

DAFTAR PUSTAKA

- Amijaya, H., Wiranata, B., dan Anggara, F., 2020, Occurrence of rare earth element and yttrium (REY) in Tanjung formation coking coal from Sekako area, Central Kalimantan: E3S Web of Conferences, v. 200, p. 4–7, doi:10.1051/e3sconf/202020006008.
- Anggara, F., dan Petrus, H.T.B.M., 2015, Potential Source of Rare Earth Elements (Ree) From Sangatta Coal, Kutai Basin, Indonesia, *in* Abstracts of 32nd Annual Meeting of The Society for Organic Petrology, v. 32, p. 17, doi:10.1016/0166.
- Anggara, F., Petrus, H.T.B.M., Patria, A.A., dan Bangun, A.S. V., 2020, Preliminary Study of Rare Earth Element and Yttrium (REY) Content of Coal In Sangatta Coalfield, East Kalimantan, Indonesia: Indonesian Journal on Geoscience, v. 7, p. 305–314, doi:10.17014/ijog.7.3.305-314.
- Arbuzov, S.I., Mezhibor, A.M., Spears, D.A., Ilenok, S.S., Shaldybin, M. V., dan Belaya, E. V., 2016, Nature of tonsteins in the Azeisk deposit of the Irkutsk Coal Basin (Siberia, Russia): International Journal of Coal Geology, v. 153, p. 99–111, doi:10.1016/j.coal.2015.12.001.
- ASTM D2013, 2021, Standard Practice for Preparing Coal Samples for Analysis: ASTM International.
- ASTM D2797-04, 2004, Standard Practice for Preparing Coal Samples for Microscopical Analysis by Reflected Light: ASTM International.
- ASTM D2797-72, 2011, Standard method of preparing coal samples for microscopical analysis by reflected light: ASTM International.
- ASTM D2799-05a, 2005, Test Method for Microscopical Determination of the Maceral Composition of Coal: ASTM International.
- ASTM D7582-15, 2016, T Standard Test Methods for Proximate Analysis of Coal and Coke by Macro Thermogravimetric Analysis: ASTM International
- Badan Informasi Geospasial, 2020, Peta Wilayah: Pusat Pengelolaan dan Penyebarluasan Informasi Geospasial Badan Informasi Geospasial (BIG), <https://tanahair.indonesia.go.id/portal-web/> (accessed Maret 2023).
- Bao, Z., dan Zhao, Z., 2008, Geochemistry of mineralization with exchangeable REY in the weathering crusts of granitic rocks in South China: Ore Geology Reviews, v. 33, p. 519–535, doi:10.1016/j.oregeorev.2007.03.005.
- Dai, S. et al., 2013, Mineralogical and geochemical anomalies of late Permian coals from the Fusui Coalfield, Guangxi Province, southern China: Influences of terrigenous materials and hydrothermal fluids: International Journal of Coal Geology, v. 105, p. 60–84, doi:10.1016/j.coal.2012.12.003.
- Dai, S. et al., 2012a, Mineralogical and geochemical compositions of the coal in the Guanbanwusu Mine, Inner Mongolia, China: Further evidence for the existence of an Al (Ga and REE) ore deposit in the Jungar Coalfield: International Journal of Coal Geology, v. 98, p. 10–40, doi:10.1016/j.coal.2012.03.003.
- Dai, S. et al., 2012b, Petrology, mineralogy, and geochemistry of the Ge-rich coal from the Wulantuga Ge ore deposit, Inner Mongolia, China: New data and genetic implications: International Journal of Coal Geology, v. 90–91, p. 72–99, doi:10.1016/j.coal.2011.10.012.
- Dai, S., dan Finkelman, R.B., 2018, Coal as a promising source of critical elements: Progress and future prospects: International Journal of Coal Geology, v. 186, p. 155–164,

doi:10.1016/j.coal.2017.06.005.

