*, Harvard University Press, Cambridge, 1989, 336 p., ISBN 0674644816
- [Hess and Koch, 1979] Hess, A., and Koch, K. E., compilers, *Geological Map of Northern Thailand, sheets 2 (Chiang Rai) and 4 (Chiang Dao)*, scale 1: 250,000, Federal Institute for Geosciences and Natural Resources, Germany, 1979.
- [Hisada *et al.*, 2004] Hisada, K., Sugiyama, M., Ueno, K., Charusiri, P., and Aria, S., Missing ophiolite rocks along the Mae Yuam Fault as the Gondwana-Tethys divide in northwest Thailand, *Journal of Island Arc*, Vol. 13, 2004, p. 308-310.

- [Holm, 1982] Holm, P.E., Non-recognition of continental tholeiite using the Ti-Zr-Y diagram, *Journal of Contributions to Mineralogy and Petrology*, Vol.79, 1982, p. 308-310.
- [Intasopa, 1993] Intasopa, S., *Petrology and geochronology of the volcanic rocks of the central Thailand volcanic belt*, PhD Thesis, University of New Brunswick, Canada, 1993, 244 p.
- [Intasopa and Dunn, 1994] Intasopa, S., and Dunn, T., Petrology and Sr-Nd isotopic systems of the basalts and rhyolites, Loei, Thailand, *Journal of Southeast Asian Earth Sciences*, Vol. 9, 1994, p. 177-180.
- [Jackson *et al.*, 2004] Jackson, S.E., Pearson, N.J., Griffin, W.L., and Belousova, E.A., The application of laser ablation-inductively coupled plasma-mass spectrometry to in situ U-Pb zircon geochronology, *Journal of Chemical Geology*, Vol. 211, 2004, p. 47-69.
- [Jungyusuk and Khositantont, 1992] Jungyusuk, N., and Khositantont, S., Volcanic rocks and associated mineralization in Thailand, *Proceedings of the National Conference on Geologic Resources of Thailand-Potential for Future Development*, Bangkok, Thailand, 1992, p. 522-538.
- [Kamata *et al.*, 2002] Kamata, Y., Hisada, K., Ueno, K., Nakornsri, N., and Charusiri, P., Triassic radiolarian faunas from the Mae Sariang, northern Thailand and their paleogeographic significance, *Journal of Asian Earth Sciences*, Vol. 20, 2002, p. 491-506.
- [Kamata *et al.*, 2009] Kamata, Y., Ueno, K., Hara, H., Ichise, M., Charoentitirat, T., Charusiri, P., Sardud, A., and Hisada, K., Classification of the Sibumasu and Paleo-Tethys tectonic division in Thailand using chert lithofacies, *Journal of Island Arc*, Vol. 18, 2009, p. 21-31.
- [Kamvong *et al.*, 2006] Kamvong, T., Charusiri, P., and Intasopa, S., Petrochemical characteristics of igneous rocks from the Wang Pong area, Phetchabun, north Central Thailand: Implication for tectonic setting, *Journal of the Geological Society of Thailand*, Vol. 1, 2006, p. 9-26.

