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DAFTAR PUSTAKA

Advokaat, E. L., Bongers, M. L. M., Rudyawan, A., Boudagher-fadel, M. K., Langereis, C. G., & Hinsbergen, D. J. J. Van. (2018). Early Cretaceous origin of the Woyla Arc (Sumatra , Indonesia) on the Australian plate. *Earth and Planetary Science Letters*, *498*, 348–361. https://doi.org/10.1016/j.epsl.2018.07.001

Aldiss, D.T., Whandoyo, R., Ghazali, S.A., dan Kusyono, 2011, Peta Geologi Lembar Sidikalang dan Sebagian Sinabang, Sumatera: Bandung, Pusat Penelitian dan Pengembangan Geologi.

Andreani, M., Mével, C., Boullier, A. M., dan Escartín, J. (2007). Dynamic control on serpentine crystallization in veins: Constraints on hydration processes in oceanic peridotites. *Geochemistry, Geophysics, Geosystems*, *8*(2). https://doi.org/10.1029/2006GC001373.

Arifin, A.A., Andriana, Y., dan Haryanto, I., 2020, Pola Pertumbuhan Fasies Karbonat Formasi Peutu Lapangan ADM, Cekungan Sumatera Utara: Padjadjaran *Geoscience Journal*, v. 4, p. 84–91.

Aslin, J., Mariani, E., Dawson, K., & Barsoum, M. W. (2019). Ripplocations provide a new mechanism for the deformation of phyllosilicates in the lithosphere. *Nature Communications*, *10*(1), 686. https://doi.org/10.1038/s41467-019-08587-2

Auzende, A.L., Daniel, I., Reynard, B., Lemaire, C., dan Guyot, F., 2004, High- pressure behaviour of serpentine minerals: A Raman spectroscopic study: *Physics and Chemistry of Minerals*, v. 31, p. 269–277, doi:10.1007/s00269- 004-0384-0.

Bailey, S.W., 1969, Polytypism of Trioctahedral 1:1 Layer Silicates: *Clays and Clay Minerals*, v. 17, p. 355–371.

Barber, A.J., 2000, The origin of the Woyla Terranes in Sumatra and the late Mesozoic evolution of the Sundaland margin: *Journal of Asian Earth Sciences*, v. 18, p. 713–738, doi:10.1016/S1367-9120(00)00024-9.

Barber, A.J., dan Crow, M.J., 2003, An evaluation of plate tectonic models for the development of Sumatra: *Gondwana Research*, v. 6, p. 1–28, doi:10.1016/S1342-937X(05)70642-0.

Barber, A.J., Crow, M.J., dan Milsom, J.S., 2005, Sumatra: Geology, Resources and Tectonic Evolution (R. J. Pankhurst dkk., Ed.): London. Memoirs, *31*, The Geological Society, 1–53 p.

Barnes, S. J., dan Roeder, P. L. (2001). The range of spinel compositions in terrestrial mafic and ultramafic rocks. *Journal of Petrology*, 42(12), 2279–2302. https://doi.org/10.1093/petrology/42.12.2279

Baroux, E., Avouac, J.P., Bellier, O., dan Sébrier, M., 1998, Slip-partitioning and fore-arc deformation at the Sunda Trench, Indonesia: *Terra Nova*, v. 10, p. 139–144, doi:10.1046/j.1365-3121.1998.00182.x.

van Bemmelen, R.W., 1949, The Geology of Indonesia Vol I A: General Geology of Indonesia and Adjancet Archipelagoes: Goverment Printing Office, The Hague, *v. 1A*, doi:10.1385/0-89603-489-5:219.

Bennet, J.D. dkk., 1981a, Peta Geologi Lembar Banda Aceh, Sumatera: Bandung, Pusat Penelitian dan Pengembangan Geologi.

Bennet, J.D., Bridge, D.M., Cameron, N.R., Djunuddin, A., Ghazali, S.A., Jeffery, D.H., Kartawa, W., Keats, W., Rock, N.M.S., dan Thompson, S.J., 1981b, Peta Geologi Lembar Calang, Sumatera: Bandung, Pusat Penelitian dan

UNIVERSITAS GADJAH MADA
Komposisi dan Karakteristik Mineral pada Serpentinit di Zona Sesar Aceh, Kecamatan Tangse, Kabupaten Pidie, Provinsi Aceh
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Pengembangan Geologi.