- Dai, S., Finkelman, R.B., French, D., Hower, J.C., Graham, I.T., dan Zhao, F., 2021, Modes of occurrence of elements in coal: A critical evaluation: *Earth-Science Reviews*, v. 222, p. 103815, doi:10.1016/j.earscirev.2021.103815.
- Dai, S., Graham, I.T., dan Ward, C.R., 2016a, A review of anomalous rare earth elements and yttrium in coal: *International Journal of Coal Geology*, v. 159, p. 82–95, doi:10.1016/j.coal.2016.04.005.
- Dai, S., Hower, J.C., Finkelman, R.B., Graham, I.T., French, D., Ward, C.R., Eskenazy, G., Wei, Q., dan Zhao, L., 2020, Organic associations of non-mineral elements in coal: A review: *International Journal of Coal Geology*, v. 218, p. 103347, doi:10.1016/j.coal.2019.103347.
- Dai, S., Ji, D., Ward, C.R., French, D., Hower, J.C., Yan, X., dan Wei, Q., 2018, Mississippian anthracites in Guangxi Province, southern China: Petrological, mineralogical, and rare earth element evidence for high-temperature solutions: *International Journal of Coal Geology*, v. 197, p. 84–114, doi:10.1016/j.coal.2018.08.006.
- Dai, S., Li, T., Seredin, V. V., Ward, C.R., Hower, J.C., Zhou, Y., Zhang, M., Song, X., Song, W., dan Zhao, C., 2014, Origin of minerals and elements in the Late Permian coals, tonsteins, and host rocks of the Xinde Mine, Xuanwei, eastern Yunnan, China: *International Journal of Coal Geology*, v. 121, p. 53–78, doi:10.1016/j.coal.2013.11.001.
- Dai, S., Liu, J., Ward, C.R., Hower, J.C., French, D., Jia, S., Hood, M.M., dan Garrison, T.M., 2016b, Mineralogical and geochemical compositions of Late Permian coals and host rocks from the Guxu Coalfield, Sichuan Province, China, with emphasis on enrichment of rare metals: *International Journal of Coal Geology*, v. 166, p. 71–95, doi:10.1016/j.coal.2015.12.004.
- Dai, S., Liu, J., Ward, C.R., Hower, J.C., Xie, P., Jiang, Y., Hood, M.M., O’Keefe, J.M.K., dan Song, H., 2015, Petrological, geochemical, and mineralogical compositions of the low-Ge coals from the Shengli Coalfield, China: A comparative study with Ge-rich coals and a formation model for coal-hosted Ge ore deposit: *Ore Geology Reviews*, v. 71, p. 318–349, doi:10.1016/j.oregeorev.2015.06.013.
- Dai, S., Xie, P., Jia, S., Ward, C.R., Hower, J.C., Yan, X., dan French, D., 2017a, Enrichment of U-Re-V-Cr-Se and rare earth elements in the Late Permian coals of the Moxinpo Coalfield, Chongqing, China: Genetic implications from geochemical and mineralogical data: *Ore Geology Reviews*, v. 80, p. 1–17, doi:10.1016/j.oregeorev.2016.06.015.
- Dai, S., Xie, P., Ward, C.R., Yan, X., Guo, W., French, D., dan Graham, I.T., 2017b, Anomalies of rare metals in Lopingian super-high-organic-sulfur coals from the Yishan Coalfield, Guangxi, China: *Ore Geology Reviews*, v. 88, p. 235–250, doi:10.1016/j.oregeorev.2017.05.007.
- Davis, B.A., Rodrigues, S., Esterle, J.S., Nguyen, A.D., Duxbury, A.J., dan Golding, S.D., 2021, Geochemistry of apatite in Late Permian coals, Bowen Basin, Australia: *International Journal of Coal Geology*, v. 237, p. 103708, doi:10.1016/j.coal.2021.103708.
- Diessel, C.F.K., 1992, Coal-Bearing Depositional Systems: *Coal-Bearing Depositional Systems*, doi:10.1007/978-3-642-75668-9.
- Eskenazy, G.M., 1999, Aspects of the geochemistry of rare earth elements in coal: An experimental approach: *International Journal of Coal Geology*, v. 38, p. 285–295, doi:10.1016/S0166-5162(98)00027-5.
- Eskenazy, G.M., 1987a, Rare earth elements and yttrium in lithotypes of Bulgarian coals: *Organic Geochemistry*, v. 11, p. 83–89, doi:10.1016/0146-6380(87)90030-1.
- Eskenazy, G.M., 1987b, Rare earth elements in a sampled coal from the Pirin deposit, Bulgaria: *International Journal of Coal Geology*, v. 7, p. 301–314, doi:10.1016/0166-5162(87)90041-3.

- Fadhillah, A.N., 2019, Pengayaan Rare Earth Elements and Yttrium pada batubara eosen lapangan batubara Senakin, Kalimantan bagian tenggara, Indonesia: Universitas Gadjah Mada: Skripsi, Tidak Dipublikasikan,.
- Fikri, H.N., Sachsenhofer, R.F., Bechtel, A., dan Gross, D., 2022a, Coal deposition in the Barito Basin (Southeast Borneo): The Eocene Tanjung Formation compared to the Miocene Warukin Formation: *International Journal of Coal Geology*, v. 263, p. 104117, doi:10.1016/j.coal.2022.104117.
- Fikri, H.N., Sachsenhofer, R.F., Bechtel, A., dan Gross, D., 2022b, Organic geochemistry and petrography in Miocene coals in the Barito Basin (Tutupan Mine, Indonesia): Evidence for astronomic forcing in kerapah type peats: *International Journal of Coal Geology*, v. 256, p. 103997, doi:10.1016/j.coal.2022.103997.
- Finkelman, R.B., 1995, Modes of Occurrence of Environmentally-Sensitive Trace Elements in Coal: , p. 24–50, doi:10.1007/978-94-015-8496-8_3.
- Flores, R.M., 2014, Coal Composition and Reservoir Characterization: 235–299 p., doi:10.1016/b978-0-12-396972-9.00005-7.
- Goonan, T.G., 2011, Rare Earth Elements—End Use and Recyclability: U.S. Geological Survey Scientific Investigations Report 2011-5094, p. 1–15, <http://pubs.usgs.gov/sir/2011/5094/>.
- Hamilton, W.B., 1979, Tectonics of the Indonesian Region: U.S. Govt. Print. Off., 345 p., doi:10.3133/pp1078.
- Hayashi, K.I., Fujisawa, H., Holland, H.D., dan Ohmoto, H., 1997, Geochemistry of ~1.9 Ga sedimentary rocks from northeastern Labrador, Canada: *Geochimica et Cosmochimica Acta*, v. 61, p. 4115–4137, doi:10.1016/S0016-7037(97)00214-7.
- Heryanto, R. dan Sanyoto, P., 2007, Peta Geologi Lembar Amuntai, Kalimantan: Bandung, Pusat Survei Geologi, skala 1:250.000, 1 Lembar
- Henderson, P., 2013, Rare Earth Element Geochemistry : New York, Elsevier Science Publishing Company Inc., v. 2, p. 33-63
- International Committee for Coal and Organic Petrology (ICCP), 1998, The new vitrinite classification (ICCP System 1994). Great Britain: Elsevier Science Ltd.
- International Committee for Coal and Organic Petrology (ICCP), 2001, The new inertinite classification (ICCP System 1994), *Fuel*, vol. 80, halaman 459-471.
- Humphries, M., 2010, Rare earth elements: The global supply chain: USA, DIANE Publishing Company, 143–158 p.
- IUPAC, 2005, Nomenclature of inorganic chemistry: Cambridge, United Kingdom, RSC Publishing, v. 28, 1–377 p., doi:10.1351/pac197128010001.
- Kasay, G.M., Bolarinwa, A.T., Aromolaran, O.K., Nzolang, C., dan Kivava, A.S., 2022, Rare Earth Element Deposits and Their Prospects in the Democratic Republic of Congo: Mining, Metallurgy and Exploration, v. 39, p. 625–642, doi:10.1007/s42461-022-00551-x.
- Ketris, M.P., dan Yudovich, Y.E., 2009, Estimations of Clarkes for Carbonaceous biolithes: World averages for trace element contents in black shales and coals: *International Journal of Coal Geology*, v. 78, p. 135–148, doi:10.1016/j.coal.2009.01.002.
- Long, K., Van Gosen, B.S., Foley, N.K., dan Cordier, D., 2010, The Principal Rare Earth Elements Deposits of the United States: A Summary of Domestic Deposits and a Global Perspective: Springer Science Business Media B.V, 131–155 p., doi:10.1007/978-90-481-8679-2_7.
- Moore, T.A., Shearer, J.C., and Miller, S.L., 1996, Fungal origin of oxidised plant material in the

- Palangkaraya peat deposit, Kalimantan Tengah, Indonesia: Implications for 'inertinite' formation in coal: *International Journal of Coal Geology*, v. 30, p. 1–23, doi:10.1016/0166-5162(95)00040-2.
- Moore, T.A., Friederich, M.C., Trofimovs, J., Anggara, F., dan Amijaya, D.H., 2020, Syn-sedimentary mafic volcanics in the eocene coal-bearing tanjung formation, Senakin Peninsula, South Kalimantan (Borneo), Indonesia: *Indonesian Journal on Geoscience*, v. 7, p. 65–85, doi:10.17014/IJOG.7.1.65-85.
- Patria, A.A., dan Anggara, F., 2022, Petrological, mineralogical, and geochemical compositions of coal in the Ombilin Basin, West Sumatra, Indonesia: *International Journal of Coal Geology*, v. 262, p. 104099, doi:10.1016/j.coal.2022.104099.
- Pickel, W. et al., 2017, International Journal of Coal Geology Classification of liptinite – ICCP System 1994: *International Journal of Coal Geology*, v. 169, p. 40–61, doi:<http://dx.doi.org/10.1016/j.coal.2016.11.004> 0166-5162.
- Santoso, B., dan Daulay, B., 2006, Geological Influence on Quality of Selected Tertiary Barito Coal: v. 9, p. 14–22.
- Satyana, A.H., M.P., M.E., dan Imron, M., 2001, Eocene Coals of the Barito Basin, Southeast Kalimantan: Sequence Stratigraphic Framework and Potential for Sources of Oil: *Berita Sedimentologi*, p. 1–15.
- Satyana, A.H., Nugroho, D., dan Surantoko, I., 1998, Tectonic controls on the hydrocarbon habitats of the Barito, Kutei, and Tarakan Basins, Eastern Kalimantan, Indonesia: Major dissimilarities in adjoining basins: *Journal of Asian Earth Sciences*, v. 17, p. 99–122, doi:10.1016/S0743-9547(98)00059-2.
- Satyana, A.H., dan Silitonga, P.D., 1994, Tectonic reversal in East Barito basin, South Kalimantan: consideration of the types of inversion structures and petroleum system significance, in *Proceedings Indonesian Petroleum Association*, p. 58–74, doi:10.29118/ipa.623.57.74.
- Seredin, V. V., 1996, Rare earth element-bearing coals from the Russian Far East deposits: *International Journal of Coal Geology*, v. 30, p. 101–129, doi:10.1016/0166-5162(95)00039-9.
- Seredin, V. V., dan Dai, S., 2012, Coal deposits as potential alternative sources for lanthanides and yttrium: *International Journal of Coal Geology*, v. 94, p. 67–93, doi:10.1016/j.coal.2011.11.001.
- Seredin, V. V., dan Finkelman, R.B., 2008, Metalliferous coals: A review of the main genetic and geochemical types: *International Journal of Coal Geology*, v. 76, p. 253–289, doi:10.1016/j.coal.2008.07.016.
- Speight, J.G., 2015, *Handbook of Coal Analysis: Handbook of Coal Analysis*, p. 341, doi:10.1002/9781119037699.
- Stopes, M., 1935, The Classification of Coals: *Nature*, v. 136, p. 33, doi:<https://doi.org/10.1038/136033a0>.
- Taylor, S.R., dan McLennan, S.M., 1985, The continental crust: Its composition and evolution: Blackwell Scientific Pub., Palo Alto, CA, v. 97, 1–312 p., doi:10.1086/629355.
- Thomas, L., 2013, *Coal Geology: Second Edition: Coal Geology: Second Edition*, p. 1–444, doi:10.1002/9781118385685.
- USGS, 2022, Mineral Commodity Summaries 2022: 202 p., doi:<https://doi.org/10.3133/mcs2022>.
- Voncken, J.H., 2016, *The Rare Earth Elements*: Delft, Springer Cham, 137 p.,

doi:10.1021/ja01075a061.

- Wakita, K., Miyazaki, K., Zulkarnain, I., Sopaheluwakan, J., dan Sanyoto, P., 1998, Tectonic implications of new age data for the Meratus Complex of south Kalimantan, Indonesia: *Island Arc*, v. 7, p. 202–222, doi:10.1046/j.1440-1738.1998.00163.x.
- Wang, Y., Qian, X., Cawood, P.A., Ghani, A., Gan, C., Wu, S., Zhang, Y., Wang, Y., dan Zhang, P., 2022, Cretaceous Tethyan subduction in SE Borneo: Geochronological and geochemical constraints from the igneous rocks in the Meratus Complex: *Journal of Asian Earth Sciences*, v. 226, p. 105084, doi:10.1016/j.jseas.2022.105084.
- Ward, C.R., 1984, Coal geology and coal technology:
- Wilkin, R.T., dan Barnes, H.L., 1997, Formation processes of framboidal pyrite: *Geochimica et Cosmochimica Acta*, v. 61, p. 323–339, doi:10.1016/S0016-7037(96)00320-1.
- Wilkin, R.T., Barnes, H.L., dan Brantley, S.L., 1996, The size distribution of framboidal pyrite in modern sediments: An indicator of redox conditions: *Geochimica et Cosmochimica Acta*, v. 60, p. 3897–3912, doi:10.1016/0016-7037(96)00209-8.
- Witts, D., Hall, R., Nichols, G., dan Morley, R., 2012, A new depositional and provenance model for the Tanjung Formation, Barito Basin, SE Kalimantan, Indonesia: *Journal of Asian Earth Sciences*, v. 56, p. 77–104, doi:10.1016/j.jseas.2012.04.022.
- Yuan, Y., Tang, S., Zhang, S., dan Yang, N., 2018, Mineralogical and geochemical characteristics of trace elements in the Yongdingzhuang Mine, Datong Coalfield, Shanxi province, China: *Minerals*, v. 8, doi:10.3390/min8070297.