- [Khositanont *et al.*, 2008] Khositanont, S., Panjasawatwong, Y., Ounchanum, P., Thanasuthipitak, T., Khin, Z., and Meffre, S., Petrochemistry and zircon age determination of Loei-Phetchabun volcanic rocks, *Proceedings of the International Symposia on Geoscience Resources and Environments of Asian Terranes (GREAT 2008)*, 4th IGCP 516 and 5th APSEG, Bangkok, 2008, p. 272–8.
- [Kosler, 2001] Kosler, J., Laser-ablation ICPMS study of metamorphic minerals and processes; in Sylvester P. J. ed. *Laser-ablation-ICPMS in the earth sciences; principles and applications*, Mineralogical Association of Canada Short Course Handbook, Vol. 29, 2001, p. 185-202.
- [Kosuwan, 2004] Kosuwan, P., *Petrochemistry and tectonic setting of mafic volcanic rocks in Khlong Tha Dan Dam area, Nakhon Nayok Province, Thailand*, M.Sc. thesis, Chiang Mai University, Thailand, 2004, 95 p.
- [Kosuwan and Panjasawatwong, 2008] Kosuwan, P., and Panjasawatwong, Y., Petrochemistry and tectonic Setting of mafic volcanic rocks in the Khlong Tha Dan Dam area, Nakhon Nayok Province, Thailand, *Proceedings of International Conference on the Tectonics of Northwestern Indochina (TNI 2008)*, 2008, p. 19.
- [Kromkhun *et al.*, 2013] Kromkhun, K., Baines, G., Satarugsa, P., and Foden, J., Petrochemistry of Volcanic and Plutonic Rocks in Loei Province, Loei Petchabun Fold Belt, Thailand, *Proceedings of 2nd International Conference on Geological and Environmental Sciences*, 2013, p. 55-59. DOI: 10.7763/PCBEE. 2013. V52. 11
- [Lacassin *et al.*, 1997] Lacassin, R., Hinthong, C., Siribhakdi, K., Chauviroj, S., Charoenravan, A., Maluski, H., Leloup, P.H., and Tapponnier, P., Tertiary diachronic extension and deformation of western Indochina: structure and ⁴⁰Ar/³⁹Ar evidence from NW Thailand, *Journal of Geophysical Research*, Vol. 102 (B5), 1997, p. 10013-10037.

- [Macdonald and Barr, 1978] Macdonald, A.S., and Barr, S.M., Tectonic significance of a Late Carboniferous volcanic arc in Northern Thailand, *Proceedings of the Third Regional Conference on Geology and Mineral Resources of Southeast Asia*, Bangkok, Thailand, 1978, p. 151-156.
- [Marhotorn *et al.*, 2008] Marhotorn, K., Mizuta, T., Ishiyama, D., Takashima, I., Won-In, K., Nuanlaong, S., and Charusiri, P., Petrochemistry of igneous rocks in the southern parts of the Chatree gold mine, Pichit, central Thailand, *Proceedings of the International Symposia on Geoscience Resources and Environments of Asian Terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG*, Bangkok, 2008, p. 289–298.
- [Meffre *et al.*, 2008] Meffre, S., Large, R. R., Scott, R., Woodhead, J., Chang, Z., Gilbert, S. E., Danyushevsky, L. V., Maslennikov, V., and Hergt, J. M., Age and pyrite Pb-isotopic composition of the giant Sukhoi Log sediment-hosted gold deposit, Russia, *Journal of Geochimica et Cosmochimica Acta*, Vol. 72, 2008, p. 2377-2391.
- [Meschede, 1986] Meschede, M., A method of discriminating between different types of mid-oceanic ridge basalts and continental tholeiites with the Nb-Zr-Y diagram, *Journal of Chemical Geology*, Vol. 56, 1986, p. 207-218.
- [Metcalf, 2002] Metcalfe, I., Permian tectonic frame work and paleogeography of SE Asia: *Journal of Asian Earth Sciences*, Vol. 20, 2002, p.551-566.
- [Metcalf, 2005] Metcalfe, I., Asia: South-East; in Selley, R.C., Cocks, L.R.M., and Plimer, I.R., eds., *Encyclopedia of Geology*, vol. 1. Elsevier, Oxford, 2005, p. 169–198.
- [Metcalf, 2011] Metcalfe, I., Tectonic framework and Phanerozoic evolution of Sundaland, *Journal of Gondwana Research*, Vol. 19, 2011, p. 3-21.
- [Mezger and Krogstad, 1997] Mezger, K. and Krogstad, E.J., Interpretation of discordant U-Pb zircon ages: an evaluation, *Journal of Metamorphic Geology*, Vol. 15, 1997, p. 127-140.