Bhilisse, M., Admou, H., Aydda, A., dan Maacha, L. (2019). Mineralogical and seismic properties of serpentinite of Ait Ahmane fault zone of Bou Azzer ophiolite, central Anti-Atlas of Morocco. *Comptes Rendus - Geoscience*, 351(4), 303–311. https://doi.org/10.1016/j.crte.2019.01.002

Billi, A., Salvini, F., dan Storti, F., 2003, The damage zone-fault core transition in carbonate rocks: Implications for fault growth, structure and permeability: *Journal of Structural Geology*, v. 25, p. 1779–1794, doi:10.1016/S0191-8141(03)00037-3.

Callahan, O.A., Eichhubl, P., dan Davatzes, N.C., 2020, Mineral precipitation as a mechanism of fault core growth: *Journal of Structural Geology*, v. 140, p. 104156, doi:10.1016/j.jsg.2020.104156.

Cameron, N.R. dkk., 2007, Peta Geologi Lembar Takengon, Sumatera: Bandung, Pusat Penelitian dan Pengembangan Geologi

Capitani, G., dan Mellini, M., 2004, The modulated crystal structure of antigorite The m = 17 polysome: *American Mineralogist*, v. 89, p. 147–158, doi:10.2138/am-2004-0117.

Choi, J.H., Edwards, P., Ko, K., dan Kim, Y.S., 2016, Definition and classification of fault damage zones: A review and a new methodological approach: *Earth- Science Reviews*, v. 152, p. 70–87, doi:10.1016/j.earscirev.2015.11.006.

Dandar, O., Okamoto, A., Uno, M., Oyanagi, R., Nagaya, T., Burenjargal, U., Miyamoto, T., dan Tsuchiya, N., 2019, Formation of secondary olivine after orthopyroxene during hydration of mantle wedge: evidence from the Khantaishir Ophiolite, western Mongolia: *Contributions to Mineralogy and Petrology*, v. 174, p. 1–22, doi:10.1007/s00410-019-1623-1.

Dipatunggoro, G., 2007, Sumberdaya Batubara Kawasan Blok Pt. Teunom Resources, Kab. Aceh Barat, Propinsi Nanggroe Aceh Darussalam: *Bulletin of Scientific Contribution*: GEOLOGY, v. 5, p. 49–60.

Evans, B.W., 2004, The Serpentinite Multisystem Revisited: Chrysotile Is Metastable: *International Geology Review*, v. 46, p. 479–506, doi:10.2747/0020-6814.46.6.479.

Evans, B.W., Hattori, K., dan Baronnet, A., 2013, Serpentinite: What, why, where?

Elements, v. 9, p. 99–106, doi:10.2113/gselements.9.2.99.

Fagereng, Å., dan Sibson, R. H. (2010). Mélange rheology and seismic style. *Geology*, 38(8), 751–754. https://doi.org/10.1130/G30868.1

Falini, G., Foresti, E., Gazzano, M., Gualtieri, A.E., Leoni, M., Lesci, I.G., dan Roveri, N., 2004, Tubular-shaped stoichiometric chrysotile nanocrystals: *Chemistry - A European Journal*, v. 10, p. 3043–3049, doi:10.1002/chem.200305685.

Farough, A., Moore, D.E., Lockner, D.A., dan Lowell, R.P., 2016, Evolution of fracture permeability of ultramafic rocks undergoing serpentinization at hydrothermal conditions: An experimental study: *Geochemistry, Geophysics, Geosystems*, v. 17, p. 44–55, doi:https://doi.org/10.1002/2015GC005973.

Fernández-Blanco, D., Philippon, M., dan von Hagke, C., 2016, Structure and kinematics of the Sumatran Fault System in North Sumatra (Indonesia): *Tectonophysics*, v. 693, p. 453–464, doi:10.1016/j.tecto.2016.04.050.

Fossen, H., 2016, *Structural Geology*: Cambridge.

Global Volcanism Program, 2025. Pleistocene Volcanoes of the World (v. 5.3.4; 30 Dec 2025). Distributed by Smithsonian Institution, compiled by Venzke,

UNIVERSITAS GADJAH MADA
Komposisi dan Karakteristik Mineral pada Serpentinit di Zona Sesar Aceh, Kecamatan Tangse, Kabupaten Pidie, Provinsi Aceh
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E. https://doi.org/10.5479/si.GVP.VOTW5-2025.5.3

Goldstein, J.I., Newbury, D.E., Michael, J.R., Ritchie, N.W.M., Scott, J.H.J., dan Joy, D.C., 2018, *Scanning Electron Microscopy and X-Ray Microanalysis*: New York, Springer, doi:https://doi.org/10.1007/978-1-4939-6676-9.