- [Morley, 2001] Morley, C.K., Combined escape tectonics and subduction rollback-back arc extension: a model for the evolution of Tertiary rift basins in Thailand, Malaysia and Laos, *Journal of the Geological Society*, London, Vol. 158, 2001, p. 461-474.
- [Morley, 2002] Morley, C.K., A tectonic model for the Tertiary evolution of strike-slip faults and rift basins in SE Asia, *Journal of Tectonophysics*, Vol. 347, 2002, p. 189-215.
- [Morley *et al.*, 2007] Morley, C.K., Smith, M., Carter, A., Charusiri, P., and Chantraprasert, S., Evolution of deformation styles at a major restraining bend, constraints from cooling histories, Mae Ping fault zone, western Thailand - Tectonics of strike-slip restraining and releasing bends, *Journal of the Geological Society*, London, Vol. 290, 2007, p. 325-349.
- [Myers and Breitkopf, 1989] Myers, R., and Breitkopf, J.H., Basalt geochemistry and tectonic setting-A new approach to relate tectonic and magmatic processes, *Journal of Lithos*, Vol. 23, 1989, p. 53-62.
- [Nakchaiya *et al.*, 2008] Nakchaiya, T., Mitzuta, T., Ishiyama, D., Takashima, I., Won-In, K., Lunwongsa, VOL., and Charusiri, P., Stratigraphy and Petrochemistry of Volcanic Rocks in the Chatree Gold Mine, Central Thailand: Implication for Tectonic Setting, *Proceedings of the International Symposia on Geoscience Resources and Environments of Asian Terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG*, Bangkok, 2008, p. 302-311.
- [Notsu *et al.*, 1995] Notsu, K., Fujitani, T., Ui, T., Matsuda, J., and Ercan, T., Geochemical features of collision-related volcanic rocks in central and eastern Anatolia, Turkey, *Journal of Volcanology and Geothermal Research*, Vol. 64, 1995, p. 171-192.

- [Panjasawatwong, 1991] Panjasawatwong, Y., *Petrology, geochemistry and tectonic implications of igneous rocks in the Nan Suture, Thailand, and an empirical study of the effects of Ca/Na, Al/Si and H₂O on plagioclase-melt equilibria at 5-10 kb. Pressure*, PhD Thesis, University of Tasmania, Australia, 1991, 239 p.
- [Panjasawatwong, 1999] Panjasawatwong, Y., Petrology and tectonic setting of eruption of basaltic rocks penetrated in well GTE-1, San Kamphaeng geothermal field, Chiang Mai, Northern Thailand, *Proceedings of the International Symposium on Shallow Tethys (ST) 5*, Chiang Mai, Thailand, 1999, p. 242-264.
- [Panjasawatwong *et al.*, 1995] Panjasawatwong, Y., Kanpeng, K., and Ruangvatanasirikun, K., 1995, Basalts in Li basin, Northern Thailand: Southern extension of Chiang Mai volcanic belt, *Proceedings of the International Conference on Geology, Geotechnology and Mineral Resources of Indochina (GEO-INDO'95)*, Khon Kaen, Thailand, p. 225-234
- [Panjasawatwong *et al.*, 1997] Panjasawatwong, Y., Chantaramee, S., Limtrakun, P., and Pirarai, K., Geochemistry and tectonic setting of eruption of central Loei volcanics in the Pak Chom area, Loei, Northeast Thailand, *Proceedings of the International Conference on Stratigraphy and Tectonic Evolution of Southeast Asia and the South Pacific*, Bangkok, Thailand, 1997, p. 287-302.
- [Panjasawatwong *et al.*, 2003] Panjasawatwong, Y., Phajuy, B., and Hada, S., Tectonic setting of the Permo-Triassic Chiang Khong volcanic rocks, Northern Thailand based on petrochemical characteristics, *Journal of Gondwana Research*, Vol. 6, 2003, p. 743-755.
- [Panjasawatwong *et al.*, 2006] Panjasawatwong, Y., Zaw K., Chantaramee, S., and Limtrakul, P., Geochemistry and tectonic setting of the Central Loei volcanic rocks, Pak Chom area, Loei, Northeastern Thailand, *Journal of Asia Earth Sciences*, Vol. 26, 2006, p. 77-90.

- [Paton *et al.*, 2010] Paton, C., Woodhead, J.D., Hellstrom, J.C., Hergt, J.M., Greig, A., and Maas, R., Improved laser ablation U-Pb zircon geochronology through robust down-hole fractionation correction, *Journal of Geochemistry, Geophysics, Geosystems*, Vol. 11, 2010, p. 1525-2027.
- [Pearce, 1982] Pearce, J.A., Trace element characteristics of lavas from destructive plate boundaries; in Thorpe, R.S., ed., *Andesites-Orogenic Andesites and Related Rocks*, 1982, p. 525-548.
- [Pearce and Cann, 1971] Pearce, J.A., and Cann, J.R., Ophiolite origin investigated by discriminate analysis using Ti, Zr and Y, *Journal of Earth Planetary Science Letters*, Vol. 12, 1971, p. 339-349.
- [Pearce and Cann, 1973] Pearce, J.A., and Cann, J.R., Tectonic setting of basic volcanic rocks determined using trace element analyses, *Journal of Earth and Planetary Science Letters*, Vol. 19, 1973, p. 290-300.
- [Pearce and Gale, 1977] Pearce, J.A., and Gale, G.H., Identification of ore-deposit environment from trace element geochemistry of associated igneous host rocks, *Geological Society Special Publication*, Vol. 7, 1977, p. 14-24.
- [Pearce and Norry, 1979] Pearce, J.A., and Norry, M.J., Petrogenetic implications of Ti, Zr, Y, and Nb variations in volcanic rocks, *Journal of Contributions to Mineralogy and Petrology*, Vol. 69, 1979, p.33-47.
- [Pearce *et al.*, 1984] Pearce, J.A., Harris, N.B.W., and Tindle, A.G., Trace element discrimination diagrams for the tectonic interpretation of granitic rocks, *Journal of Petrology*, Vol. 25, 1984, p.956-983.
- [Phajuy, 2001] Phajuy, B., *Geochemistry, petrology and tectonic setting of Permo-Triassic mafic volcanic rocks in the northern part of Chiang Khong-Tak volcanic belt*, M.Sc. Thesis, Chiang Mai University, Thailand, 2001, 110 p.
- [Phajuy, 2008] Phajuy, B., *Petrochemistry and tectonic significance of mafic volcanic rocks in the Chiang Rai – Chiang Mai volcanic belt, Northern Thailand*, PhD Thesis, Chiang Mai University, Thailand, 2008, 259 p.

- [Phajuy *et al.*, 2002] Phajuy, B., Panjasawatwong, Y., and Osataporn, P., Mafic volcanic rocks in the Ban Pang Mayao area, Phrao, Chiang Mai, Northern Thailand: tectonic setting of formation, *Proceedings of Fourth Symposium of IGCP Project No. 411 (Geodynamic Processes of Gondwanaland-Derived Terranes in East & Southeast Asia)*, Program and Abstracts, Geological Society of Thailand, Phitsanulok, Thailand, 2002, p. 59.
- [Phajuy *et al.*, 2004] Phajuy, B., Panjasawatwong, Y., and Pongpangnam, O., Petrological constraint on tectonic setting of mafic volcanic rocks in the Mae Lao River, Wiang Pa Pao, Chiang Rai, northern Thailand, *Proceedings of International Symposium on the Geologic Evolution of East and Southeast Asia*, Abstracts, Bangkok, Department of Geology, Chulalongkorn University, Thailand, 2004, p. 103.
- [Phajuy *et al.*, 2005] Phajuy, B., Panjasawatwong, Y., and Osataporn, P., Preliminary geochemical study of volcanic rocks in the Pang Mayao area, Phrao, Chiang Mai, Northern Thailand: tectonic setting of formation, *Journal of Asian Earth Sciences*, Vol. 24, 2005, p. 765–776.
- [Prestvik, 1982] Prestvik, T., Basic volcanic rocks-A discussion of the Zr-Ti-Y discrimination diagram and its suitability for classification purposes, *Journal of Lithos*, Vol. 15, 1982, p. 241-247
- [Qi *et al.*, 2000] Qi, L., Hu, J., and Gregoire, D.C., Determination of trace elements in granites by inductively coupled plasma mass spectrometry, *Journal of Talanta*, Vol. 51, 2000, p. 507-513.
- [Qian *et al.*, 2013] Qian, X., Feng, Q., Chonglakmani, C., and Monjai, D., Geochemical and geochronological constrains on the Chiang Khong volcanic rocks (northwestern Thailand) and its tectonic implications, *Journal of Frontiers of Earth Science*, Vol. 7, 2013, p. 508-521.
- [Radon *et al.*, 2006] Radon, C., Wonganan, N., Caridoroit, M., Perret-Mirouse, M., Degardin, J., Upper Devonian–Lower Carboniferous conodonts from Chiang Dao Cherts, Northern Thailand, *Journal of Rivista Italiana di Paleontologia e Stratigrafia*, Vol. 112, 2006, p. 191–206.