Gribble, C.D., dan Hall, A.J., 1992, *Optical Mineralogy: Principles and Practice*: New York, Springer New York, doi:https://doi.org/10.1007/978-1-4615- 9692-9.

Guillot, S., dan Hattori, K.H., 2013, Serpentinites: Essential Roles in Geodynamics, Arc Volcanism, Sustainable Development, and the Origin of Life: *Elements*, v. 9, p. 95–98, doi:10.2113/gselements.9.2.25.

Gunawan, E. dkk., 2018, Coseismic slip distribution of the 2 july 2013 Mw 6.1 aceh, Indonesia, earthquake and its tectonic implications: *Bulletin of the Seismological Society of America*, v. 108, p. 1918–1928, doi:10.1785/0120180035.

Hady, A.K., dan Marliyani, G.I., 2021, Updated Segmentation Model and Cummulative Offset Measurement of the Aceh Segment of the Sumatran Fault System in West Sumatra, Indonesia: *Journal of Applied Geology*, v. 5, p. 84, doi:10.22146/jag.56134.

Hall, R., 2012, Late Jurassic-Cenozoic reconstructions of the Indonesian region and the Indian Ocean: *Tectonophysics*, v. 570–571, p. 1–41, doi:10.1016/j.tecto.2012.04.021.

Hall, R., 1996, Reconstructing Cenozoic SE Asia: *Geological Society Special Publication*, v. 106, p. 153–184, doi:10.1144/GSL.SP.1996.106.01.11.

Hamilton, W., 1979, Tectonics of the Indonesian Region: *Bulletin of the Geological Society of Malaysia*, v. 6, p. 3–10, doi:10.7186/bgsm06197301.

He, H.Z., Zhang, L., Wen, Y.L., Wang, Y.Y., Zhang, J.Y., Yao, F.H., Yu, J.Y., Wu, J.X., Peng, Q.L., dan Jiang, N., 2025, Integrating surface-enhanced Raman scattering with machine learning: Pioneering a comprehensive diagnostic and therapeutic platform for cancer management: *Interdisciplinary Medicine*, doi:10.1002/INMD.20250037.

Inkson, B.J., 2016, Scanning Electron Microscopy (SEM) and Transmission Electron Microscopy (TEM) for Materials Characterization: Elsevier Ltd, *17– 43 p.*, doi:10.1016/B978-0-08-100040-3.00002-X.

Joseph, A. (2023). Biosignatures—The prime targets in the search for life beyond Earth. *Water Worlds in the Solar System*, 167–200. https://doi.org/10.1016/B978-0-323-95717-5.00008-6

Kelemen, P. B., dan Matter, J. (2008). In situ carbonation of peridotite for CO2 storage. *Proceedings of the National Academy of Sciences of the United States of America*, *105*(45), 17295–17300. https://doi.org/10.1073/pnas.0805794105

Kerr, P.F., dan Rogers, A.F., 1977, *Optical Mineralogy*: New York, McGraw-Hill.

Klein, F., dan Garrido, C. J. (2011). Thermodynamic constraints on mineral carbonation of serpentinized peridotite. *Lithos*, *126*(3–4), 147–160. https://doi.org/10.1016/j.lithos.2011.07.020

Klein, F., Humphris, S.E., and Bach, W., 2020, Brucite formation and dissolution in oceanic serpentinite: *Geochemical Perspectives Letters*, v. 16, p. 1–5, doi:10.7185/geochemlet.2035.

Kurniawan, T., dan Rasmid, 2016, Seismic Gap di Sesar Geser Sumatera: *Megasains*, v. 7, p. 19–24, https://megasains.gawbkt.id/index.php/megasains/article/view/206/90.

UNIVERSITAS GADJAH MADA
Komposisi dan Karakteristik Mineral pada Serpentinit di Zona Sesar Aceh, Kecamatan Tangse, Kabupaten Pidie, Provinsi Aceh
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Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Lancer, A.M., dan Nolan, R.P., 1994, Chrysotile: Its occurrence and properties as variables controlling biological effects: *Annals of Occupational Hygiene*, v. 38, p. 427–451, doi:10.1093/annhyg/38.4.427.

van Leeuwen, T.M., Taylor, R.P., dan Hutagalung, J., 1987, The geology of the Tangse prophyry copper- molybdenum prospect, Aceh, Indonesia.: *Economic Geology*, v. 83, p. 27–42, doi:10.2113/gsecongeo.82.1.27.

Malod, J.A., dan Kemal, B.M., 1996, The Sumatra margin: Oblique subduction and lateral displacement of the accretionary prism: *Geological Society Special Publication*, v. 106, p. 19–28, doi:10.1144/GSL.SP.1996.106.01.03.

Manning, C. E., & Frezzotti, M. L. (2020). Subduction-Zone Fluids. *Elements*, *16*, 395–400. https://doi.org/10.2138/gselements.16.6.395.

Marliyani, G.I. dkk., 2026, Active fault map and paleoseismology results from the Aceh Fault in North Sumatra, Indonesia: Unravelling faulting dynamics along the Great Sumatran Fault system: *Tectonophysics*, v. 918, p. 230990, doi:10.1016/j.tecto.2025.230990.

Mellini, M., Trommsdorff, V., dan Compagnoni, R., 1987, Antigorite polysomatism: behaviour during progressive metamorphism: *Contributions to Mineralogy and Petrology*, v. 97, p. 147–155, doi:10.1007/BF00371235.

Mellini, M., dan Viti, C., 1994, Crystal structure of lizardite-1T from Elba , Italy: *American Mineralogist*, v. 78, p. 1194–1198.

Metcalfe, I., 2017, Tectonic evolution of Sundaland: *Bulletin of the Geological Society of Malaysia*, v. 63, p. 27–60, doi:10.7186/bgsm63201702.

Morgan, J.P., dan Ranero, C.R., 2023, Roles of Serpentinization in Plate Tectonics and the Evolution of Earth's Mantle: *Dynamics of Plate Tectonics and Mantle Convection*, p. 511–537, doi:10.1016/B978-0-323-85733-8.00011-1.

Muksin, U., Bauer, K., Muzli, M., Ryberg, T., Nurdin, I., Masturiyono, M., dan Weber, M., 2019, AcehSeis project provides insights into the detailed seismicity distribution and relation to fault structures in Central Aceh, Northern Sumatra: *Journal of Asian Earth Sciences*, v. 171, p. 20–27, doi:10.1016/j.jseaes.2018.11.002.

Muzli, M., Muksin, U., Nugraha, A.D., Bradley, K.E., Widiyantoro, S., Erbas, K., Jousset, P., Rohadi, S., Nurdin, I., dan Wei, S., 2018, The 2016 Mw 6.5 Pidie Jaya, Aceh, North Sumatra, earthquake: Reactivation of an unidentified sinistral fault in a region of distributed deformation: *Seismological Research Letters*, v. 89, p. 1761–1772, doi:10.1785/0220180068.

Nasdala, L., dan Smith, D., 2004, Raman spectroscopy: analytical perspectives in mineralogical research: *Spectroscopic methods in mineralogy*, v. 6, p. 281–343, doi:10.1180/EMU-notes.6.7.

Natawidjaja, D.H., dan Triyoso, W., 2007, The Sumatran Fault Zone: *Journal of Earthquake and Tsunami*, v. 01, p. 21–47.

Nesse, W.D., 2017, Introduction to Mineralogy: New York, Oxford University Press, doi:10.1029/00eo00292.

Nomuulin, A., Tsuchiya, N., Otgonbayar, D., Okamoto, A., Uno, M., Undarmaa, B., dan Wang, J., 2021, Multi-stage serpentinization of ultramafic rocks in the Manlay Ophiolite, southern Mongolia: *Mongolian Geoscientist*, v. 26, p. 1– 17, doi:10.5564/mgs.v26i53.1787.

O'Hanley, D. S., dan Dyar, M. D. (1993). The composition of lizardite 1T and the formation of magnetite in serpentinites. *American Mineralogist*, *78*(3–4), 391–

UNIVERSITAS GADJAH MADA
Komposisi dan Karakteristik Mineral pada Serpentinit di Zona Sesar Aceh, Kecamatan Tangse, Kabupaten Pidie, Provinsi Aceh
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404.

O'Hanley, D. S. (1996). *Serpentinites : records of tectonic and petrological history*. https://api.semanticscholar.org/CorpusID:127562140

Pens, M., Andreani, M., Daniel, I., Perrillat, J. P., dan Cardon, H. (2016). Contrasted effect of aluminum on the serpentinization rate of olivine and orthopyroxene under hydrothermal conditions. *Chemical Geology*, *441*, 256–264. https://doi.org/10.1016/j.chemgeo.2016.08.007

Permana, H., dan Handayani, L., 2010, STUDI AWAL POLA STRUKTUR BUSUR MUKA ACEH, SUMATRA BAGIAN UTARA (INDONESIA): Penafsiran dan Analisis Peta Batimetri: *Jurnal Geologi Kelautan*, v. 8, p. 105, doi:10.32693/jgk.8.3.2010.191.

Pilson, M. E. Q., & Island, R. (2013). *An Introduction to the Chemistry of the Sea* (2nd ed.). Cambridge University Press.

Reed, S., 2005, *Electron Microprobe Analysis and Scanning Electron Microscopy in Geology*: New York, Cambridge Universitty Press, doi:10.1017/CBO9780511610561.

Reynard, B. (2012). Serpentine in active subduction zones. *Lithos*, *178*, 171–185. https://doi.org/https://doi.org/10.1016/j.lithos.2012.10.012.

Ralph, J., Von Bargen, D., Martynov, P., Zhang, J., Que, X., Prabhu, A., Morrison, S. M., Li, W., Chen, W., & Ma, X. (2025). Mindat.org: The open access mineralogy database to accelerate data-intensive geoscience research. *American Mineralogist*, 110(6), 833–844. doi:10.2138/am-2024-9486.

Rielli, A., Boschi, C., dan Dini, A. (2022). Tectonically driven carbonation of serpentinite by mantle CO 2 : Genesis of the Castiglioncello magnesite deposit in the Ligurian ophiolite of central Tuscany (Italy). *Ore Geology Reviews*, *149*(May), 105022. https://doi.org/10.1016/j.oregeorev.2022.105022.

Rinaudo, C., Gastaldi, D., dan Belluso, E., 2003, Characterization of chrysotile, antigorite and lizardite by FT-Raman spectroscopy: *Canadian Mineralogist*, v. 41, p. 883–890, doi:10.2113/gscanmin.41.4.883.

Roodhiyah, L.Y., Nurhasan, Tiffany, Pratomo, P.M., Susilawati, A., Supriyadi, Ogawa, Y., Sugiyanto, D., Sutarno, D., dan Srigutomo, W., 2024, Interpretation of a 3D Magnetotellurics Model of the Aceh and Seulimeum Segments of the Sumatran Fault Zone: *Applied Sciences (Switzerland)*, v. 14, doi:10.3390/app142311335.

Ruggieri, R. dkk., 2024, Heterogeneous mineralogical composition and fault behaviour: A systematic study in ternary fault rock compositions: *Tectonophysics*, v. 891, doi:10.1016/j.tecto.2024.230528.

Schwartz, S., Guillot, S., Reynard, B., Lafay, R., Debret, B., Nicollet, C., Lanari, P., dan Auzende, A.L., 2013, Pressure-temperature estimates of the lizardite/antigorite transition in high pressure serpentinites: *Lithos*, v. 178, p. 197–210, doi:10.1016/j.lithos.2012.11.023.

Sieh, K., dan Natawidjaja, D., 2000, Neotectonics of the Sumatran fault, Indonesia: Journal of Geophysical Research: *Solid Earth*, v. 105, p. 28295–28326, doi:10.1029/2000jb900120.

Smith, E., dan Dent, G., 2005, *Resonance Raman Scattering A pratical Approach*: Chichester, John Wiley dan Sons Ltd.

Song, I., dan Suh, M., 2014, Effects of foliation and microcracks on ultrasonic anisotropy in retrograde ultramafic and metamorphic rocks at shallow depths: *Journal of*

UNIVERSITAS GADJAH MADA
Komposisi dan Karakteristik Mineral pada Serpentinit di Zona Sesar Aceh, Kecamatan Tangse, Kabupaten Pidie, Provinsi Aceh
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Applied Geophysics, v. 109, p. 27–35, doi:10.1016/j.jappgeo.2014.07.011.

Supendi, P. dkk., 2023, A previously unidentified fault revealed by the February 25, 2022 (Mw 6.1) Pasaman Earthquake, West Sumatra, Indonesia: *Physics of the Earth and Planetary Interiors*, v. 334, p. 106973, doi:10.1016/j.pepi.2022.106973.

Syracuse, E. M., Keken, P. E. Van, & Abers, G. A. (2010). The global range of subduction zone thermal models. *Physics of the Earth and Planetary Interiors*, *183*, 73–90. https://doi.org/10.1016/j.pepi.2010.02.004

Syukri, M., Saad, R., Nordiana, M.M., dan Azwin, I.N., 2014, Preliminary study of sumatera fault using 2-D resistivity imaging method: *Electronic Journal of Geotechnical Engineering*, v. 19 D, p. 971–979.

Tarling, M.S., Demurtas, M., Smith, S.A.F., Rooney, J.S., Negrini, M., Viti, C., Petriglieri, J.R., dan Gordon, K.C., 2022, Crystallographic orientation mapping of lizardite serpentinite by Raman spectroscopy: *European Journal of Mineralogy*, v. 34, p. 285–300, doi:10.5194/ejm-34-285-2022.

Tesei, T., Harbord, C.W.A., De Paola, N., Collettini, C., dan Viti, C., 2018, Friction of Mineralogically Controlled Serpentinites and Implications for Fault Weakness: *Journal of Geophysical Research: Solid Earth*, v. 123, p. 6976– 6991, doi:10.1029/2018JB016058.

Torres-Sánchez, S.A., Augustsson, C., Jenchen, U., Rafael Barboza-Gudiño, J., Alemán Gallardo, E., Ramírez Fernández, J.A., Torres-Sánchez, D., dan Abratis, M., 2017, Petrology and geochemistry of meta-ultramafic rocks in the Paleozoic Granjeno Schist, northeastern Mexico: *Remnants of Pangaea ocean floor: Open Geosciences*, v. 9, p. 361–384, doi:10.1515/geo-2017-0029.

Twiss, R.J., dan Moores, E.M., 2007, *Structural Geology*: , p. 1–539.

Viti, C., Collettini, C., Tesei, T., Tarling, M.S., dan Smith, S.A.F., 2018, Deformation processes, textural evolution and weakening in retrograde serpentinites: *Minerals*, v. 8, p. 1–20, doi:10.3390/min8060241.

Viti, C., dan Mellini, M., 1998, Mesh textures and *bastite*s in the Elba retrograde serpentinites: *European Journal of Mineralogy*, v. 10, p. 1341–1360, doi:10.1127/ejm/10/6/1341.

Viti, C., dan Mellini, M., 1996, Vein antigorites from Elba Island, Italy: *European Journal of Mineralogy*, v. 8, p. 423–434, doi:10.1127/ejm/8/2/0423.

Whittaker, E.J.W., dan Zussman, J., 1956, The characterization of serpentine minerals by X-ray diffraction: *Mineralogical Magazine and Journal of the Mineralogical Society*, v. 31, p. 107–126, doi:10.1180/minmag.1956.031.233.01.

Wicaksono, D.D., Setiawan, N.I., Wilopo, W., dan Harijoko, A., 2017, Teknik Preparasi Sampel Dalam Analisis Mineralogi Dengan XRD Di Departemen Teknik Geologi, Fakultas Teknik, Universitas Gadjah Mada: *Proceeding Seminar Nasional Kebumian ke-10*, p. 1864–1880, http://journal.unnes.ac.id/sju/index.php/ijcs%0AOptimalisasi.

Wicks, F.J., dan O'Hanley, D.S., 1988, Serpentine minerals: structures and petrology: *Reviews in Mineralogy and Geochemistry*, v. 19, p. 91–167.

Wicks, F.J., dan Whittaker, E.J.W., 1975, A reappraisal of the structures of the serpentine minerals: *Canadian Mineralogist*, v. 13, p. 227–243.

Wicks, F.J., dan Whittaker, E.J.W., 1977, Serpentine textures and serpentinization: The *Canadian Mineralogist*, v. 15, p. 459–488.

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**Komposisi dan Karakteristik Mineral pada Serpentinit di Zona Sesar Aceh, Kecamatan Tangse, Kabupaten
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Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Yada, K., 1979, Microstructure of chrysotile and antigorite by high-resolution electron microscopy: *Canadian mineralogist*, v. 17, p. 679–691.

Zamiel, F., Irfani, M., dan Syafrin, K.N., 1991, Perkembangan "Barrier Bar" Pada Batupasir Formasi Keutapang Bawah Daerah Pulau Sembilan, Aru, Sumatra Utara: *Makalah Ikatan Ahli Geologi Indonesia (IAGI)*, p. 206–230.