- [Royal Thai Survey Department, 1997]Royal Thai Survey Department, *Topographic Map of Amphoe Lan Sak (Sheet 4939 IV), Thailand, scale 1:50,000*, Royal Thai Survey Department, Bangkok, 1997.
- [Royal Thai Survey Department, 1997]Royal Thai Survey Department, *Topographic Map of Amphoe Nong Chang (Sheet 4939 I), Thailand, scale 1:50,000*, Royal Thai Survey Department, Bangkok, 1997.
- [Royal Thai Survey Department, 1997]Royal Thai Survey Department, *Topographic Map of Amphoe Sawang Arom (Sheet 4940 II), Thailand, scale 1:50,000*, Royal Thai Survey Department, Bangkok, 1997.
- [Royal Thai Survey Department, 1997]Royal Thai Survey Department, *Topographic Map of Amphoe Takli (Sheet 5039 I), Thailand, scale 1:50,000*, Royal Thai Survey Department, Bangkok, 1997.
- [Royal Thai Survey Department, 1997]Royal Thai Survey Department, *Topographic Map of Ban Suk Samran (Sheet 5139 IV), Thailand, scale 1:50,000*, Royal Thai Survey Department, Bangkok, 1997.
- [Royal Thai Survey Department, 1997]Royal Thai Survey Department, *Topographic Map of Changwat Uthai Thani (Sheet 5039 IV), Thailand, scale 1:50,000*, Royal Thai Survey Department, Bangkok, 1997.
- [Royal Thai Survey Department^a, 1997]Royal Thai Survey Department^a, *Topographic Map of Amphoe Tha Tako (Sheet 5040 II), Thailand, scale 1:50,000*, Royal Thai Survey Department, Bangkok, 1997.
- [Royal Thai Survey Department^b, 1997]Royal Thai Survey Department^b, *Topographic Map of Amphoe Phai Sali (Sheet 5140 III), Thailand, scale 1:50,000*, Royal Thai Survey Department, Bangkok, 1997.
- [Royal Thai Survey Department^c, 1997] Royal Thai Survey Department^c, *Topographic Map of Changwat Nakhon Sawan (Sheet 5040 III), Thailand, scale 1:50,000*, Royal Thai Survey Department, Bangkok, 1997.
- [Royal Thai Survey Department^d, 1997]Royal Thai Survey Department^d, *Topographic Map of King Amphoe Chum Ta Bong (Sheet 4940 III), Thailand, scale 1:50,000*, Royal Thai Survey Department, Bangkok, 1997.

- [Sashida and Igo, 1999] Sashida, K., and Igo, H., Occurrence and tectonic significance of Paleozoic and Mesozoic radiolaria in Thailand and Malaysia; in I. Metcalfe, R. Jishun, J. Charvet and S. Hada, eds., *Gondwana Dispersion and Asian Accretion: IGCP 321 Final Results Volume*, 1999, p. 175-196.
- [Sarjoughian *et al.*, 2012] Sarjoughian, F., Kananian, A., HASCHKE, M., and Ahmadian, J., Geochemical signature of Eocene Kuh-e Dom shoshonitic dikes in NE Ardestan, Central Iran: implications for melt evolution and tectonic setting, *Journal of Geosciences*, Vol. 57, 2012, 241–264.
- [Serri, 1981] Serri, G., The petrochemistry of ophiolite gabbroic complexes: a key for the classification of ophiolites into low-Ti and high-Ti, *Journal of Earth Planet Science Letters*, Vol. 52, 1981, p. 203-212.
- [Shervais, 1982,] Shervais, J.W., Ti-V plot and the petrogenesis of modern and ophiolitic lavas, *Journal of Earth and Planetary Science Letters*, Vol. 59, 1982, p. 101-118.
- [Singharajwarapan, 1994] Singharajwarapan, S., *Deformation and metamorphism of the Sukhothai fold belt, Northern Thailand*, PhD Thesis, University of Tasmania, Australia, 1994, 385 p.
- [Singharajwarapan and Berry, 2000] Singharajwarapan, S., and Berry, R., Tectonic implications of the Nan Suture zone and its relationship to the Sukhothai Fold belt, Northern Thailand, *Journal of Asian Earth Sciences*, Vol. 18, 2000, p. 663-673.
- [Singharajwarapan *et al.*, 2000] Singharajwarapan, S., Berry, R., and Panjasawatwong, Y., Geochemical characteristics and tectonic significance of the Permo-Triassic Pak Pat volcanics, Uttaradit, Northern Thailand, *Journal of the Geological Society of Thailand*, no.1, 2000, p. 1-7.

- [Sone and Metcalfe, 2008] Sone, M., and Metcalfe, I., Parallel Tethyan Sutures in mainland SE Asia: new insights for Palaeo-Tethys closure, *Journal of Comptes Rendus Geoscience*, Vol. 340, 2008, p. 166–179.
- [Srichan, 2008] Srichan, W., *Petrochemistry, geochronology and tectonic implication of the Chiang Khong – Lampang - Tak volcanic belt, Northern Thailand*, PhD Thesis, University of Tasmania, Australia, 2008, 284 p.
- [Srichan *et al.*, 2009] Srichan, W., Crawford, A.J., and Berry R.F., Geochemistry and geochronology of Late Triassic volcanic rocks in the Chiang Khong region, Northern Thailand, *Journal of Island Arc*, Vol. 18, 2009, p. 32-51
- [Sun and McDonough, 1989] Sun, S.S., and McDonough, W.F., Chemical and isotopic systematics of oceanic basalt-Implications for mantle composition and processes; in Suanders, A.D., and Norry, M.J., eds., *Magmatism in Ocean Basins*, Geological Society Special Publication, Vol. 42, 1989, p. 313-345.
- [Takanashi *et al.*, 2011] Takanashi, K., Shuto, K. and Sato, M., Origin of Late Paleogene to Neogene basalts and associated coeval felsic volcanic rocks in Southwest Hokkaido, northern NE Japan arc: constraints from Sr and Nd isotopes and major- and trace-element chemistry, *Journal of Lithos*, Vol. 125, 2011, p. 368-392.
- [Tangwattananukul *et al.*, 2008] Tangwattananukul, L., Lunwongsa, W., Mitsuta, T., Ishiyama, D., Takashima, I., Won-In, K., and Charusiri, P., Geology and petrochemistry of dike rocks in the Chatree gold mine, central Thailand: Implication for tectonic setting, *Proceedings of the International Symposia on Geoscience Resources and Environments of Asian Terranes (GREAT 2008), 4th IGCP 516 and 5th APSEG*, Bangkok, 2008, p. 299–301.

- [Taylor and Gorton 1977] Taylor, S.R., and Gorton, M.K., Geochemical application of spark-source mass spectrometry; III – Element sensitivity, precision and accuracy, *Journal of Geochimica et Cosmochimica Acta*, Vol. 41, 1977, p. 1375-1380.
- [Ueno *et al.*, 2008] Ueno, K., Charoentitirat, C., Sera, Y., Miyahigashi, A., Suwanprasert, J., Sardud, A., Boonlue, H., Pananto, S., The Doi Chiang Dao Limestone: Paleo-Tethyan Midoceanic Carbonates in the Inthanon Zone of North Thailand, *Proceedings of the International Symposium on Geoscience Resources and Environments of Asian Terranes (GREAT 2008), 4th IGCP 516, and 5th APSEG*, Bangkok, 2008, p. 42–48.
- [Ueno *et al.*, 2010] Ueno, K., Miyahigashi, A., Kamata, Y., Kato, M., Charoentitirat, T., and Limruk, S., Triassic shallow-marine limestone in the Central Plain of Thailand: Its foraminiferal age and geotectonic implications, *Proceedings of the 6th Symposium of the International Geological Correlation Programme Project 516 (IGCP516), Geological Anatomy of East and South Asia*, Kuala Lumpur, Malaysia, 2010, p. 37-39.
- [Vimuktanandana, 2008] Vimuktanandana, S., compiler, Geological map of Changwat Uthai Thani, Scale 1:250,000, Department of Mineral Resources, Bangkok, 2008.
- [Wakita and Metcalfe, 2005] Wakita, K. and Metcalfe, I., Ocean plate stratigraphy in E and SE Asia, *Journal of Asian Earth Sciences*, Vol. 24, 2005, p. 679–702.
- [Whitford *et al.*, 1988] Whitford, D.J., Korsch, M.J., Porritt, P.M., and Craven, S.J., Rare-earth mobility around the volcanogenic polymetallic massive sulphide deposit at Que River, Tasmania, Australia, *Journal of Chemical Geology*, Vol. 68, 1988, p. 105-119.

- [Wiendenbeck *et al.*, 1995] Wiendenbeck, M., Alle, P., Corfu, F., Griffin W.L., Meier, M., Oberli, F., von Quadt, A., Roddick, J.C., and Spiegel, W., Three nature zircon standard for U-Th-Pb, Lu-Hf, trace-element and REE analyses, *Journal of Geostandards Newsletter*, Vol. 19, 1995, p. 1-23.
- [Wilson, 1989] Wilson, M., *Igneous Petrogenesis, A Global Tectonic Approach*, Unwin Hyman, London, 1989, 456 p., ISBN 0045520240
- [Winchester and Floyd, 1977] Winchester, J.A., and Floyd, P.A., Geochemical discrimination of different magma series and their differentiation products using immobile elements, *Journal of Chemical Geology*, Vol. 20, 1977, p. 325-343.
- [Wipakul, 2012] Wipakul, U., *Petrochemistry and age of volcanic rocks, Nan Province, Thailand*, M.Sc. Thesis, Chiang Mai University, Thailand, 2012, 175 p.
- [Wonganan and Caridroit, 2005] Wonganan, N. and Caridroit, M., Middle and Upper Devonian radiolarian faunas from Chiang Dao area, Chiang Mai province, northern Thailand, *Journal of Micropaleontology*, Vol. 51, 2005, p. 39-57.
- [Wood, 1980] Wood, D.A., The application of a Th-Hf-Ta diagram to problems of tectonomagmatic classification and to establishing the nature of crustal contamination of basaltic lavas of the British Tertiary volcanic province, *Journal of Earth Planetary Science Letters*, Vol. 50, 1980, p. 11-33.
- [Yoshikura, 1990] Yoshikura, S., Geology of the Nan-Chanthaburi suture zone (II) - Petrology of basaltic rocks, *Proceedings of Technical Conference on Development Geology for Thailand into the Year 2000*, Abstracts, Department of Geology, Chulalongkorn University, Bangkok, 1990, p. 11-13.

LIST OF PUBLICATIONS

- 1) Jundee, P.K., Limtrakun, P., Srichan, W., Boonsoong, A., and Panjasawatwong, Y., Volcanic/Hypabyssal rocks in Nakhon Sawan and Uthai Thani provinces, Thailand: a review in petrography and U-Pb zircon dating, *Proceedings of International Conference on the Tectonics of Northwestern Indochina (TNI2012)*, Chiang Mai, Thailand, 22-24 February 2012, p.20.
- 2) Jundee, P.K., Limtrakun, P., Srichan, W., Boonsoong, A., and Panjasawatwong, Y., Volcanic/Hypabyssal rocks in Nakhon Sawan and Uthai Thani provinces, Thailand: Age dating, *Proceedings of 38th Congress on Science and Technology of Thailand (STT 38)*, Chiang Mai, Thailand, 17-19 October 2012, p.351 (M_M0002 1-6)
- 3) Jundee, P.K., Limtrakun, P., Boonsoong, A., Srithai, B., and Panjasawatwong, Y., Geochemistry of Mafic to Felsic Volcanic/Hypabyssal Rocks from Nakhon Sawan and Uthai Thani Provinces, Central Thailand, *Proceedings of International Graduate Research Conference 2013 (iGRC)*, Chiang Mai, Thailand, 20 December 2013, p. ST-148-154; Available at: <http://www.grad.cmu.ac.th/igrc2013/proceedings/index.php?c=6030>.

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved