Combustion Bibliography

Selected References— Revised April 2021

These bibliographic references have been compiled as a TSOP project, and organic petrologists have found the references to be useful in their work. They should be available at university or geological research center libraries. They are not available from TSOP.

Abu Hamad, A.M.B., A. Jasper, and D. Uhl, 2012, The record of Triassic charcoal and other evidence for palaeo-wildfires: Signal for atmospheric oxygen levels, taphonomic biases or lack of fuel?: International Journal of Coal Geology, v. 96-97, p. 60-71.

Adams, D.M.B., and I.M. Smith, 1995, Sulphates, climate, and coal: Perspectives series no. IEAPER/16, 30 p. (SO2 emissions)

Adanez, J., J.C. Abbanades, and L.F. de Diego, 1994, Determination of coal combustion reactivities by burnout-time measurements in a batch fluidized bed: Fuel, v. 73, p. 287.

Akar, G., S. Sen, H. Yilmaz, V. Arslan, and U. Ipekoglu, 2013, Characterization of ash deposits from the boiler of Yenikoy coal-fired power plant, Turkey: International Journal of Coal Geology, v. 105, p. 85-90.

Alpert, S.B., 1991, Clean coal technology and advanced coal-based power plants, in J.M. Hollander, ed., Annual Review of Energy and the Environment: Palo Alto, Annual Reviews Inc., Energy and the Environment, v. 16, p. 1-23.

Anonymous, 1993, Coal assessment for maximum combustion efficiency: Erdol und Kohle-Erdgas-Petrochemie, v. 46, no. 11, p. 404.

Asl, S.M.H., A. Ghandi, M.S. Baei, H. Javadian, M. Maghsudi, and H. Kazemian, 2018, Porous catalysts fabricated from coal fly ash as cost-effective alternatives for industrial applications: A review: Fuel, v. 217, p. 320-342.

Attanasi, E.D., 1998, Coal resources, new air quality standards, and sustainability: Nonrenewable Resources, v. 7, p. 271-279.

Avila, C., T. Wu, and E. Lester, 2014, Petrographic characterization of coals as a tool to detect spontaneous combustion potential: Fuel, v. 125, p. 173-182.

Badin, E.J., 1984, Coal combustion chemistry-correlation aspects: Coal Science and Technology 6, Elsevier, New York, 259 p.

Bailey, J.G., 1989, Sampling and testing of maceral concentrates for p.f. combustion, in C.G. Thomas and M.G. Strachan, eds., Proceedings of the Macerals ’89 symposium: North Ryde, NSW, CSIRO, p. 6-1 to 6-11. (pulverized fuel)

Bailey, J.G., A.G. Tate, C.F.K. Diessel, and T.F. Wall, 1990, A char morphology system with applications to coal combustion: Fuel, v. 69, p. 225-239.

Baker, D.J., 1998, Light years ahead: University of Kentucky, Center for Applied Energy Research, Energeia, v. 9, no. 5, p. 1-3. (types of combustion)

Ban, H., J.L. Schaefer, and J.M. Stencel, 1995, Electrostatic separation of powdered materials: beneficiation of coal and fly ash: Energeia, v. 6, no. 4, p. 1-3.

Ban, H., T.X. Li, J.C. Hower, J.L. Schaefer, and J.M. Stencel, 1997, Dry triboelectrostatic beneficiation of fly ash: Fuel, v. 76, p. 801-805.

Beamish, B.B., M.A. Barakat, and J.D. St. George, 2001, Spontaneous-combustion propensity of New Zealand coals under adiabatic conditions: International Journal of Coal Geology, v. 45, p. 217-224.

Beamish, B.B., and D.G. Blazak, 2005, Relationship between ash content and R70 self-heating rate of Callide coal, in J.C. Hower and S.F. Greb, eds., Geologic hazards in coal mining: International Journal of Coal Geology, v. 64, p. 126-132.

Beamish, B.B., and G.R. Hamilton, 2005, Effect of moisture content on the R70 self-heating rate of Callide coal, in J.C. Hower and S.F. Greb, eds., Geologic hazards in coal mining: International Journal of Coal Geology, v. 64, p. 133-138.

Beamish, B.B., 2005, Comparison of the R70 self-heating rate of New Zealand and Australian coals to Suggate rank parameter, in J.C. Hower and S.F. Greb, eds., Geologic hazards in coal mining: International Journal of Coal Geology, v. 64, p. 139-144.

Beamish, B.B., and A. Arisoy, 2007, Effect of mineral matter on coal self-heating rate: Fuel, v. 87, p. 125-130.

Beamish, B.B., and J. Theiler, 2019, Coal spontaneous combustion: Examples of the self-heating incubation process: International Journal of Coal Geology, v. 215, 103297.

Beeley, T.J., J.C. Crelling, J.R. Gibbons, R. Hurt, C.K. Man, and J. Williamson, 1995, Coal char reactivity characterisation for burn-out prediction in utility boilers, in J.A. Pajares and J.M.D. Tascon, eds., Coal science: New York, Elsevier, Coal Science and Technology 24, v. 1, p. 615-618.

Belkin, H.E., B. Zheng, D. Zhou, and R.B. Finkelman, 2008, Chronic arsenic poisoning from domestic combustion of coal in rural China: A case study of the relationship between Earth materials and human health, in B. De Vivo, H.E. Belkin, and A. Lima, eds., Environmental geochemistry: Elsevier, p. 401-420.

Bend, S.L., I.A.S. Edwards, and H. Marsh, 1991, Effects of oxidation and weathering on char formation and coal combustion, in H.H. Schobert, K.D. Bartle, and L.J. Lynch, eds., Coal Science II: American Chemical Society, Symposium Series 461, p. 284-298.

Bend, S.L., I.A.S. Edwards, and H. Marsh, 1991, Coal provincialism, coal characterization and char formation: Fuel, v. 70, p. 1147-1150.

Bend, S.L., I.A.S. Edwards, and H. Marsh, 1992, The influence of rank upon char morphology and combustion: Fuel, v. 71, p. 493-501.

Bengtsson, M., 1987, Combustion behavior for a coal containing a high proportion of pseudovitrinite: Fuel Processing Technology, v. 15, p. 201-212.

Bengtsson, M., 1987, Combustion behavior for a range of coals of various origins and petrographic compositions: 1987 International Conference on Coal Science, Elsevier, p. 893-896.

Bencko, V., and K. Symon, 1977, Health aspects of burning coal with a high arsenic content: Environmental Research, v. 13, p. 386-395.

Berkowitz, N., 1994, An introduction to coal technology: Academic Press, 398 p.

Bhangare, R.C., P.Y. Ajmal, S.K. Sahu, G.G. Pandit, and V.D. Puranik, 2011, Distribution of trace elements in coal and combustion residues from five thermal power plants in India: International Journal of Coal Geology, v. 86, p. 349-356.

Białecka, B., 2008, Estimation of coal reserves for UCG in the Upper Silesian coal basin, Poland: Natural Resources Research, v. 17, no. 1, p. 21-28.

Blissett, R.S., and N.A. Rowson, 2012, A review of the multi-component utilisation of coal fly ash: Fuel, v. 97, p. 1-23.

Blissett, R.S., N. Smalley, and N.A. Rowson, 2014, An investigation into six coal fly ashes from the United Kingdom and Poland to evaluate rare earth element content: Fuel, v. 119, p. 236-239.

Borrego, A.G., D. Alvarez, and R. Menendez, 1997, Effects of inertinite content in coal on char structure and combustion: Energy Fuels, v. 11, p. 702-708.

Borrego, A.G., and A.J. Martin, 2010, Variation in the structure of anthracite at a fast heating rate as determined by its optical properties: an example of oxy-combustion conditions in a drop tube reactor: International Journal of Coal Geology, v. 81, p. 301-308.

Breit, G.N., and R.B. Finkelman, eds., 1998, Characterization of coal and coal combustion products from a coal-burning power plant; preliminary report and results of analyses: U.S. Geological Survey Open-File Report 98-0342, 101 p.

Brooks, K., N. Svanas, and D. Glasser, 1988, Evaluating the risk of spontaneous combustion in coal stockpiles: Fuel, v. 67, p. 651-656.

Brownfield, M.E., 2002, Characterization and modes of occurrence of elements in feed coal and fly ash—an integrated approach: U.S. Geological Survey, Fact Sheet 038-02, 4 p. (<http://greenwood.cr.usgs.gov/pub/fact-sheets/fs-0038-02/>)

Bullock, J.H., Jr., J.D. Cathcart, and W.J. Betterton, 2002, Analytical methods utilized by the United States Geological Survey for the analysis of coal and coal combustion by-products: U.S. Geological Survey Open-File Report 02-389, 14 p.

Cao, D., X. Fan, H. Guan, C. Wu, X. Shi, and Y. Jia, 2007, Geological models of spontaneous combustion in the Wuda coalfield, Inner Mongolia, China, in G.B. Stracher, ed., Geology of coal fires: case studies from around the world: GSA Reviews in Engineering Geology 18, p. 23-30.

Cao, Y., Y. Duan, S. Kellie, L. Li, W. Xu, J.T. Riley, W.-P. Pan, P. Chu, A.K. Mehta, and R. Carty, 2005, Impact of coal chlorine on mercury speciation and emission from a 100-MW utility boiler with cold-side electrostatic precipitators and low-NOx burners: Energy Fuels, v. 19, p. 842-854.

Carpenter, A.M., 1988, Coal classification: IEA Coal Research, IEACR/12, 104 p. (chapter 7 is on combustion)

Carpenter, A. and N. Skorupska, 1993, Coal combustion — analysis and testing: IEA Coal Research, IEACR/64, 97 p.

Carpenter, A.M., 1995, Coal blending for power stations: IEA Coal Research, IEACR/81, 83 p.

Carras, J.N., S.J. Day, A. Saghafi, and D.J. Williams, 2009, Greenhouse gas emissions from low-temperature oxidation and spontaneous combustion at open-cut coal mines in Australia: International Journal of Coal Geology, v. 78, p. 161-168.

Chakravarty, S., A. Mohanty, A. Banerjee, R. Tripathy, G.K. Mandal, M.R. Basariya, and M. Sharma, 2015, Composition, mineral matter characteristics and ash fusion behavior of some Indian coals: Fuel, v. 150, p. 96-101.

Chandra, D., and Y.V.S. Prasad, 1990, Effect of coalification on spontaneous combustion of coals: International Journal of Coal Geology, v. 16, p. 225-229.

Chen, G., Y. Sun, Q. Wang, B. Yan, Z. Cheng, and W. Ma, 2019, Partitioning of trace elements in coal combustion products: A comparative study of different applications in China: Fuel, v. 240, p. 31-39.

Chen, Y., S. Mori, and W.-P. Pan, 1995, Ignition mechanisms of different ranks of coal, in J.A. Pajares and J.M.D. Tascon, eds., Coal science: New York, Elsevier, Coal Science and Technology 24, v. 1, p. 603-606.

Chiu, C.-H., T.-H. Kuo, T.-C. Chang, S.-F. Lin, H.-P. Lin, and H.-C. His, 2017, Multipollutant removal of HG0/SO2/NO from simulated coal-combustion flue gases using metal oxide/mesoporous SiO2 composites: International Journal of Coal Geology, v. 170, p. 60-68.

Choudhury, N., P. Boral, T. Mitra, A.K. Adak, A. Choudhury, and P. Sarkar, 2007, Assessment of nature and distribution of inertinite in Indian coals for burning characteristics: International Journal of Coal Geology, v. 72, p. 141-152.

Choudhury, N., S. Biswas, P. Sarkar, M. Kumar, S. Ghosal, T. Mitra, A. Mukherjee, and A. Choudhury, 2008, Influence of rank and macerals on the burnout behaviour of pulverized Indian coal: International Journal of Coal Geology, v. 74, p. 145-153.

Chugh, Y.P., B.M. Sangunett, and K.C. Vories, eds., 1996, Proceedings of coal combustion by-products associated with coal mining: interactive forum: Southern Illinois University at Carbondale, October 29-31, 1996, 303 p.

Clarke, L., 1992, Applications for coal-use residues: IEA Coal Research, IEACR/50, 406 p.

Clemens, A.H., and T.W. Matheson, 1995, Spontaneous heating in New Zealand coals, in J.A. Pajares and J.M.D. Tascon, eds., Coal science: New York, Elsevier, Coal Science and Technology 24, v. 1, p. 481-484.

Cloke, M., and E. Lester, 1994, Characterization of coals for combustion using petrographic analysis: a review: Fuel, v. 73, p. 315-320.

Cooper, B.R., and W.A. Ellingson, 1984, The science and technology of coal and coal utilization: New York, Plenum Press, 666 p.

Couch, G.R., 2002, Coal upgrading to reduce CO2 emissions: International Energy Agency, CCC/67, 72 p.

Crelling, J.C., N.M. Skorupska, and H. Marsh, 1988, Reactivity of coal macerals and lithotypes: Fuel, v. 67, p. 781-785.

Crelling, J.C., E.J. Hippo, B.A. Woerner, and D.P. West, Jr., 1992, Combustion characteristics of selected whole coals and macerals: Fuel, v. 71, p. 151-158.

Crelling, J.C., 1994, Coal combustion under conditions of blast furnace injection (abstract): TSOP Abstracts and Program, v. 11, p. 14.

Crelling, J.C., and K.M. Thomas, 1994, Review of some recent research on the combustion properties of coal macerals: Preprints, American Chemical Society, Division of Fuel Chemistry, v. 39, no. 1, p. 13-17.

Crowley, S.S., R.W. Stanton, and L.F. Ruppert, 1993, Air toxics in coal: the distribution of twelve trace elements in a thick, subbituminous coal bed and impact on mining applications: Journal of Coal Quality, v. 12, p. 141-146.

Crowley, S., R. Reynolds, R. Finkelman, M. Brownfield, C. Palmer, C. Eble, and H. Belkin, 1996, Characterization of Cr, Ni, and Co in fly ash from a coal-burning power plant in Kentucky (abstract): TSOP Abstracts and Program, v. 13, p. 29-31.

Dai, S., W. Li, Y. Tang, Y. Zhang, and P. Feng, 2007, The sources, pathway, and preventive measures for fluorosis in Zhijin County, Guizhou, China: Applied Geochemistry, v. 22, p. 1017-1024.

Dai, S., L. Zhao, S. Peng, C.-L. Chou, X. Wang, Y. Zhang, D. Li, and Y. Sun, 2010, Abundances and distribution of minerals and elements in high-alumina coal fly ash from the Jungar power plant, Inner Mongolia, China: International Journal of Coal Geology, v. 81, p. 320-332.

Dai, S., V.V. Seredin, C.R. Ward, J. Jiang, J.C. Hower, X. Song, Y. Jiang, X. Wang, T. Gornostaeva, X. Li, H. Liu, L. Zhao, and C. Zhao, 2014, Composition and modes of occurrence of minerals and elements in coal combustion products derived from high-Ge coals: International Journal of Coal Geology, v. 121, p. 79-97.

Davidson, R.M., 2000, How coal properties influence emissions: International Energy Agency, CCC/28, 56 p.

Davis, B.H., and J.C. Hower, 2017, Coal technology for power, liquid fuels, and chemicals, in J.A. Kent and others, eds., Handbook of industrial chemistry and biotechnology: Springer International Publishing, p. 107-183.

Day, J.C., R.H. Jones, and C.B. Belcher, 1979, Evaluation of coals for the metallurgical and power industries: BHP Technical Bulletin, v. 23, no. 2, p. 11-18.

Deonarine, A., A. Kolker, and M. Doughten, 2015, Trace elements in coal ash: U.S. Geological Survey Fact Sheet 2015-3037, 6 p. <http://pubs.usgs.gov/fs/2015/3037/>

Depoi, F.S., D. Pozebon, and W.D. Kalkreuth, 2008, Chemical characterization of feed coals and combustion-by-products from Brazilian power plants: International Journal of Coal Geology, v. 76, p. 227-236.

Diao, X., C.-G. Yuan, J. Wu, K. Zhang, C. Zhang, and B. Gui, 2018, Mercury fractions in gypsum and estimation of mercury emission from coal-fired power plants: Fuel, v. 226, p. 298-306.

Dias, C.L., M.L.S. Oliveira, J.C. Hower, S.R. Taffarel, R.M. Kautzmann, and L.F.O. Silva, 2014, Nanominerals and ultrafine particles from coal fires from Santa Catarina, south Brazil: International Journal of Coal Geology, v. 122, p.50-60.

Dienhart, G.J., B.R. Stewart, and S.S. Tyson, eds., 1998, Coal ash—Innovative applications of coal combustion products (CCP’s): Alexandria, VA, American Coal Ash Association, 99 p.

Diessel, C.F.K., 1992, The nature of inertinite and its effect on hydrogenation, carbonization and combustion (abstract): TSOP Abstracts and Program, v. 9, p. 3-6.

Dindarloo, S.R., M.M. Hood, A. Bagherieh, and J.C. Hower, 2015, A statistical assessment of carbon monoxide emissions from the Truman Shepherd coal fire, Floyd County, Kentucky: International Journal of Coal Geology, v. 144-145, p. 88-97.

Dong, X., and D. Drysdale, 1995, Retardation of the spontaneous ignition of bituminous coal, in J.A. Pajares and J.M.D. Tascon, eds., Coal science: New York, Elsevier, Coal Science and Technology 24, v. 1, p. 501-504.

Dunham, G.E., R.A. DeWall, and C.L. Senior, 2003, Fixed-bed studies of the interactions between mercury and coal combustion fly ash: Fuel Processing Technology, v. 82, p. 197-213.

Eggleston, J.R., and R.B. Finkelman, 1995, Environmental aspects of carbonate use in energy generation, in L.M.H. Carter, ed., Energy and the environment — application of geosciences to decision-making: U.S. Geological Survey Circular 1108, p. 102-103. (fluidized bed combustion)

Ekmann, J.M., S.M. Smouse, J.C. Winslow, M. Ramezan, and N.S. Harding, 1996, Cofiring of coal and waste: London, IEA Coal Research, IEACR/90, 68 p.

Ekneligoda, T.C., and A.M. Marshall, 2018, A coupled thermal-mechanical numerical model of underground coal gasification (UCG) including spontaneous coal combustion and its effect: International Journal of Coal Geology, v. 199, p. 31-38.

Elick, J.M., 2011, Mapping the coal fire at Centralia, PA using thermal infrared imagery: International Journal of Coal Geology, v. 87, p. 197-203.

Elick, J.M., 2013, The effect of abundant precipitation on coal fire subsidence and its implications in Centralia, PA: International Journal of Coal Geology, v. 105, p. 110-119.

Elswick, E.R., J.C. Hower, A.M. Carmo, T. Sun, and S.M. Mardon, 2007, Sulfur and carbon isotope geochemistry of coal and derived coal-combustion by-products: An example from an eastern Kentucky mine and power plant: Applied Geochemistry, v. 22, p. 2065-2077.

Engle, M.A., L.F. Radke, E.L. Heffern, J.M.K. O’Keefe, C.D. Smeltzer, J.C. Hower, J.M. Hower, A. Prakash, A. Kolker, R.J. Eatwell, A. ter Schure, G. Queen, K.L. Aggen, G.B. Stracher, K.R. Henke, R.A. Olea, and Y. Román-Colón, 2011, Quantifying greenhouse gas emissions from coal fires using airborne and ground-based methods: International Journal of Coal Geology, v. 88, p. 147-151.

Engle, M.A., R.A. Olea, J.M.K. O-Keefe, J.C. Hower, and M.J. Geboy, 2013, Direct estimation of diffuse gaseous emissions from coal fires: Current methods and future directions: International Journal of Coal Geology, v. 112, p. 164-172.

Essenhigh, R.H., 1981, Fundamentals of coal combustion, in M.A. Elliot, ed., Chemistry of coal utilization, 2nd Supplementary Volume: New York, John Wiley and Sons, p. 1153-1312.

Everson, R.C., H.W.J.P. Neomagus, R. Kaitano, R. Falcon, C. van Alphen, and V.M. du Cann, 2008, Properties of high ash char particles derived from inertinite-rich coal: 1. Chemical, structural and petrographic characteristics: Fuel, v. 87, p. 3082-3090.

Fabiańska, M.J., J. Ciesielczuk, Ł. Kruszewski, M. Misz-Kennan, D.R. Blake, G. Stracher, and I. Moszumańska, 2013, Gaseous compounds and effluorescences generated in self-heating coal-waste dumps—A case study from the Upper and Lower Silesian coal basins (Poland): International Journal of Coal Geology, v. 116-117, p. 247-261.

Fabiańska, M.J., M. Misz-Kennan, J. Ciesielczuk, J. Pierwoła, N. Nitecka, and J. Brzoznowski, 2018, Thermal history of coal wastes reflected in their organic geochemistry and petrography; the case study: The Katowice-Wełnowiec dump, Poland: International Journal of Coal Geology, v. 184, p. 11-26.

Feng, J., 1988, Coal combustion: science and technology of industrial and utility applications: New York, Hemisphere Publications Corp., 1014 p.

Ferraro, M., J. Gelli, and R. Damiani, 1994, An application of petrographic analyses on the combustion of coal (abstract): ICCP News, no. 10, p. 8-9.

Finkelman, R.B., 1993, The use of modes of occurrence information to predict the removal of the hazardous air pollutants prior to combustion: Journal of Coal Quality, v. 12, no. 4, p. 132-134.

Finkelman, R.B., 1995, Environmental impacts of coal utilization phase I. Characterization of solid waste products — a team approach: TSOP Newsletter, v. 12, no. 1, p. 8-9.

Finkelman, R.B., 1998, “Air toxics” from coal combustion: implications for global fossil fuel use (abstract): TSOP Abstracts and Program, v. 15, p. 6-8.

Finkelman, R.B., and P. Gross, 1999, The types of data needed for assessing the invironmental and human health impacts of coal: International Journal of Coal Geology, v. 40, p. 91-101.

Finkelman, R.B., W. Orem, V. Castranova, C.A. Tatu, H.E. Belkin, B. Zheng, H.E. Lerch, S.V. Maharaj, and A.L. Bates, 2002, Health impacts of coal and coal use: possible solutions: International Journal of Coal Geology, v. 50, p. 425-443.

Finkelman, R.B., 2004, Potential health impacts of burning coal beds and waste banks: International Journal of Coal Geology, v. 59, p. 19-24.

Finkelman, R.B., and G.B. Stracher, 2010, Environmental and health impacts of coal fires, in G.B. Stracher, A. Prakash, and E. Sokol, eds., Coal and peat fires: A global perspective 1. coal – geology and combustion: New York, Elsevier Scientific Publ. Co., p. 115-125.

Foner, H.A., T.L. Robl, J.C. Hower, and U.M. Graham, 1999, Characterization of fly ash from Israel with reference to its possible utilization: Fuel, v. 78, p. 215-223.

Fouskas, F., L. Ma, M.A. Engle, L.F. Ruppert, N.J. Geboy, and M.A. Costa, 2018, Cadmium isotope fractionation during coal combustion: insights from two U.S. coal-fired power plants: Applied Geochemistry, v. 96, p. 100-112.

Friedman, S., P.M. Yavorsky, and S. Akhtar, 1976, Conversion of caking coals to low-sulfur fuel oil in the synthoil process, in C.J. Smith, compiler, Proceedings of the coal agglomeration and conversion symposium: West Virginia Geological and Economic Survey, p. 147-161.

Fu, B., G. Liu, M. Sun, J.C. Hower, G. Hu, and D. Wu, 2018, A comparative study on the mineralogy, chemical speciation, and combustion behavior of toxic elements of coal beneficiation products: Fuel, v. 228, p. 297-308.

Furimsky, E., A.D. Palmer, W.D. Kalkreuth, A.R. Cameron, and G. Kovacik, 1990, Prediction of coal reactivity combustion and gasification by using petrographic data: Fuel Process Technology, v. 25, p. 135-151.

Fyfe, W.S., 1999, Clean energy for 10 billion humans in the 21st century: is it possible?: International Journal of Coal Geology, v. 40, p. 85-90.

Galloway, B.D., R.A. MacDonald, and B. Padak, 2016, Characterization of sulfur products on CaO at high temperatures for air and oxy-combustion: International Journal of Coal Geology, v. 167, p. 1-9.

Garrison, T., J.M.K. O’Keefe, K.R. Henke, G.C. Copley, D.R. Blake, and J.C. Hower, 2017, Gaseous emissions from the Lotts Creek coal mine fire: Perry County, Kentucky: International Journal of Coal Geology, v. 180, p. 57-66.

Gentzis, T., and F. Goodarzi, 1989, Organic petrology of a self-burning coal wastepile from Coleman, Alberta, Canada: International Journal of Coal Geology, v. 11, p. 257-271.

Gentzis, T., and A. Chambers, 1993, A microscopic study of the combustion residues of subbituminous and bituminous coals from Alberta, Canada: International Journal of Coal Geology, v. 24, p. 245-257.

Gentzis, T., and A. Chambers, 1995, Physical structure changes of Canadian coals during combustion: Energy Sources, v. 17, p. 131-149.

Gentzis, T., and A. Chambers, 1995, Combustion properties of macerals from four Alberta coals: Energy Sources, v. 17, p. 655-680.

Gentzis, T., A. Iacchelli, H. Whaley, D.P. Deshpande, and B. Ozüm, 1996, Combustion reactivity of Smoky River coal mine by-products: Energy Sources, v. 18, p. 151-166. “Combustion efficiency could be improved by increasing turbulence intensity in the furnace, by blending the coal with a more reactive fuel, or by reducing the ash content of the coal”

Gibb, W.H., F. Clarke, and A.K. Mehta, 2000, The fate of coal mercury during combustion: Fuel Processing Technology, v. 65, p. 365-377.

Gielisch, H., 2007, Detecting concealed coal fires, in G.B. Stracher, ed., Geology of coal fires: case studies from around the world: GSA Reviews in Engineering Geology 18, p. 199-210.

Gong, B., C. Tian, Z. Xiong, Y. Zhao, and J. Zhang, 2016, Mineral changes and trace element releases during extraction of alumina from high aluminum fly ash in Inner Mongolia, China: International Journal of Coal Geology, v. 166, p. 96-107.

Gong, B., Q. Yong, Z. Xiong, C. Tian, J. Yang, Y. Zhao, and J. Zhang, 2018, Mineral matter and trace elements in ashes from a high-arsenic lignite fired power plant in Inner Mongolia, China: International Journal of Coal Geology, v. 196, p. 317-334.

Goodarzi, F., and J.M. Vleeskens, 1988, Reactivity of bituminous-semianthracitic coals: a reflected light study of their combustion residues (fly ash): Journal of Coal Quality, v. 7, p. 80-85.

Goodarzi, F., T. Gentzis, and R.M. Bustin, 1988, Reflectance and petrology profile of a partially combusted and coked bituminous coal seam from British Columbia: Fuel, v. 67, p. 1218-1222.

Goodarzi, F., and T. Gentzis, 1991, Geological controls on the self-burning of coal seams, in D.C. Peters, ed., Geology in coal resource utilization: Fairfax, VA, TechBooks, p. 559-575.

Goodarzi, F., and D.J. Swaine, 1993, Behavior of Boron in coal during natural and industrial combustion processes: Energy Sources, v. 15, p. 609-622.

Goodarzi, F., 2002, Mineralogical and elemental composition of Canadian feed coal: Fuel, v. 81, p. 1199-1213.

Goodarzi, F., 2004, Speciation and mass-balance of mercury from coal fired power plants burning western Canadian subbituminous coal, Alberta, Canada: Journal of Environmental Monitoring, v. 6, p. 792-798.

Goodarzi, F., 2005, Petrology of subbituminous feed coal as a guide to the capture of mercury by fly ash—influence of depositional environment: International Journal of Coal Geology, v. 61, p. 1-12.

Goodarzi, F., 2006, Assessment of elemental content of milled coal, combustion residues, and stack emitted materials: possible environmental effects for a Canadian pulverized coal-fired power plant: International Journal of Coal Geology, v. 65, p. 17-25.

Goodarzi, F., J. Reyes, J. Schulz, D. Hollman, and D. Rose, 2006, Parameters influencing the variation in mercury emissions from an Alberta power plant burning high inertinite coal over thirty-eight weeks period: International Journal of Coal Geology, v. 65, p. 26-34.

Goodarzi, F., and J. Hower, 2007, Classification of carbon in Canadian fly ashes: Fuel, v. 48, p. 1949-1957.

Goodarzi, F., F.E. Huggins, and H. Sanei, 2008, Assessment of elements, speciation of As, Cr, Ni and emitted Hg for a Canadian power plant burning bituminous coal: International Journal of Coal Geology, v. 74, p. 1-12.

Grasby, S.E., H. Sanei, and B. Beauchamp, 2011, Catastrophic dispersion of coal fly ash into oceans during the latest Permian extinction: Nature Geoscience, v. 4, p. 104-107.

Grasby, S.E., H. Sanei, and B. Beauchamp, 2015, Latest Permian chars may derive from wildfires, not coal combustion: comment: Geology, v. 43, no. 4, p. e358.

Groppo, J., T. Robl, and J.C. Hower, 2004, The beneficiation of coal combustion ash, in R. Gieré and P. Stille, eds., Energy, waste and the environment: a geochemical perspective: London, Geological Society, Special Publication 236, p. 247-262.

Grint, A., and H. Marsh, 1981, Carbonisation of coal blends: mesophase formation and coke properties: Fuel, v. 60, p. 1115-1120.

Griswold, T.B., J.C. Hower, and J.C. Cobb, 1990, Impact of coal quality variations on utilization of the Springfield (western Kentucky no. 9) coal bed: Journal of Coal Quality, v. 9, p. 113-119.

Grossman, S.L., S. David, I. Wegener, W. Wanzl, and H. Cohen, 1996, Explosion risks of bituminous coals in contact with air: Erdöl Erdgas Kohle, v. 112, p. 322-324. (spontaneous combustion)

Grossman, S.L., and H. Cohen, 1998, Emission of toxic explosive and fire hazardous gases in coal piles stored under atmospheric conditions (part 1 of a 2 part article): Energeia, v. 9, no. 3, p. 1, 4-5. (spontaneous combustion)

Guedes, A., B. Valentim, A.C. Prieto, A. Sanz, D. Flores, and F. Noronha, 2008, Characterization of fly ash from a power plant and surroundings by micro-Raman spectroscopy: International Journal of Coal Geology, v. 73, p. 359-370.

Guo, L., M. Zhai, Z. Wang, Y. Zhang, and P. Dong, 2018, Comprehensive coal quality index for evaluation of coal agglomeration characteristics: Fuel, v. 231, p. 379-386.

Gupta, R., T. Wall, and L. Baxter, eds., 1999, The impact of mineral impurities in solid fuel combustion: Norwell, MA, Kluwer Academic/Plenum Publishers, 788 p.

Gűrdal, G., H. Hoşgőrmez, D. Özcan, X. Li, H. Liu, and W. Song, 2015, The properties of Çan Basin coals (Çanakkale—Turkey): Spontaneous combustion and combustion by-products: International Journal of Coal Geology, v. 138, p. 1-15.

Han, W., H. Jin, and R. Lin, 2011, A novel power generation system based on moderate conversion of chemical energy of coal and natural gas: Fuel, v. 90, p. 263-271.

Hansen, Y., P.J. Notten, and J.G. Petrie, 2002, The environmental impact of ash management in coal-based power generation: Applied Geochemistry, v. 17, p. 1131-1141.

Hassett, D.J., 1996, Ash research at the University of North Dakota Energy & Environmental Research Center: Energeia, v. 7, no. 4, p. 1, 3-5.

Hassett, D.J., and K.E. Eylands, 1999, Mercury capture on coal combustion fly ash: Fuel, v. 78, p. 243-248.

Hatt, R., 1988, Fuel quality for fluidized bed combustors: Journal of Coal Quality, v. 7, no. 4, p. 114-116.

Hatt, R.M., and S.M. Rimmer, 1989, Classification and sampling of deposits from coal-fired boilers: Journal of Coal Quality, v. 8, no. 2, p. 40-44.

Heidel, B., and B. Klein, 2017, Reemission of elemental mercury and mercury halides in wet flue gas desulfurization: International Journal of Coal Geology, v. 170, p. 28-34.

Hill, R., R. Rathbone, and J.C. Hower, 1998, Investigation of fly ash carbon by thermal analysis and optical microscopy: Cement and Concrete Research, v. 28, p. 1479-1488.

Hindmarsh, C.J., W. Wang, K.M. Thomas, and J.C. Crelling, 1994, The release of nitrogen during the combustion of macerals, microlithotypes, and their chars: Fuel, v. 73, p. 1229-1234.

Hoffman, G.K., 2000, Use of fly ash from New Mexico coals (abstract): AAPG Bulletin, v. 84, p. 1240.

Holuszko, M.E., and A. de Klerk, 2014, Coal processing and use for power generation, in T.M. Letcher, ed., Future energy, second edition: New York, Elsevier, p. 53-73.

Honaker, R.Q., W. Zhang, and J. Werner, 2019, Acid leaching of rare earth elements from coal and coal ash: Implications for using fluidized bed combustion to assist in the recovery of critical materials: Energy & Fuels, v. 33, p. 5971-5980.

Hong, X., H. Liang, S. Lv, Y. Jia, T. Zhao, and W. Liang, 2017, Mercury emissions from dynamic monitoring holes of underground coal fires in the Wuda coalfield, Inner Mongolia, China: International Journal of Coal Geology, v. 181, p. 78-86.

Hood, M.M., R.K. Taggart, R.C. Smith, H. Hsu-Kim, K.R. Henke, U. Graham, J.G. Groppo, J.M. Unrine, and J.C. Hower, 2017, Rare earth element distribution in fly ash derived from the Fire Clay coal, Kentucky: Coal Combustion and Gasification Products, v. 9, p. 22-33.

Hough, D.C., and A. Sanyal, 1987, The role of petrography in the classification and combustion of coal: Energy World, no. 146, p. 7-10.

Howard, J.R., 1983, Fluidized beds: combustion and applications: New York, Elsevier, 379 p.

Hower, J.C., 1990, Hardgrove grindability index and petrology used as an enhanced predictor of coal feed rate: Energeia, v. 1, no. 6, p. 1-2.

Hower, J.C., and T.L. Robl, 1993, Production of coal-combustion by-products in Kentucky: trends and prospects: Journal of Coal Quality, v. 12, p. 24-29.

Hower, J.C., J.D. Robertson, U.M. Graham, G.A. Thomas, A.S. Wong, and W.H. Schram, 1993, Characterization of Kentucky coal-combustion by-products: compositional variations based on sulfur content of feed coal: Journal of Coal Quality, v. 12, p. 150-155.

Hower, J.C., J.D. Robertson, U.M. Graham, G.A. Thomas, and A.S. Wong, 1993, Characterization of Kentucky coal combustion by-products: compositional variations based on sulfur content of feed coal, in S.-H. Chiang, ed., Coal — energy and the environment: Tenth Annual International Pittsburgh Coal Conference, Proceedings, p. 1022-1025.

Hower, J.C., J.K. Hiett, G.D. Wild, and C.F. Eble, 1994, Coal resources, production, and quality in the eastern Kentucky coal field: perspectives on the future of steam coal production, in Nonrenewable resources, v. 3: Oxford University Press, p. 216-236.

Hower, J.C., G.D. Wild, and U.M. Graham, 1995, Petrographic characterization of high-carbon fly ash samples from Kentucky power stations, in S.S. Tyson, T.H. Blackstock, J. Hunger, and A. Marshall, eds., Proceedings: 11th International Symposium on use and management of coal combustion by-products: American Coal Ash Association, p. 62-1 to 62-12.

Hower, J.C., R.F. Rathbone, U.M. Graham, J.G. Groppo, S.M. Brooks, T.L. Robl, and S.S. Medina, 1995, Approaches to the petrographic characterization of fly ash: 11th International Coal Testing Conference, May 10-12, p. 49-54.

Hower, J.C., T.L. Robl, R.F. Rathbone, J.G. Groppo, U.M. Graham, and D.N. Taulbee, 1996, Case studies of the impact of conversion to low-NOx combustion on fly ash petrology and mineralogy: Proceedings of 7th Australian Coal Science Conference, Gippsland, Victoria, Australia, p. 347-354.

Hower, J.C., G.A. Thomas, D.S. Clifford, J.D. Eady, J.D. Robertson, and A.S. Wong, 1996, Petrography and chemistry of high-carbon fly ash from the Shawnee Power Station, Kentucky: Energy Sources, v. 18, p. 107-118.

Hower, J.C., J.D. Robertson, G.A. Thomas, A.S. Wong, W.H. Schram, U.M. Graham, R.F. Rathbone, and T.L. Robl, 1996, Characterization of fly ash from Kentucky power plants: Fuel, v. 75, p. 403-411.

Hower, J.C., T.L. Robl, R.F. Rathbone, W.H. Schram, and G.A. Thomas, 1997, Characterization of pre- and post-Nox conversion fly ash from the Tennessee Valley Authority’s John Sevier fossil plant, in Proceedings, 12th International Symposium on Coal Combustion By-Product (CCB) Management and Use: Electric Power Research Institute, p. 39-1 to 39-13.

Hower, J.C., R.F. Rathbone, T.L. Robl, G.A. Thomas, B.O. Haeberlin, and A.S. Trimble, 1997, Case study of the conversion of tangential- and wall-fired units to low-Nox combustion: impact on fly ash quality: Waste Management, v. 17, p. 219-229.

Hower, J.C., U.M. Graham, A.S. Wong, J.D. Robertson, B.O. Haeberlin, G. A Thomas, and W.H. Schram, 1997, Influence of flue-gas desulfurization systems on coal combustion by-product quality at Kentucky power stations burning high-sulfur coal: Waste Management, v. 17, p. 523-533.

Hower, J.C., H. Ban, J.L. Schaefer, and J.M. Stencel, 1997, Maceral/microlithotype partitioning through triboelectrostatic dry coal cleaning: International Journal of Coal Geology, v. 34, p. 277-286.

Hower, J.C., L.J. Blanchard, and J.D. Robertson, 1998, Magnitude of minor element reduction through beneficiation of central Appalachian coals: Coal Preparation, v. 19, p. 213-229.

Hower, J.C., R.F. Rathbone, J.D. Robertson, G. Peterson, and A.S. Trimble, 1999, Petrology, mineralogy, and chemistry of magnetically-separated sized fly ash: Fuel, v. 78, p. 197-203.

Hower, J.C., D.N. Trerice, R.F. Rathbone, G.A. Thomas, and A.D. Hobbs, 1999, Short-term variations in fly ash petrology and mineralogy: examples from a western Pennsylvania power station: American Coal Ash Association, 13th International Symposium on Use and Management of Coal Combustion Products, p. 28-1 to 28-10.

Hower, J.C., T.L. Robl, and G.A. Thomas, 1999, Changes in the quality of coal combustion by-products produced by Kentucky power plants, 1978 to 1997: consequences of Clean Air Act directives: Fuel, v. 78, p. 701-712.

Hower, J.C., A.S. Trimble, C.F. Eble, C.A. Palmer, and A. Kolker, 1999, Characterization of fly ash from low-sulfur and high-sulfur coal sources: partitioning of carbon and trace elements with particle size: Energy Sources, v. 21, p. 511-525.

Hower, J.C., T.L. Robl, and G.A. Thomas, 1999, Changes in the quality of coal delivered to Kentucky power plants, 1978 to 1997: responses to Clean Air Act directives: International Journal of Coal Geology, v. 41, p. 125-155.

Hower, J.C., G.A. Thomas, and J. Palmer, 1999, Impact of the conversion of low-Nox combustion on ash characteristics in a utility boiler burning western US coal: Fuel Processing Technology, v. 61, p. 175-195.

Hower, J.C., R.B. Finkelman, R.F. Rathbone, and J. Goodman, 2000, Intra- and inter-unit variation in fly ash petrography and mercury adsorption: examples from a western Kentucky power station: Energy & Fuels, v. 14, p. 212-216.

Hower, J.C., M.M. Maroto-Valer, D.N. Taulbee, and T. Sakulpitakphon, 2000, Mercury capture by distinct fly ash carbon forms: Energy & Fuels, v. 14, p. 224-226.

Hower, J.C., and M. Mastalerz, 2001, An approach toward a combined scheme for the petrographic classification of fly ash: Energy & Fuels, v. 15, p. 1319-1321.

Hower, J.C., A.S. Trimble, and C.F. Eble, 2001, Temporal and spatial variations in fly ash quality: Fuel Processing Technology, v. 73, p. 37-58.

Hower, J.C., J.D. Robertson, and J.M. Roberts, 2001, Petrology and minor element chemistry of combustion by-products from the co-combustion of coal, tire-derived fuel, and petroleum coke at a western Kentucky cyclone-fired unit: Fuel Processing Technology, v. 74, p. 125-142.

Hower, J.C., and J.D. Robertson, 2004, Chemistry and petrology of fly ash derived from the co-combustion of western United States coal and tire-derived fuel: Fuel Processing Technology, v. 85, p. 359-377.

Hower, J.C., G.A. Thomas, S.M. Mardon, and A.S. Trimble, 2005, Impact of co-combustion of petroleum coke and coal on fly ash quality: case study of a western Kentucky power plant: Applied Geochemistry, v. 20, p. 1309-1319.

Hower, J.C., T.L. Robl, C. Anderson, G.A. Thomas, T. Sakulpitakphon, S.M. Mardon, and W.L. Clark, 2005, Characteristics of coal utilization products (CCBs) from Kentucky power plants, with emphasis on mercury content: Fuel, v. 84, p. 1338-1350.

Hower, J.C., I. Suárez-Ruiz, and M. Mastalerz, 2005, An approach toward a combined scheme for the petrographic classification of fly ash: revision and clarification: Energy and Fuels, v. 19, p. 653-655.

Hower, J.C., and J. Knowles, 2006, Research directions in coal combustion product science and engineering: Energeia, v. 17, no. 1, p. 5.

Hower, J.C., 2008, Maceral/microlithotype partitioning with particle size of pulverized coal: Examples from power plants burning central Appalachian and Illinois Basin coals: International Journal of Coal Geology, v. 73, p. 213-218.

Hower, J.C., K. Henke, J.M.K. O’Keefe, M.A. Engle, D.R. Blake, and G.B. Stracher, 2009, The Tiptop coal-mine fire, Kentucky: Preliminary investigation of the measurement of mercury and other hazardous gases from coal-fire gas vents: International Journal of Coal Geology, v. 80, p. 63-67.

Hower, J.C., J.M.K. O’Keefe, K.R. Henke, and A. Bagherieh, 2011, Time series analysis of CO concentrations from an eastern Kentucky coal fire: International Journal of Coal Geology, v. 88, p. 227-231.

Hower, J.C., 2012, Teaching-aid: Petrographic examination of coal-combustion fly ash: International Journal of Coal Geology, v. 92, p. 90-97.

Hower, J.C., G.C. Copley, J.M.K. O’Keefe, and J.M. Hower, 2012, The further adventures of Tin Man: Vertical temperature gradients at the Lotts Creek coal mine fire, Perry County, Kentucky: International Journal of Coal Geology, v. 101, p. 16-20.

Hower, J.C., J.M.K. O’Keefe, K.R. Henke, N. J. Wagner, G. Copley, D.R. Blake, T. Garrison, M.L.S. Oliveira, R.M. Kautzmann, and L.F.O. Silva, 2013, Gaseous emissions and sublimates from the Truman Shepherd coal fire, Floyd County, Kentucky: A re-investigation following attempted mitigation of the fire: International Journal of Coal Geology, v. 116-117, p. 63-74.

Hower, J.C., J.G. Groppo, P. Joshi, S. Dai, D.P. Moecher, and M.N. Johnston, 2013, Location of cerium in coal combustion fly ashes—Implications for recovery of lanthanides: Coal Combustion and Gasification Products, v. 5, p. 73-78.

Hower, J.C., J.G. Groppo, K.R. Henke, U.M. Graham, M.M. Hood, P. Joshi, and D.V. Preda, 2017, Ponded and landfilled fly ash as a source of rare earth elements from a Kentucky power plant: Coal Combustion and Gasification Products, v. 9, p. 1-21.

Hower, J.C., H.L. Clack, M.M. Hood, S.G. Hopps, and G.H. Thomas, 2017, Impact of coal source changes on mercury content in fly ash: Examples from a Kentucky power plant: International Journal of Coal Geology, v. 170, p. 2-6.

Hower, J.C., J.G. Groppo, U.M. Graham, C.R. Ward, I.J. Kostova, M.M. Maroto-Valer, and S. Dai, 2017, Coal-derived unburned carbons in fly ash: A review: International Journal of Coal Geology, v. 179, p. 11-27.

Hower, J.C., 2017, Can coal make a comeback? Book review: International Journal of Coal Geology, v. 181, p. 75-77.

Hower, J.C., D. Qian, N.J. Briot, K.R. Henke, M.M. Hood, R.K. Taggart, and H. Hsu-Kim, 2018, Rare earth element associations in the Kentucky State University stoker ash: International Journal of Coal Geology, v. 189, p. 75-82.

Hower, J.C., E. Cantando, C.F. Eble, and G.C. Copley, 2019, Characterization of stoker ash from the combustion of high-lanthanide coal at a Kentucky bourbon distillery: International Journal of Coal Geology, v. 213, 103260.

Hu, P., X. Hou, J. Zhang, S. Li, H. Wu, A.J. Damø, H. Li, Q. Wu, and X. Xi, 2018, Distribution and occurrence of lithium in high-alumina-coal fly ash: International Journal of Coal Geology, v. 189, p. 27-34.

Hudspith, V.A., S.M. Rimmer, and C.M. Belcher, 2014, Latest Permian chars may derive from wildfires, not coal combustion: Geology, v. 42, p. 879-882.

Huggins, F., and F. Goodarzi, 2009, Environmental assessment of elements and polyaromatic hydrocarbons emitted from a Canadian coal-fired power plant: International Journal of Coal Geology, v. 77, p. 282-288.

Hutny, W.P., J.A. MacPhee, L. Giroux, and J.T. Price, 1995, Experimental study on the combustion behaviour of coal under simulated blast furnace conditions, in J.A. Pajares and J.M.D. Tascon, eds., Coal science: New York, Elsevier, Coal Science and Technology 24, v. 1, p. 543-546.

Ide, T.S., M. Crook, and F.M. Orr, Jr., 2011, Magnetometer measurements to characterize a subsurface coal fire: International Journal of Coal Geology, v. 87, p. 190-196.

Iordanidis, A., J. Buckman, A.G. Triantafyllou, and A. Asvesta, 2008, Fly ash-airborne particles from Ptolemais-Kozani area, northern Greece, as determined by ESEM-EDX: International Journal of Coal Geology, v. 73, p. 63-73.

Isidro, A., A. Formoso, J.J. Pis, S. Ferreira, E. Fuente, J.M. Rivas, L. Garcia, and A. Cores, 1995, Combustion characteristics of different types of coal under blast furnace conditions, in J.A. Pajares and J.M.D. Tascon, eds., Coal science: New York, Elsevier, Coal Science and Technology 24, v. 1, p. 551-554.

Izquierdo, M., and X. Querol, 2012, Leaching behavior of elements from coal combustion fly ash: An overview: International Journal of Coal Geology, v. 94, p. 54-66.

Izquierdo, M., A.M. Tye, and S.R. Chenery, 2013, Measuring reactive pools of Cd, Pb and Zn in coal fly ash from the UK using isotopic dilution assays: Applied Geochemistry, v. 33, p. 41-49.

Jansen, G.J., 1987, Petrography studies can aid in coal mine planning and in estimating methane yields in coal beds: Mining Engineering, v. 39, no. 9, p. 849-852.

Jelonek, I., and Z. Mirkowski, 2015, Petrographic and geochemical investigation of coal slurries and of the products resulting from their combustion: International Journal of Coal Geology, v. 139, p. 228-236.

Jelonek, Z., A. Drobniak, M. Mastalerz, and I. Jelonek, 2020, Assessing pellet fuels quality: A novel application for reflected light microscopy: International Journal of Coal Geology, v. 222, 103433.

Jeong, T.-Y., Y.Y. Isworo, and C.-H. Jeon, 2019, Evaluation of char characteristics and combustibility of low-rank-coal blends with different reflectance distributions: Energy & Fuels, v. 33, p. 8014-8025.

Jiang, Y., E.R. Elswick, and M. Mastalerz, 2008, Progression in sulfur isotopic compositions from coal to fly ash: Examples from single-source combustion in Indiana: International Journal of Coal Geology, v. 73, p. 273-284.

Johnson, A.A., 2002, Zero emission coal—competitive, highly efficient electricity production from even high sulfur coals: Energeia, v. 13, no. 5, p. 1-3.

Jones, K.B., L.F. Ruppert, and S.M. Swanson, 2012, Leaching of elements from bottom ash, economizer fly ash, and fly ash from two coal-fired power plants: International Journal of Coal Geology, v. 94, p. 337-348.

Jones, K.B., and L.F. Ruppert, 2017, Leaching of trace elements from Pittsburgh coal mill rejects compared with coal combustion products from a coal-fired power plant in Ohio, USA: International Journal of Coal Geology, v. 171, p. 130-141.

Jones, R.B., C.B. McCourt, C. Morley, and K. King, 1985, Maceral and rank influences on the morphology of coal char: Fuel, v. 64, p. 1460-1467.

Jones, R.B, C. Morley, and C.B. McCourt, 1985, Maceral effects on the morphology and combustion of coal char, in Proceedings 1985 International Conference on Coal Science: Sydney, October 28-31, p. 669-672.

Jones, T., 1995, Controlling sulfur emissions from coal combustion: Energeia, v. 6, no. 2, p. 1-2.

Juntgen, H., 1987, Coal characterization in relation to coal combustion, part 1: structural aspects and combustion: Erdol und Kohle-Erdgas-Petrochemie, v. 40, p. 153-165.

Juntgen, H., 1987, Coal characterization in relation to coal combustion, part 2: environmental problems of combustion: Erdol und Kohle-Erdgas-Petrochemie, v. 40, p. 204-208.

Kaiho, M., Y. Kodera, and O. Yamada, 2019, Estimation of heats of formation and combustion of coal: Fuel, v. 237, p. 536-544.

Kaitano, R., D. Glasser, and D. Hildebrandt, 2007, A laboratory study of a reactive surface layer for the prevention of spontaneous combustion, in G.B. Stracher, ed., Geology of coal fires: case studies from around the world: GSA Reviews in Engineering Geology 18, p. 85-90.

Kalkreuth, W., M. Lunkes, J. Oliveira, M.L. Ghiggi, E. Osório, K. Souza, C.H. Sampaio, and G. Hidalgo, 2013, The lower and upper coal seams of the Candiota coalfield, Brazil—Geological setting, petrological and chemical characterization, and studies on reactivity and beneficiation related to their combustion potential: International Journal of Coal Geology, v. 111, p. 53-66.

Kalyoncu, R.S., 2001, Coal combustion products: USGS Minerals Yearbook, v. 1, metals and minerals, p. 19.1-19.5. <http://minerals.usgs.gov/minerals/pubs/commodity/coal/>

Kalyoncu, R.S., and D.W. Olson, 2001, Coal combustion products: USGS Fact Sheet FS 0076-01, 4 p. (<http://pubs.usgs.gov/fs/fs076-01/>

Karaoulis, M., A. Revil, and D. Mao, 2014, Localization of a coal seam fire using combined self-potential and resistivity data: International Journal of Coal Geology, v. 128-129, p. 109-118.

Karayigit, A.I., R.A. Gayer, X. Querol, and T. Onacak, 2000, Contents of major and trace elements in feed coals from Turkish coal-fired power plants: International Journal of Coal Geology, v. 44, p. 169-184.

Karayigit, A.I., T. Onacak, R.A. Gayer, and S. Goldsmith, 2001, Mineralogy and geochemistry of feed coals and their combustion residues from the Cayirhan power plant, Ankara, Turkay: Applied Geochemistry, v. 16, p. 911-919.

Kasperski, K.L., Y. Briker, D.P. Deshpande, and B. Ozüm, 1996, Coal-oil agglomeration and combustion studies for a bituminous coal pond tailing: Energy Sources, v. 18, p. 43-50.

Kim, A.G., 1977, Laboratory studies on spontaneous heating of coal: U.S. Bureau of Mines, Information Circular 8756, 13 p.

Kim, A.G., 1995, Relative self-heating tendencies of coal, carbonaceous shales, and coal refuse: U.S. Bureau of Mines, Report of Investigations 9537, 21 p.

Kim, A.G., 2001, Utilization of coal combustion by-products: determining the environmental safety: Energeia, v. 12, no. 2, p. 1-4.

Kim, A.G., 2007, Greenhouse gases generated in underground coal-mine fires, in G.B. Stracher, ed., Geology of coal fires: case studies from around the world: GSA Reviews in Engineering Geology 18, p. 1-13.

King, J.F., R.K. Taggart, R.C. Smith, J.C. Hower, and H. Hsu-Kim, 2018, Aqueous acid and alkaline extraction of rare earth elements from coal combustion ash: International Journal of Coal Geology, v. 195, p. 75-83.

Klauke, F., A. Reidick, and K.D. Tigges, 2003, Successful generation: World Coal, v. 12, p. 51-53. (reduce CO2 emissions)

Kolker, A.., C.L. Senior, and J.C. Quick, 2006, Mercury in coal and the impact of coal quality on mercury emissions from combustion systems: Applied Geochemistry, v. 21, p. 1821-1836.

Kolker, A., C. Senior, C. van Alphen, A. Koenig, and N. Geboy, 2017, Mercury and trace element distribution in density separates of a South African Highveld (#4) coal: Implications for mercury reduction and preparation of export coal: International Journal of Coal Geology, v. 170, p. 7-13.

Kolker, A., C. Scott, J.C. Hower, J.A. Vazquez, C.L. Lopano, and S. Dai, 2018, Distribution of rare earth elements in coal combustion fly ash, determined by SHRIMP-RG ion microprobe: International Journal of Coal Geology, v. 184, p. 1-10.

Kostova, I.J., J.C. Hower, M. Mastalerz, and S.V. Vassilev, 2011, Mercury capture by selected Bulgarian fly ashes: influence of coal rank and fly ash carbon pore structure on capture efficiency: Applied Geochemistry, v. 26, p. 18-27.

Kostova, I., C. Vassileva, S. Dai, J.C. Hower, and D. Apostolova, 2013, Influence of surface area properties on mercury capture behavior of coal fly ashes from some Bulgarian power plants: International Journal of Coal Geology, v. 116-117, p. 227-235.

Křĭbek, B., I. Sýkorová, F. Veselovský, F. Laufek, J. Malec, I. Knésl, and V. Majer, 2017, Trace element geochemistry of self-burning and weathering of a mineralized coal waste dump: The Novátor mine, Czech Republic: International Journal of Coal Geology, v. 173, p. 158-175.

Kruszewski, Ł., 2013, Supergene sulphate minerals from the burning coal mining dumps in the Upper Silesian coal basin, south Poland: International Journal of Coal Geology, v. 105, p. 91-109.

Kuchta, J.M., V.R. Rowe, and D.S. Burgess, 1980, Spontaneous combustion susceptibility in U.S. coals: U.S. Bureau of Mines, Report of Investigations 8474, 37 p.

Kuenzer, C., J. Zhang, Y. Sun, Y. Jia, and S. Dech, 2012, Coal fires revisited: The Wuda coal field in the aftermath of extensive coal fire research and accelerating extinguishing activities: International Journal of Coal Geology, v. 102, p. 75-86.

Kus, J., 2017, Impact of underground coal fire on coal petrographic properties of high volatile bituminous coals: A case study from coal fire zone No. 3.2 in the Wuda coalfield, Inner Mongolia autonomous region, north China: International Journal of Coal Geology, v. 171, p. 185-211.

Kus, J., 2017, Oxidatively and thermally altered high-volatile bituminous coals in high-temperature coal fire zone No. 8 of the Wuda coalfield (North China): International Journal of Coal Geology, v. 176-177, p. 8-35.

Kwiecińska, B., and H.I. Petersen, 2004, Graphite, semi-graphite, natural coke, and natural char classification—ICCP system: International Journal of Coal Geology, v. 57, p. 99-116.

Lang, L., and Z. Fu-bao, 2010, A comprehensive hazard evaluation system for spontaneous combustion of coal in underground mining: International Journal of Coal Geology, v. 82, p. 27-36.

Lanzerstorfer, C., 2018, Fly ash from coal combustion: Dependence of the concentration of various elements on the particle size: Fuel, v. 228, p. 263-271.

Laufek, F., F. Veselovský, M. Drábek, B. Kříbek, and M. Klementová, 2017, Experimental formation of Pb, Sn, Ge and Sb sulfides, selenides and chlorides in the presence of sal ammoniac: A contribution to the understanding of the mineral formation processes in coal wastes self-ignition: International Journal of Coal Geology, v. 176-177, p. 1-7.

Lee, G.K., and H. Whaley, 1983, Modification of combustion and fly-ash characteristics by coal blending: Journal of the Institute of Energy, v. 56, p. 190-197.

Lei, C., J. Deng, K. Cao, L. Ma, Y. Xiao, and L. Ren, 2018, A random forest approach for predicting coal spontaneous combustion: Fuel, v. 223, p. 63-73.

Lester, E., D. Alvarez, A.G. Borrego, B. Valentim, D. Flores, D.A. Clift, P. Rosenberg, B. Kwiecinska, R. Barranco, H.I. Petersen, M. Mastalerz, K.S. Milenkova, C. Panaitescu, M.M. Marques, A. Thompson, D. Watts, S. Hanson, G. Predeanu, M. Misz, and T. Wu, 2010, The procedure used to develop a coal char classification—Commission III Combustion Working Group of the International Committee for Coal and Organic Petrology: International Journal of Coal Geology, v. 81, p. 333-342.

Levandowski, J., and W. Kalkreuth, 2009, Chemical and petrographical characterization of feed coal, fly ash and bottom ash from the Figueira power plant, Paraná, Brazil: International Journal of Coal Geology, v. 77, p. 269-281.

Li, H., L. Zhu, S. Wu, Y. Liu, and K. Shih, 2017, Synergy of CuO and CeO2 combination for mercury oxidation under low-temperature selective catalytic reduction atmosphere: International Journal of Coal Geology, v. 170, p. 69-76.

Li, J., Z. Li, Y. Yang, and X. Zhang, 2019, Study on the generation of active sites during low-temperature pyrolysis of coal and its influence on coal spontaneous combustion: Fuel, v. 241, p. 283-296.

Li, T.X., H. Ban, J.C. Hower, J.M. Stencel, and K. Saito, 1999, Dry triboelectrostatic separation of mineral particles: a potential application in space exploration: Journal of Electrostatics, v. 47, p. 133-142.

Li, X., S. Dai, W. Zhang, T. Li, X. Zheng, and W. Chen, 2014, Determination of As and Se in coal and coal combustion products using closed vessel microwave digestion and collision/reaction cell technology (CCT) of inductively coupled plasma mass spectrometry (ICP-MS): International Journal of Coal Geology, v. 124, p. 1-4.

Li, Z., A.H. Clemens, T.A. Moore, D. Gong, S.D. Weaver, and N. Eby, 2005, Partitioning behaviour of trace elements in a stoker-fired combustion unit: an example using bituminous coals from the Greymouth coalfield (Cretaceous), New Zealand: International Journal of Coal Geology, v. 63, p. 98-116.

Lin, R., M. Stuckman, B.H. Howard, T.L. Bank, E.A. Roth, M.K. Macala, C. Lopano, Y. Soong, and E.J. Granite, 2018, Application of sequential extraction and hydrothermal treatment for characterization and enrichment of rare earth elements from coal fly ash: Fuel, v. 232, p. 124-133.

Liu, J., X. Jiang, X. Huang, and S. Wu, 2010, Morphological characterization of super fine pulverized coal particle. Part 2. AFM investigation of single coal particle: Fuel, v. 89, p. 3884-3891.

Liu, P., L. Yang, Q. Wang, B. Wan, Q. Ma, H. Chen, and Y. Tang, 2020, Speciation transformation of rare earth elements (REEs) during heating and implications for REE behaviors during coal combustion: International Journal of Coal Geology, v.219, 103371.

Liu, S., C. Wang, S. Zhang, J. Liang, F. Chen, and K. Zhao, 2012, Formation and distribution of polycyclic aromatic hydrocarbons (PAHs) derived from coal seam combustion: A case study of the Ulanqab lignite from Inner Mongolia, northern China: International Journal of Coal Geology, v. 90-91, p. 126-134.

Liu, Y., G. Liu, C. Qi, S. Cheng, and R. Sun, 2016, Chemical speciation and combustion behavior of chromium (Cr) and vanadium (V) in coals: Fuel, v. 184, p. 42-49.

Liu, Y., Q. Wang, and J. Zhang, 2017, Simultaneous removal of Hg0 and SO2 from flue gas using vacuum ultraviolet radiation combining with absorption of urea solution: International Journal of Coal Geology, v. 170, p. 41-47.

López-Antón, M.A., M. Díaz-Somoano, R. Ochoa-González, and M.R. Martínez-Tarazona, 2012, Analytical methods for mercury analysis in coal and coal combustion by-products: International Journal of Coal Geology, v. 94, p. 44-53.

Lyman, R.M., 2001, Pyrophoricity (spontaneous combustion) of Powder River basin coals — considerations for coalbed methane development: Wyoming Geo-Notes, number 69, p. 18-22.

Mangena, S.J., and V.M. du Cann, 2007, Binderless briquetting of some selected South African prime coking, blend coking and weathered bituminous coals and the effect of coal properties on binderless briquetting: International Journal of Coal Geology, v. 71, p. 303-312.

Manovic, V., and P. Fennell, eds., 2014, Fluidized bed combustion and gasification—CO2 and SO2 capture: Fuel, v. 127, 228 p.

Manz, O.E., 1998, Coal fly ash: a retrospective and future look: Energeia, v. 9, no. 2, p. 1,2,5.

Manzanares, P.L., E.S. Garbett, D.A. Spears, M. Widdowson, and G. Richards, 1995, Ignition of coal particles, in J.A. Pajares and J.M.D. Tascon, eds., Coal science: New York, Elsevier, Coal Science and Technology 24, v. 1, p. 587-590.

Mardon, S.M., and J.C. Hower, 2004, Impact of coal properties on coal combustion by-product quality: examples from a Kentucky power plant: International Journal of Coal Geology, v. 59, p. 153-169.

Mardon, S.M., J.C. Hower, J.M.K. O’Keefe, M.N. Marks, and D.H. Hedges, 2008, Coal combustion by-product quality at two stoker boilers: Coal source vs. fly ash collection system design: International Journal of Coal Geology, v. 75, p. 248-254.

Maroto-Valer, M.M., D.N. Taulbee, and J.C. Hower, 1999, Novel separation of the differing forms of unburned carbon present in fly ash using density gradient centrifugation: Energy & Fuels, v. 13, p. 947-953.

Maroto-Valer, M.M., D.N. Taulbee, and J.C. Hower, 2001, Characterization of differing forms of unburned carbon present in fly ash separated by density gradient centrifugation: Fuel, v. 80, p. 795-800.

Martin-Fernández, J.A., R.A. Olea, and L.F. Ruppert, 2018, Compositional data analysis of coal combustion products with an application to a Wyoming power plant: Mathematical Geosciences, v. 50, p. 639-657.

Martin-Fernández, J.A., M.A. Engle, L.F. Ruppert, and R.A. Olea, 2019, Self-organizing map for compositional data: Analysis of elemental concentrations in coal combustion products: Stochastic Environmental Research and Risk Assessment, v. 33, no. 2, p. 817-826.

Mastalerz, M., J.C. Hower, A. Drobniak, S.M. Mardon, and G. Lis, 2004, From in-situ coal to fly ash: a study of coal mines and power plants from Indiana: International Journal of Coal Geology, v. 59, p. 171-192.

Mastalerz, M., A. Drobniak, and G. Filippelli, 2004, Distribution of mercury in Indiana coals and implications for mining and combustion: Indiana Geological Survey Open-File Study 04-04, CD-ROM.

Mazumder, S., P. van Hemert, A. Busch, K.-H.A.A. Wolf, and P. Tejera-Cuesta, 2006, Flue gas and pure CO2 sorption properties of coal: a comparative study: International Journal of Coal Geology, v. 67, p. 267-279.

McCurdy, K.M., 2007, Congressional response to coal fires: illustrating transitions in the policy process, in G.B. Stracher, ed., Geology of coal fires: case studies from around the world: GSA Reviews in Engineering Geology 18, p. 271-278.

Mehta, A., and R.B. Dooley, 1988, Proceedings: effects of coal quality on power plants: Palo Alto, CA, Electric Power Research Institute, various pages.

Meij, R., and B.H. te Winkel, 2009, Trace elements in world steam coal and their behavior in Dutch coal-fired power stations: a review: International Journal of Coal Geology, v. 77, p. 289-293.

Melody, S.M., and F.H. Johnston, 2015, Coal mine fires and human health: What do we know?: International Journal of Coal Geology, v. 152, Part B, p. 1-14.

Menéndez, R., A. Gómez Borrego, J. Bailey, E. Fuente, and D. Alvarez, 1995, The effect of inertinite content on coal combustion reactivity, in J.A. Pajares and J.M.D. Tascon, eds., Coal science: New York, Elsevier, Coal Science and Technology 24, v. 1, p. 303-306.

Merrick, D., 1984, Coal combustion and conversion technology: New York, Elsevier, 405 p.

Meyers, R.A., 1981, Coal handbook: New York, Dekker, 854 p.

Middleton, A., D.M. Park, Y. Jiao, and H. Hsu-Kim, 2020, Major element composition controls rare earth element solubility during leaching of coal fly ash and coal by-products: International Journal of Coal Geology, v. 227, 103532.

Miranda, J.L., C. Romero, J.V. Ibarra, D. Schmal, and D. Martinez, 1994, Weathering of stockpiled coals and the resulting losses of calorific value: Journal of Coal Quality, v. 13, p. 104-112. (spontaneous combustion)

Mirkowski, Z., and I. Jelonek, 2019, Petrographic composition of coals and products of coal combustion from the selected combined heat and power plants (CHP) and heating plants in Upper Silesia, Poland: International Journal of Coal Geology, v. 201, p. 102-108.

Misra, B.K., and B.D. Singh, 1994, Susceptibility to spontaneous combustion of Indian coals and lignites: an organic petrographic autopsy: International Journal of Coal Geology, v. 25, p. 265-286.

Misra, B.K., B.D. Singh, and Anand-Prakash, 1996, Biopetrographic approach to the spontaneous combustion susceptibility of Indian Gondwana coals: with reference to some coals of Raniganj and Singrauli coalfields, in Gondwana nine, v. 2: Geological Survey of India, Ninth International Gondwana Symposium, p. 1257-1264.

Misz, M., M. Fabiańska, and S. Ćmiel, 2007, Organic compounds in thermally altered coal waste: Preliminary petrographic and geochemical investigations: International Journal of Coal Geology, v. 71, p. 405-424.

Misz-Kennan, M., J. Kus, D. Flores, C. Avila, Z. Büçkün, N. Choudhury, K. Christanis, J.P. Joubert, S. Kalaitzidis, A.I. Karayigit, M. Malecha, M. Marques, P. Martizzi, J.M.K. O’Keefe, W. Pickel, G. Predeanu, S. Pusz, J. Ribeiro, S. Rodrigues, A.K. Singh, I. Suárez-Ruiz, I. Sýkorová, N.J. Wagner, D. Životić, ICCP, 2020, Development of a petrographic classification system for organic particles affected by self-heating in coal waste. (An ICCP Classification System, Self-heating Working Group – Commission III): International Journal of Coal Geology, v. 220, 103411.

Mitchell, E.R., 1974, Coal properties bearing on combustion, in J.F. Fryer, J.D. Campbell, and J.G. Speight, eds., Symposium on coal evaluation: Alberta Research Council, Information Series 76, p. 134-151.

Miura, T., ed., 2001, Advanced coal combustion: Huntington, New York, Nova Science Publishers, 304 p.

Montross, S.N., C.A. Verba, H.L. Chan, and C. Lopano, 2018, Advanced characterization of rare earth element minerals in coal utilization byproducts using multimodal image analysis: International Journal of Coal Geology, v. 195, p. 362-372.

Morrison, G.F., 1986, Understanding pulverised coal combustion: IEA Coal Research, London, 26 p.

Morton, M.C., 2010, Centralia, Pa.: Hot as hell: Earth, v. 55, no. 5, p. 28-32.

Mraw, S.C., J.P. De Neufville, H. Freund, Z. Baset, M.L. Gorbaty, and F.J. Wright, 1983, The science of mineral matter in coal, in M.L. Gorbaty, J.W. Larsen, and I. Wender, eds., Coal science, v. 2: New York, Academic Press, p. 1-63. (combustion p. 26-42)

Mukhopadhyay, P.K., G. Lajeunesse, and A.L. Crandlemire, 1996, Mineralogical speciation of elements in an eastern Canadian feed coal and their combustion residues from a Canadian power plant: International Journal of Coal Geology, v. 32, p. 279-312.

Mukhopadhyay, P.K., G. Lajeunesse, A.L. Crandlemire, and R.B. Finkelman, 1999, Mineralogy and geochemistry of selected coal seams and their combustion residues from the Sydney area, Nova Scotia, Canada: International Journal of Coal Geology, v. 40, p. 253-254.

Nadkarni, R.A., 1982, Comprehensive elemental analysis of coal and fly ash, in E.L. Fuller, Jr., ed., Coal and coal products: analytical characterization techniques: American Chemical Society, ACS Symposium Series 205, p. 147-162.

Nádudvari, Á., 2014, Thermal mapping of self-heating zones on coal waste dumps in Upper Silesia (Poland)—A case study: International Journal of Coal Geology, v. 128-129, p. 47-54.

Nádudvari, Á., and M.J. Fabiańska, 2015, Coal-related sources of organic contamination in sediments and water from the Bierawka River (Poland): International Journal of Coal Geology, v. 152, Part B, p. 94-109.

Nandi, B.N., T.D. Brown, and G.K. Lee, 1977, Inert coal macerals in combustion: Fuel, v. 56, p. 125-130.

Nayak, R.V., F.W. Bauer, and T.P. Tonden, 1987, Mineral matter in coal — origin, identification, high-temperature transformation, and boiler erosion: Journal of Coal Quality, v. 6, p. 37-43.

Nelson, M.I., and X.D. Chen, 2007, Survey of experimental work on the self-heating and spontaneous combustion of coal, in G.B. Stracher, ed., Geology of coal fires: case studies from around the world: GSA Reviews in Engineering Geology 18, p. 31-83.

Nelson, P.F., P. Shah, V. Strezov, B. Halliburton, and J.N. Carras, 2010, Environmental impacts of coal combustion: A risk approach to assessment of emissions: Fuel, v. 89, p. 810-816.

Nimaje, D.S., and D.P. Tripathy, 2015, Characterization of some Indian coals to assess their liability to spontaneous combustion: Fuel, v. 163, p. 139-147.

Nolter, M.A., D.H. Vice, and H. Aurand, Jr., 2007, Comparison of Pennsylvania anthracite mine fires: Centralia and Laurel Run, in G.B. Stracher, ed., Geology of coal fires: case studies from around the world: GSA Reviews in Engineering Geology 18, p. 261-270.

Oka, N., T. Murayama, H. Matsuoka, S. Yamada, T. Yamada, S. Shinozaki, M. Shibaoka, and C.G. Thomas, 1987, The influence of rank and maceral composition on ignition and char burnout of pulverized coal: Fuel Processing Technology, v. 15, p. 213-224.

O’Keefe, J.M.K., E.R. Neace, E.W. Lemley, J.C. Hower, K.R. Henke, G. Copley, R.S. Hatch, A.B. Satterwhite, and D.R. Blake, 2011, Old Smokey coal fire, Floyd County, Kentucky: Estimates of gaseous emission rates: International Journal of Coal Geology, v. 87, p. 150-156.

O’Keefe, J.M.K., E.R. Neace, M.L. Hammond III, J.C. Hower, M.A. Engle, J. East, N.J. Geboy, R.A. Olea, K.R. Henke, G.C. Copley, E. Lemley, R.S. Hatch Nally, A.E. Hansen, A.R. Richardson, A.B. Satterwhite, G.B. Stracher, L.F. Radke, C. Smeltzer, C. Romanek, D.R. Blake, P.A. Schroeder S.D. Emsbo-Mattingly, and S.A. Stout, 2018, Gas emissions, tars, and secondary minerals at the Ruth Mullins and Tiptop coal mine fires: International Journal of Coal Geology, v. 195, p. 304-316.

Ouyang, Z., J. Zhu, Q. Lu, Y. Yao, and J. Liu, 2014, The effect of limestone on SO2 and NOx emissions of pulverized coal combustion preheated by circulating fluidized bed: Fuel, v. 120, p. 116-121.

Palmer, C.A., M.R. Krasnow, R.B. Finkleman, and W.M. D’Angelo, 1993, An evaluation of leaching to determine modes of occurrence of selected toxic elements in coal: Journal of Coal Quality, v. 12, p. 135-141.

Pan, J., C. Zhou, C. Liu, M. Tang, S. Cao, T. Hu, W. Ji, Y. Luo, M. Wen, and N. Zhang, 2018, Modes of occurrence of rare earth elements in coal fly ash: A case study: Energy & Fuels, v. 32, p. 9738-9743.

Pan, J., C. Zhou, M. Tang, S. Cao, C. Liu, N. Zhang, M. Wen, Y. Luo, T. Hu, and W. Ji, 2019, Study on the modes of occurrence of rare earth elements in coal fly ash by statistics and a sequential chemical extraction procedure: Fuel, v. 237, p. 555-565.

Parekh, B.K., and J.G. Groppo, eds., 1993, Proceedings of the fifth international conference on processing and utilization of high-sulfur coals: Coal Science and Technology, v. 21, 638 p.

Patrick, J.W., 2009, The 7th European conference on coal research and its application (preface): Fuel, v. 88, p. 2327.

Pavlish, J.H., E.A. Sondreal, M.D. Mann, E.S. Olson, K.C. Galbreath, D.L. Laudal, and S.A. Benson, 2003, A status review of mercury control options for coal-fired power plants: Fuel Processing Technology, v. 82, p. 89-165.

Pavlish, J.H., L.L. Hamre, and Y. Zhuang, 2010, Mercury control technologies for coal combustion and gasification systems: Fuel, v. 89, p. 838-847.

Peng, B., and D. Wu, 2015, Study on bromine release from bituminous coal during combustion: Fuel, v. 157, p. 82-86.

Perry, M.B., 2004, Clean coal technology: Boston, Elsevier Academic Press, Encyclopedia of Energy, vol. 1, p. 343-357.

Pflughoeft-Hassett, D.F., 2000, Practical working definition for materials from conversion of coal for power production: Energeia, v. 11, no. 4, p. 1-3.

Phong-anant, D., J.W. Baker, and M. Salehi, 1989, Burnout characteristics of coal macerals, in C.G. Thomas and M.G. Strachan, eds., Proceedings of the macerals ’89 symposium: North Ryde, NSW, CSIRO, p. 5-1 to 5-19.

Pilarczyk, E., P. Leonhardt, and W. Wanzl, 1995, Characterization of coals with respect to their self-ignition tendency, in J.A. Pajares and J.M.D. Tascon, eds., Coal science: New York, Elsevier, Coal Science and Technology 24, v. 1, p. 497-500.

Pires, M., and X. Querol, 2004, Characterization of Candiota (South Brazil) coal and combustion by-product: International Journal of Coal Geology, v. 60, p. 57-72.

Pone, J.D.N., K.A.A. Hein, G.B. Stracher, H.J. Annegarn, R.B. Finkelman, D.R. Blake, J.K. McCormack, and P. Schroeder, 2007, The spontaneous combustion of coal and its by-products in the Witbank and Sasolburg coalfields of South Africa: International Journal of Coal Geology, v. 72, p. 124-140.

Porter, D., and J. Schmitz, 1995, Utility coal procurement: London, IEA Coal Research, Perspectives Series, IEAPER/20, 31 p.

Potgieter, J.H., 2003, Fly ash research at Technikon Pretoria, South Africa: Energeia, v. 14, no. 1, p. 1-3.

Prakash, A., and A.R. Berthelote, 2007, Subsurface coal-mine fires: laboratory simulation, numerical modeling, and depth estimation, in G.B. Stracher, ed., Geology of coal fires: case studies from around the world: GSA Reviews in Engineering Geology 18, p. 211-218.

Prased, A.S., 1988, Combustion of pulverized coal blends: Norman, University of Oklahoma, unpublished thesis.

Predeanu, G., L.G. Popescu, T.A. Abagiu, C. Panaitescu, B. Valentim, and A. Guedes, 2016, Characterization of bottom ash of Pliocene lignite as ceramic composites raw material by petrographic, SEM/EDS and Raman microspectroscopical methods: International Journal of Coal Geology, v. 168, p. 131-145.

Pudasainee, D., Y.-C. Seo, J.-H. Sung, H.-N. Jang, and R. Gupta, 2017, Mercury co-beneficial capture in air pollution control devices of coal-fired power plants: International Journal of Coal Geology, v. 170, p. 48-53.

Purushothama, S., and W.G. Lloyd, 1994, Organic coproducts of coal combustion: Journal of Coal Quality, v. 13, p. 77-81.

Querol, X., A. Alastuey, A. Lopez-Soler, F. Plana, E. Mantilla, R. Juan, C.R. Ruiz, and A. La Orden, 1999, Characterization of atmospheric particulates around a coal-fired power station: International Journal of Coal Geology, v. 40, p. 175-188.

Querol, X., N. Moreno, J.C. Umaña, A. Alastuey, E. Hernández, A. López-Soler, and F. Plana, 2002, Synthesis of zeolites from coal fly ash: an overview: International Journal of Coal Geology, v. 50, p. 413-423.

Querol, X., M. Izquierdo, E. Monfort, E. Alvarez, O. Font, T. Moreno, A. Alastuey, X. Zhuang, W. Lu, and Y. Wang, 2008, Environmental characterization of burnt coal gangue banks at Yangquan, Shanxi Province, China: International Journal of Coal Geology, v. 75, p. 93-104.

Querol, X., X. Zhuang, O. Font, M. Izquierdo, A. Alastuey, I. Castro, B.L. van Drooge, T. Moreno, J.O. Grimalt, J. Elvira, M. Cabañas, R. Bartroli, J.C. Hower, C. Ayora, F. Plana, and A. López-Soler, 2011, Influence of soil cover on reducing the environmental impact of spontaneous coal combustion in coal waste gobs: a review and new experimental data: International Journal of Coal Geology, v. 85, p. 2-22.

Quick, J.C., and D.C. Glick, 2000, Carbon dioxide from coal combustion: variation with rank of US coal: Fuel, v. 79, p. 803-812.

Quick, J.C., and T. Brill, 2002, Provincial variation of carbon emissions from bituminous coal: influence of inertinite and other factors: International Journal of Coal Geology, v. 49, p. 263-275.

Quick, J.C., 2004, New rules limiting mercury emissions from coal-fired power plants: Utah Geological Survey, Survey Notes, v. 36, no. 3, p. 12-13, 9.

Quintero, J.A., S.A. Candela, C.A. Ríos, C. Montes, and C. Uribe, 2009, Spontaneous combustion of the Upper Paleocene Cerrejón Formation coal and generation of clinker in La Guajira Peninsula (Caribbean region of Colombia): International Journal of Coal Geology, v. 80, p. 196-210.

Quispe, D., R. Pérez-López, L.F.O. Silva, and J.M. Nieto, 2012, Changes in mobility of hazardous elements during coal combustion in Santa Catarina power plant (Brazil): Fuel, v. 94, p. 495-503.

Rajan, S., and J.K. Raghavan, 1995, Role of coal maceral composition in reducing sulfur dioxide and oxides of nitrogen emissions from pulverized coal flames, in J.A. Pajares andJ.M.D. Tascon, eds., Coal science: New York, Elsevier, Coal Science and Technology 24, v. 2, p. 1815-1818.

Ray, S.K., D.C. Panigrahi, and A.K. Varma, 2014, An electro-chemical method for determining the susceptibility of Indian coals to spontaneous heating: International Journal of Coal Geology, v. 128-129, p. 68-80.

Rehman, S.U., A.N. Shah, H.U. Mughal, M.T. Javed, M. Akram, S. Chilton, and W. Nimmo, 2016, Geology and combustion perspectives of Pakistani coals from Salt Range and Trans Indus Range: International Journal of Coal Geology, v. 168, p. 202-213.

Ribeiro, J., E. Ferreira da Silva, and D. Flores, 2010, Burning of coal waste piles from Douro Coalfield (Portugal): petrological, geochemical and mineralogical characterization: International Journal of Coal Geology, v. 81, p. 359-372.

Ribeiro, J., E. Ferreira da Silva, Z. Li, C. Ward, and D. Flores, 2010, Petrographic, mineralogical and geochemical characterization of the Serrinha coal waste pile (Douro coalfield, Portugal) and the potential environmental impacts on soil, sediments and surface waters: International Journal of Coal Geology, v. 83, p. 456-466.

Ribeiro, J., B. Valentim, C. Ward, and D. Flores, 2011, Comprehensive characterization of anthracite fly ash from a thermo-electric power plant and its potential environmental impact: International Journal of Coal Geology, v. 86, p. 204-212.

Ribeiro, J., E.Ferreira da Silva, A. Pinto de Jesus, and D. Flores, 2011, Petrographic and geochemical characterization of coal waste piles from Douro coalfield: International Journal of Coal Geology, v. 87, p. 226-236.

Ribeiro, J., T.F. Silva, J.G. Mendonça Filho, and D. Flores, 2012, Polycyclic aromatic hydrocarbon (PAHs) in burning and non-burning coal waste material: Journal of Hazardous Materials, v. 199-200, p. 105-110.

Ribeiro, J., R. Moura, D. Flores, D.B. Lopes, C. Gouveia, S. Mendonça, and O. Frazão, 2013, The Douro coalfield fires of Portugal, in G.B. Stracher, A. Prakash, and E.V. Sokol, eds., Coal and peat fires: A global perspective: Elsevier, Coal-fire atlas of the world, v. 2, p. 313-337.

Ribeiro, J., T.F. Silva, J.G. Mendonça Filho, and D. Flores, 2014, Fly ash from coal combustion — An environmental source of organic compounds: Applied Geochemistry, v. 44, p. 103-110.

Ribeiro, J., I. Suárez-Ruiz, C.R. Ward, and D. Flores, 2016, Petrography and mineralogy of self-buring coal wastes from anthracite mining in the El Bierzo coalfield (NW Spain): International Journal of Coal Geology, v. 154-155, p. 92-106.

Ribeiro, J., I. Suárez-Ruiz, and D. Flores, 2016, Geochemistry of self-burning coal mining residues from El Bierzo Coalfield (NW Spain): Environmental implications: International Journal of Coal Geology, v. 159, p. 155-168.

Roberts, M.J., R.C. Everson, H.W.J.P. Neomagus, D. Van Niekerk, J.P. Mathews, and D.J. Branken, 2014, Influence of maceral composition on the structure, properties and behaviour of chars derived from South African coals: Fuel, v. 142, p. 9-20.

Roberts, M.J., R.C. Everson, H.W.J.P. Neomagus, G.N. Okolo, D. Van Niekerk, and J.P. Mathews, 2015, The characterisation of slow-heated inertinite- and vitrinite-rich coals from the South African coalfields: Fuel, v. 158, p. 591-601.

Robl, T., J.G. Groppo, S. Brooks, J.C. Hower, and S.S. Medina, 1995, Case studies of low Nox burner retrofit: 1. The effect of loss on ignition, particle size, and chemistry of the fly ash, in S.S. Tyson, T.H. Blackstock, J. Hunger, and A. Marshall, eds., Proceedings: 11th International symposium on use and management of coal combustion by-products (CCBs): American Coal Ash Association, o. 21-1 to 21-12.

Robl, T.L., J.C. Hower, U.M. Graham, R.F. Rathbone, and S.S. Medina, 1995, Influence of conversion to low Nox combustion on fly ash petrography and mineralogy: a cae study, in S.-H. Chiang, ed., Proceedings: Coal — energy and the environment: Twelfth Annual International Pittsburgh Coal Conference, p. 121-125.

Rogers, R.S.C., and L.G. Austin, 1989, Coal-size reduction, in R. Klein and R. Wellek, eds., Sample selection, aging, and reactivity of coal: New York, John Wiley & Sons, p. 103-153. (combustion p. 143-146)

Rose, A., T. Torries, and W. Labys, 1991, Clean coal technologies and future prospects for coal, in J.M. Hollander, ed., Annual Review of Energy and the Environment: Palo Alto, Annual Reviews Inc., Energy and the Environment, v. 16, p. 59-90.

Rosenberg, P., H.I. Petersen, and E. Thomsen, 1996, Combustion char morphology related to combustion temperature and coal petrography: Fuel, v. 75, p. 1071-1082.

Roy, J., P. Sarkar, S. Biswas, and A. Choudhury, 2009, Predictive equations for CO2 emission factors for coal combustion, their applicability in a thermal power plant and subsequent assessment of uncertainty in CO2 estimation: Fuel, v. 88, p. 792-798.

Ruppel, T.C., and T.A. Sarkus, 1998, Unburned carbon on fly ash: a burning issue for coal-fired utilities: Energeia, v. 9, no. 1, p. 5-6.

Saha, D., D. Chatterjee, A. Chakravarty, and T. Roychowdhury, 2019, Investigation of environmental-concern trace elements in coal and their combustion residues from thermal power plants in eastern India: Natural Resources Research, v. 28, no. 4, p. 1505-1520.

Sahu, H.B., S.S. Mahapatra, and D.C. Panigrahi, 2009, An empirical approach for classification of coal seams with respect to the spontaneous heating susceptibility of Indian coals: International Journal of Coal Geology, v. 80, p. 175-180. (coal mine fire)

Saikia, B.K., C.R. Ward, M.L.S. Oliveira, J.C. Hower, F. De Leao, M.N. Johnston, A. O’Bryan, A. Sharma, B.P. Baruah, and L.F.O. Silva, 2015, Geochemistry and nano-mineralogy of feed coals, mine overburden, and coal-derived fly ashes from Assam (north-east India): a multi-faceted analytical approach: International Journal of Coal Geology, v. 137, p. 19-37.

Saikia, B.K., J.C. Hower, M.M. Hood, R. Baruah, H.P. Dekaboruah, R. Boruah, A. Sharma, and B.P. Baruah, 2015, Petrological and biological studies on some fly and bottom ashes collected at different times from an Indian coal-based captive power plant: Fuel, v. 158, p. 572-581.

Sajwan, K.S., A.K. Alva, and R.F. Keefer, eds., 1999, Biogeochemistry of trace elements in coal and coal combustion byproducts: New York, Kluwer Academic/Plenum Publishers, 359 p.

Sakulpitakphon, T., J.C. Hower, A.S. Trimble, W.H. Schram, and G.A. Thomas, 2000, Mercury capture by fly ash: study of the combustion of a high-mercury coal at a utility boiler: Energy & Fuels, v. 14, p. 727-733.

Sakulpitakphon, T., J.C. Hower, and D.N. Taulbee, 2003, Predicted CO2 emissions from maceral concentrates of high volatile bituminous Kentucky and Illinois coals: International Journal of Coal Geology, v. 54, p. 185-192.

Sakulpitakphon, T., J.C. Hower, A.S. Trimble, W.H. Schram, and G.A. Thomas, 2003, Arsenic and mercury partitioning in fly ash at a Kentucky power plant: Energy & Fuels, v. 17, p. 1028-1033.

Sakulpitakphon, T., J.C. Hower, W.H. Schram, and C. R. Ward, 2004, Tracking mercury from the mine to the power plant: geochemistry of the Manchester coal bed, Clay County, Kentucky: International Journal of Coal Geology, v. 57, p. 127-141.

Sanei, H., F. Goodarzi, and P.M. Outridge, 2010, Spatial distribution of mercury and other trace elements in recent lake sediments from central Alberta, Canada: an assessment of the regional impact of coal-fired power plants: International Journal of Coal Geology, v. 82, p. 105-115.

Sanyal, A., 1983, The role of coal macerals in combustion: Journal of the Institute of Energy, v. 56, p. 92-95.

Saxena, R., G.K.B. Navale, D. Chandra, and Y.V.S. Prasad, 1989, Spontaneous combustion of some Permian coal seams of India: an explanation based on microscopic and physico-chemical properties: The Palaeobotanist, v. 38, p. 58-82.

Schmal, D., 1989, Spontaneous heating of stored coal, in C.R. Nelson, ed., Chemistry of coal weathering: New York, Elsevier Science Publishers, Coal Science and Technology, v. 14, p. 133-213.

Schobert, H.H., 1987, Coal — the energy source of the past and future: Washington, D.C., American Chemical Society.

Schweinfurth, S.P., 2003, Coal—A complex natural resource: an overview of factors affecting coal quality and use in the United States: U.S. Geological Survey Circular 1143, 39 p. <https://pubs.er.usgs.gov/publication/cir1143>

Schweinfurth, S.P., 2009, An introduction to coal quality, *in* B.S. Pierce and K.O. Dennen, eds., The National Coal Resource Assessment overview: U.S. Geological Survey Professional Paper 1625, chapter C, 20 p. <https://pubs.usgs.gov/pp/1625f/>

Scott, C., and A. Kolker, 2019, Rare earth elements in coal and coal fly ash: U.S. Geological Survey, Fact Sheet 2019-3048, 4 p. <https://pubs.er.usgs.gov/publication/fs20193048>

Selcuk, N., 1988, Fluidized bed combustion of coal, in Yuda Yurum, ed., New trends in coal science: Boston, Kluwer Academic Publishers, p. 481-494.

Senior, C., E. Granite, W. Linak, and W. Seames, 2020, Chemistry of trace inorganic elements in coal combustion systems: A century of discovery: Energy Fuels, v. 34, p. 15,141-15,168.

Senior, C.L., C.J. Bustard, H. Durham, K. Baldrey, and D. Michaud, 2004, Characterization of fly ash from full-scale demonstration of sorbent injection for mercury control on coal-fired power plants: Fuel Processing Technology, v. 85, p. 601-612.

Sephton, M.G., J.A. Webb, and S. McKnight, 2019, Applications of Portland cement blended with fly ash and acid mine drainage treatment sludge to control acid mine drainage generation from waste rocks: Applied Geochemistry, v. 103, p. 1-14.

Shi, Q., B. Qin, H. Liang, Y. Gao, Q. Bi, and B. Qu, 2018, Effects of igneous intrusions on the structure and spontaneous combustion propensity of coal: A case study of bituminous coal in Daxing mine, China: Fuel, v. 216, p. 181-189.

Shi, Q., B. Qin, Q. Bi, and B. Qu, 2018, An experimental study on the effect of igneous intrusions on chemical structure and combustion characteristics of coal in Daxing mine, China: Fuel, v. 226, p. 307-315.

Shibaoka, M., 1985, The influence of rank and maceral composition on combustion of pulverized coal, in International conference on coal science, 1985: Oxford, Pergamon Press, p. 665-668.

Shibaoka, M., 1985, Microscopic investigation of unburnt char in fly ash: Fuel, v. 64, p. 263-269.

Shibaoka, M., C.G. Thomas, and E. Gawronski, 1989, Microscopic investigations of combustion residues of inertinite rich coals from laboratory and power station samples, in C.G. Thomas and M.G. Strachan, eds., Proceedings of the macerals ’89 symposium: North Ryde, NSW, CSIRO, p. 3-1 to 3-18.

Shreya, N., B. Valentim, B. Paul, A. Guedes, S. Pinho, J. Ribeiro, C.R. Ward, and D. Flores, 2015, Multi-technique study of fly ash from the Bokaro and Jharia coalfields (Jharkhand state, India): A contribution to its use as a geoliner: International Journal of Coal Geology, v. 152, , Part B, p. 25-38.

Sia, S.-G., and W.H. Abdullah, 2012, Enrichment of arsenic, lead, and antimony in Balingian coal from Sarawak, Malaysia: Modes of occurrence, origin, and partitioning behaviour during coal combustion: International Journal of Coal Geology, v. 101, p. 1-15.

Silva, L.F.O., M.L.S. Oliveira, V. Philippi, C. Serra, S. Dai, W. Xue, W. Chen, J.M.K. O’Keefe, C.S. Romanek, S.G. Hopps, and J.C. Hower, 2012, Geochemistry of carbon nanotube assemblages in coal fire soot, Ruth Mullins fire, Perry County, Kentucky: International Journal of Coal Geology, v. 94, p. 206-213.

Singer, S., 1984, Pulverized coal combustion: recent developments: Park Ridge, New Jersey, Noyes Publications, 184 p.

Singh, A.K., R.V.K. Singh, M.P. Singh, H. Chandra, and N.K. Shukla, 2007, Mine fire gas indices and their application to Indian underground coal mine fires: International Journal of Coal Geology, v. 69, p. 192-204.

Singh, R.N., 1986, A practical system of classifying coal seams liable to spontaneous combustion: Journal of Coal Quality, v. 5, p. 108-113.

Singh, S., L.C. Ram, R.E. Masto, and S.K. Verma, 2011, A comparative evaluation of minerals and trace elements in the ashes from lignite, coal refuse, and biomass fired power plants: International Journal of Coal Geology, v. 87, p. 112-120.

Skorupska, N.M., A. Sanyal, G.J. Hesselman, J.C. Crelling, I.A.S. Edwards, and H. Marsh, 1987, The use of an entrained flow reactor to assess the reactivity of coals of high inertinite content: Proceedings International Conference on Coal Science, The Netherlands, Elsevier, p. 827-831.

Sloss, L.L., and I.M. Smith, 1993, Organic compounds from coal utilization: IEA Coal Research, IEACR/63, 69 p.

Sloss, L.L., 1995, Mercury emissions and effects — the role of coal: IEA Coal Research, Perspectives Series, IEAPER/19, 39 p.

Sloss, L., 1996, Residues from advanced coal-use technologies: London, IEA Coal Research, IEA Coal Research Perspectives Series, IEAPER/30, 40 p.

Sloss, L.L., I.M. Smith, and D.M.B. Adams, 1996, Pulverized coal ash — requirements for utilisation: London, IEA Coal Research, IEA Coal Research Report Series, IEACR/88, 88 p.

Smith, A.C., and C.P. Lazzara, 1993, Spontaneous combustion during the storage and transport of coal, in S.-H. Chiang, ed., Coal — energy and the environment: Tenth Annual International Pittsburgh Coal Conference, Proceedings, p. 1009-1015.

Smith, J.D., T.T. Spence, P.J. Smith, A.U. Blackham, and L.D. Smoot, 1988, Effects of coal quality on utility furnace performance: Fuel, v. 67, p. 27-35.

Smoot, L.D., and P.J. Smith, 1985, Coal combustion and gasification: New York, Plenum Press, 443 p.

Smoot, L.D., ed., 1992, Fundamentals of coal combustion: New York, Elsevier Science Publishers, Coal Science and Technology, v. 20, 750 p.

Sokol, E.V., and N.I. Volkova, 2007, Combustion metamorphic events resulting from natural coal fires, in G.B. Stracher, ed., Geology of coal fires: case studies from around the world: GSA Reviews in Engineering Geology 18, p. 97-115.

Song, Z., and C. Kuenzer, 2014, Coal fires in China over the last decade: A comprehensive review: International Journal of Coal Geology, v. 133, p. 72-99.

Song, Z., C. Kuenzer, H. Zhu, Z. Zhang, Y. Jia, Y. Sun, and J. Zhang, 2015, Analysis of coal fire dynamics in the Wuda syncline impacted by fire-fighting activities based on in-situ observations and Landsat-8 remote sensing data: International Journal of Coal Geology, v. 141-142, p. 91-102.

Song, Z., and C. Kuenzer, 2017, Spectral reflectance (400–2500 nm) properties of coals, adjacent sediments, metamorphic and pyrometamorphic rocks in coal-fire areas: A case study of Wuda coalfield and its surrounding areas, northern China: International Journal of Coal Geology, v. 171, p. 142-152.

Song, Z., X. Huang, J. Jiang, and X. Pan, 2020, A laboratory approach to CO2 and CO emission factors from underground coal fires: International Journal of Coal Geology, v. 219, 103382.

Spears, D.A., and M.R. Martinez-Tarazona, 1993, Geochemical and mineralogical characteristics of a power station feed-coal, Eggsborough, England: International Journal of Coal Geology, v. 22, p. 1-20.

Stankova, A., N. Gilon, L. Dutruch, and V. Kanicky, 2010, A simple LIBS method for fast quantitative analysis of fly ashes: Fuel, v. 89, p. 3468-3474.

Steller, M., P. Arendt, and H. Kühl, 2006, Development of coal petrography applied in technical processes at the Bergbau-Forschung/DMT during the last 50 years: International Journal of Coal Geology, v. 67, p. 158-170.

Stencel, J.M., 1990, Fluidized-bed combustion and energy production: Energeia, v. 1, no. 1, p. 2-4.

Stewart, B.R., 1999, Coal combustion product (CCP) production and use: survey results, in K.S. Sajwan, A.K. Alva, and R.F. Keefer, eds., Biogeochemistry of trace elements in coal and coal combustion byproducts: New York, Kluwer Academic/Plenum Publishers, p. 1-6.

Stracher, G.B., ed., 2004, Coal fires burning around the World: a global catastrophe: International Journal of Coal Geology, Special Issue, v. 59, p. 1-151.

Stracher, G.B., 2007, Coal fires burning around the world: Opportunity for innovative and interdisciplinary research: GSA Today, v. 17, no. 11, p. 36-37.

Stracher, G.B., ed., 2007, Geology of coal fires: case studies from around the world: GSA Reviews in Engineering Geology 18, 283 p.

Stracher G.B., A. Prakash, and E.V. Sokol, eds., 2010, Coal and peat fires: a global perspective; v. 1, coal – geology and combustion: New York, Elsevier Scientific Publ. Co., 380 p.

Stracher, G.B., 2010, The rising global interest in coal fires: Earth, v. 55, no. 9, p. 46-55.

Stracher G.B., A. Prakash, and E.V. Sokol, eds., 2012, Coal and peat fires: a global perspective; v. 2, photographs and multimedia tours: New York, Elsevier Scientific Publ. Co., 584 p.

Stuckman, M.Y., C.L. Lopano, and E.J. Granite, 2018, Distribution and speciation of rare earth elements in coal combustion by-products via synchrotron microscopy and spectroscopy: International Journal of Coal Geology, v. 195, p. 125-138.

Stultz, S.C., 2005, Steam: its generation and use: Babcock and Wilcox Company, 41st edition, 1064 p.

Suárez-Ruiz, I., and C.R. Ward, 2008, Coal combustion, in I. Suárez-Ruiz and J.C. Crelling, eds., Applied coal petrology: the role of petrology in coal utilization: New York, Academic Press, p. 85-117.

Suárez-Ruiz, I., D. Flores, J. Graciano Mendonça Filho, and P.C. Hackley, 2012, Review and update of the applications of organic petrology: Part 2, geological and multidisciplinary applications: International Journal of Coal Geology, v. 98, p. 73-94. (spontaneous combustion)

Suárez-Ruiz, I., B. Valentim, Á.G. Borrego, A. Bouzinos, D. Flores, S. Kalaitzidis, M.L. Malinconico, M. Marques, M. Misz-Kennan, J.R. Montes, S. Rodrigues, G. Predeanu, G. Siavalas, and N. Wagner, 2014, Petrographic classification of fly ash components: TSOP Newsletter, v. 31, no. 4, p. 16-17.

Suárez-Ruiz, I., B. Valentim, Á.G. Borrego, A. Bouzinos, D. Flores, S. Kalaitzidis, M.L. Malinconico, M. Marques, M. Misz-Kennan, G. Predeanu, J.R. Montes, S. Rodrigues, G. Siavalas, and N. Wagner, 2017, Development of a petrographic classification of fly-ash components from coal combustion and co-combustion. (An ICCP Classification System, Fly-Ash Working Group – Commission III.): International Journal of Coal Geology, v. 183, p. 188-203.

Sun, Q., W. Li, H. Chen, and B. Li, 2003, The variation of structural characteristics of macerals during pyrolysis: Fuel, v. 82, p. 669-676.

Sung, J.-H., S.-K. Back, B.-M. Jung, Y.-S. Kang, C.-G. Lee, H.-N. Jang, and Y.-C. Seo, 2017, Speciation and capture performance of mercury by a hybrid filter in a coal-fired power plant: International Journal of Coal Geology, v. 170, p. 35-40.

Swanepoel, J.C., and C.A. Strydom, 2002, Utilisation of fly ash in a geopolymeric material: Applied Geochemistry, v. 17, p. 1143-1148.

Swanson, S.M., M.A. Engle, L.F. Ruppert, R.H. Affolter, and K.B. Jones, 2013, Partitioning of selected trace elements in coal combustion products from two coal-burning power plants in the United States: International Journal of Coal Geology, v. 113, p. 116-126.

Sýkorova, I., B. Kříbek, M. Havelcová, V. Machovič, A. Špaldoňová, L. Lapčák, I. Knésl, and J. Blažek, 2016, Radiation- and self-ignition induced alterations of Permian uraniferous coal from the abandoned Novátor mine waste dump (Czech Republic): International Journal of Coal Geology, v. 168, p. 162-178.

Sýkorova, I., B. Kříbek, M. Havelcová, V. Machovič, F. Laufek, F. Veselovský, A. Špaldoňová, L. Lapčák, I. Knésl, P. Matysová, and V. Majer, 2018, Hydrocarbon condensates and argillites in the Eliška mine burnt coal waste heap of the Žacléř coal district (Czech Republic): Products of high- and low-temperature stages of self-ignition: International Journal of Coal Geology, v. 190, p. 146-165.

Tadmore, J., 1986, Radioactivity from coal-fired power plants: a review: Journal of Environmental Radioactivity, v. 4, p. 177-204.

Taggart, R.K., J.C. Hower, G.S. Dwyer, and H. Hsu-Kim, 2016, Trends in the rare earth element content of U.S.-based coal combustion fly ashes: American Chemical Society, Environmental Science & Technology, v. 50, no. 11, p. 5919-5926.

Taggart, R.K., J.C. Hower, and H. Hsu-Kim, 2018, Effects of roasting additives and leaching parameters on the extraction of rare earth elements from coal fly ash: International Journal of Coal Geology, v. 196, p. 106-114.

Tang, H., Y. Duan, C. Zhu, C. Li, M. She, Q. Zhou, and L. Cai, 2017, Characteristics of a biomass-based sorbent trap and its application to coal-fired flue gas mercury emission monitoring: International Journal of Coal Geology, v. 170, p. 19-27.

Taraba, B., Z. Michalec, V. Michalcová, T. Blejchař, M. Bojko, and M. Kozubková, 2014, CFD simulations of the effect of wind on the spontaneous heating of coal stockpiles: Fuel, v. 118, p. 107-112.

Tavoulareas, E.S., 1991, Fluidized-bed combustion technology, in J.M. Hollander, ed., Annual Review of Energy and the Environment: Palo Alto, Annual Reviews, Inc., Energy and the Environment, v. 16, p. 25-57.

Thomas, C.G., M. Shibaoka, E. Gawronski, M.E. Gosnell, and L.F. Brunckhorst, 1989, Macerals’ fusion behaviour in thermal coals, in C.G. Thomas and M.G. Strachan, eds., Proceedings of the Macerals ’89 symposium: North Ryde, NSW, CSIRO, p. 4-1 to 4-35.

Thomas, C.G., M. Shibaoka, E. Gawronski, M.E. Gosnell, and D. Phong-anant, 1992, Reactive inertinite in pf combustion. Part I: a laser microreactor — its use in coal research: Fuel,

Thomas, C.G., M. Shibaoka, E. Gawronski, M.E. Gosnell, and D. Phong-anant, 1992, Reactive inertinite in pf combustion. Part II: determination of reactive inertinite in pf combustion: Fuel,

Thomas, C.G., M.E. Gosnell, E. Gawronski, D. Phong-Anant, and M. Shibaoka, 1993, The behaviour of inertinite macerals under pulverised fuel (pf) combustion conditions: Organic Geochemistry, v. 20, p. 779-788.

Thomas, D.J., 2017, Finding a future for clean coal and CO2 storage technology: Fuel, v. 195, p. 314-315.

Tian, C., Q. Lu, Y. Liu, H. Zeng, Y. Zhao, J. Zhang, and R. Gupta, 2015, Understanding of physicochemical properties and formation mechanisms of fine particular matter generated from Canadian coal combustion: Fuel, v. 165, p. 224-234.

Tomeczek, J., and H. Palugniok, 2002, Kinetics of mineral matter transformation during coal combustion: Fuel, v. 81, p. 1251-1258.

Torrent, J.G., I.S. Armada, and R.A. Pedreira, 1988, A correlation between composition and explosibility index for coal dust: Fuel, v. 67, p. 1629-1632.

Tsai, C.-Y., and A.W. Scaroni, 1987, Pyrolysis and combustion of bituminous coal fractions in an entrained-flow reactor: Energy and Fuels, v. 1, p. 263-269.

Tsai, S.C., 1982, Fundamentals of coal beneficiation and utilization: New York, Elsevier Scientific Publ. Co., Coal Science and Technology, v. 2, 375 p.

Tsuji, H., K. Tanno, A. Nakajima, A. Yamamoto, and H. Shirai, 2015, Hydrogen sulfide formation characteristics of pulverized coal combustion – Evaluation of blended combustion of two bituminous coals: Fuel, v. 158, p. 523-529.

Uludağ, S., 2007, The spontaneous combustion index and its application: past, present, and future, in G.B. Stracher, ed., Geology of coal fires: case studies from around the world: GSA Reviews in Engineering Geology 18, p. 15-22.

Unsworth, J.F., D.J. Barratt, and P.T. Roberts, 1991, Coal quality and combustion performance: an international perspective: New York, Elsevier Scientific Publ. Co., Coal Science and Technology, v. 19, 638 p.

U.S. DOE, 1989, Clean coal technology, the new coal era: Washington, D.C., U.S. Department of Energy, DOE/FE-0149, 38 p.

Valentim, B., M.J. Lemos de Sousa, P. Abelha, D. Boavida, and I. Gulyurtlu, 2006, Combustion studies in a fluidized bed—the link between temperature, NOx and N2O formation, char morphology and coal type: International Journal of Coal Geology, v. 67, p. 191-201.

Valentim, B., M.J. Lemos de Sousa, P. Abelha, D. Boavida, and I. Gulyurtlu, 2006, The identification of unusual microscopic features in coal and their derived chars: influence on coal fluidized bed combustion: International Journal of Coal Geology, v. 67, p. 202-211.

Valentim, B., and J.C. Hower, 2010, Influence of feed and sampling systems on element partitioning in Kentucky fly ash: International Journal of Coal Geology, v. 82, p. 94-104.

Valentim, B., S. Rodrigues, S. Ribeiro, G. Pereira, A. Guedes, and I. Suárez-Ruiz, 2013, Relationships between the optical properties of coal macerals and the chars resulting from fluidized bed pyrolysis: International Journal of Coal Geology, v. 111, p. 80-89.

Valentim, B., N. Shreya, B. Paul, C.S. Gomes, H. Sant’Ovaia, A. Guedes, J. Ribeiro, D. Flores, S. Pinho, I. Suárez-Ruiz, and C.R. Ward, 2016, Characteristics of ferrospheres in fly ashes derived from Bokaro and Jharia (Jharkand, India) coals: International Journal of Coal Geology, v. 153, p. 52-74.

Valentim, B., D. Flores, A. Guedes, R. Guimarães, N. Shreya, B. Paul, and C.R. Ward, 2016, Notes on the occurrence of phosphate mineral relics and spheres (phosphospheres) in coal and biomass fly ash: International Journal of Coal Geology, v. 154-155, p. 43-56.

Valentim, B., D. Flores, A. Guedes, N. Shreya, B. Paul, and C.R. Ward, 2016, Notes on the occurrence of char plerospheres in fly ashes derived from Bokaro and Jharia coals (Jharkhand, India) and the influence of the combustion conditions on their genesis: International Journal of Coal Geology, v. 158, p. 29-43.

Valentim, B., D. Flores, A. Guedes, N. Shreya, B. Paul, and C.R. Ward, 2016, Vermicular kaolinite relics in fly ash derived from Bokaro and Jharia coals (Jharkhand, India): International Journal of Coal Geology, v. 162, p. 151-157.

Valentim, B., A.T. Abagiu, L. Anghelescu, D. Flores, D. French, P. Gonçalves, A. Guedes, L.G. Popescu, G. Predeanu, J. Ribeiro, A.C. Santos, V. Slăvescu, and C.R. Ward, 2019, Assessment of bottom ash landfilled at Ceplea Valley (Romania) as a source of rare earth elements: International Journal of Coal Geology, v. 201, p. 109-126.

Valk, M., ed., 1995, Atmospheric fluidized bed coal combustion: research, development and application: New York, Elsevier Scientific Publ. Co., Coal Science and Technology, v. 22, 462 p.

Van Dijk, P., J. Zhang, W. Jun, C. Luenzer, and K.-H. Wolf, 2011, Assessment of the contribution of in-situ combustion of coal to greenhouse gas emission; based on a comparison of Chinese mining information to previous remote sensing estimates: International Journal of Coal Geology, v. 86, p. 108-119.

Varma, A.K., M. Kumar, V.K. Saxena, A. Sarkar, and S.K. Banerjee, 2014, Petrographic controls on combustion behavior of inertinite rich coal and char and fly ash formation: Fuel, v. 128, p. 199-209.

Vassilev, S.V., C.G. Vassileva, A.I. Karayigit, Y. Bulut, A. Alastuey, and X. Querol, 2005, Phase-mineral and chemical composition of composite samples from feed coals, bottom ashes and fly ashes at the Soma power station, Turkey: International Journal of Coal Geology, v. 61, p. 35-63.

Vassilev, S.V., C.G. Vassileva, A.I. Karayigit, Y. Bulut, A. Alastuey, and X. Querol, 2005, Phase-mineral and chemical composition of fractions separated from composite fly ashes at the Soma power station, Turkey: International Journal of Coal Geology, v. 61, p. 65-85.

Vejahati, F., Z. Xu, and R. Gupta, 2010, Trace elements in coal: Associations with coal and minerals and their behavior during coal utilization—A review: Fuel, v. 89, p. 904-911.

Verma, S.K., R.E. Masto, S. Gautam, D.P. Choudhury, L.C. Ram, S.K. Maiti, and S. Maity, 2015, Investigations of PAHs and trace elements in coal and its combustion residues from a power plant: Fuel, v. 162, p. 138-147.

Veselská, V., J. Majzlan, E. Hiller, K. Petkova, L. Jurkovič, O. Ďurža, and B. Voleková-Lalinská, 2013, Geochemical characterization of arsenic-rich coal-combustion ashes buried under agricultural soils and the release of arsenic: Applied Geochemistry, v. 33, p. 153-164.

Vleeskens, J.M., 1983, Combustion efficiency and petrographic properties, in Proceedings, 1983 International conference on coal science: Pittsburgh Energy Technology Center, p. 599-602.

Vleeskens, J.M., and B.N. Nandi, 1986, Burnout of coals. Comparative bench-scale experiments on pulverized fuel and fluidized bed combustion: Fuel, v. 65, p. 797-802.

Vleeskens, J.M., T.W.M.B. van Haasteren, M. Ross, and J. Gerrits, 1988, Behavior of different char components in fluidized bed combustion: a char petrography study: Fuel, v. 67, p. 426-430.

Vories, K.C., 2004, The beneficial use of coal combustion by-products (CCBs) at SMCRA-regulated coal mines: Energeia, v. 15, no. 5, p. 1-3.

Wang, H., J. Zhang, L. Zhang, J. Wang, and Z. Xu, 2020, Gas emission and soil chemical properties associated with underground coal fires, Wuda coalfield, Inner Mongolia, Chinia: Natural Resources Research, v. 29, p. 3973-3985.

Wang, W., S.D. Brown, K.M. Thomas, and J.C. Crelling, 1994, Nitrogen release from a rank series of coals during temperature programmed combustion: Fuel, v. 73, p. 341-347.

Wang, W., Y. Qin, D. Song, and K. Wang, 2008, Column leaching of coal and its combustion residues, Shizuishan, China: International Journal of Coal Geology, v. 75, p. 81-87.

Wang, X., S. Li, W.-N. Wang, and P. Biswas, 2017, Mercury oxidation during coal combustion by injection of vanadium pentoxide (V2O5): International Journal of Coal Geology, v. 170, p. 54-59.

Wang, X., Y. Luo, and B. Vieira, 2018, Experimental technique and modeling for evaluating heat of rewetting effect on coals’ propensity of spontaneous combustion based on adiabatic oxidation method: International Journal of Coal Geology, v. 187, p. 1-10.

Wang, Z., S. Dai, J. Zou, D. French, and I.T. Graham, 2019, Rare earth elements and yttrium in coal ash from the Luzhou power plant in Sichuan, southwest China: Concentration, characterization and optimized extraction: International Journal of Coal Geology, v. 203, p. 1-14.

Wang, Z., R.M. Coyte, G.S. Dwyer, L.S. Ruhl, H. Hsu-Kim, J.C. Hower, and A. Vengosh, 2020, Distinction of strontium isotope ratios between water-soluble and bulk coal fly ash from the United States: International Journal of Coal Geology, v. 222, 103464.

Ward, C.R., D. French, J. Jankowski, M. Dubikova, Z. Li, and K.W. Riley, 2009, Element mobility from fresh and long-stored acidic fly ashes associated with an Australian power station: International Journal of Coal Geology, v. 80, p. 224-236.

Warwick, P.D., and L.F. Ruppert, 2016, Carbon and oxygen isotopic composition of coal and carbon dioxide derived from laboratory coal combustion: A preliminary study: International Journal of Coal Geology, v. 166, p. 128-135.

Weisenberger, M.C., J. Burgess, H.H. Schobert, and J.C. Hower, 2020, Thermal properties of Pennsylvania anthracite: Fuel, v. 266, 117101.

Wessling, S., C. Kuenzer, W. Kessels, and M.W. Wuttke, 2008, Numerical modeling for analyzing thermal surface anomalies induced by underground coal fires: International Journal of Coal Geology, v. 74, p. 175-184.

Wilcox, J., E. Rupp, S.C. Ying, D.-H. Lim, A.S. Negreira, A. Kirchofer, F. Feng, and K. Lee, 2012, Mercury adsorption and oxidation in coal combustion and gasification processes: International Journal of Coal Geology, v. 90-91, p. 4-20.

Wilcox, J., B. Wang, E. Rupp, R. Taggart, H. Hsu-Kim, M.L.S. Oliveira, C.M.N.L. Cutruneo, S. Taffarel, L.F.O. Silva, S.D. Hopps, G.A. Thomas, and J.C. Hower, 2015, Observations and assessment of fly ashes from high-sulfur bituminous coals and blends of high-sulfur bituminous and subbituminous coals: Environmental processes recorded at the macro- and nanometer scale: Energy & Fuels, v. 29, p. 7168-7177.

Williams, A., M. Pourkashanian, J.M. Jones, and N. Skorupska, 2000, Combustion and gasification of coal: New York, Taylor & Francis, Applied Energy Technology Series, 263 p.

Winschel, R.A., 1990, The relationship of carbon dioxide emissions with coal rank and sulfur content: Journal of Air & Waste Management Association, v. 40, p. 861-865.

Wojtacha-Rychter, K., and A. Smoliński, 2019, Selective adsorption of ethane, ethylene, propane, and propylene in flammable gas mixtures on different coal samples and implications for fire hazard assessments: International Journal of Coal Geology, v. 202, p. 38-45.

Wong, A.S., and J.D. Robertson, 1993, Multi-elemental analysis of coal and its by-products by simultaneous proton-induced gamma-ray/x-ray emission analysis: Journal of Coal Quality, v. 12, p. 146-150.

Wong, A.S., J.C. Hower, J.D. Robertson, B.O. Haeberlin, G.A. Thomas, and W.H. Schram, 1994, Fluorine partitioning in flue-gas desulfurization: examples from coal-fired power plants in Kentucky: Journal of Coal Quality, v. 13, p. 81-87.

Woolard, C.D., J. Strong, and C.R. Erasmus, 2002, Evaluation of the use of modified coal ash as a potential sorbent for organic waste streams: Applied Geochemistry, v. 17, p. 1159-1164.

Wyszomirski, P., and E. Brylska, 1996, Fly ash in Polish building ceramics — threat or proecology?: Applied Geochemistry, v. 11, p. 351-353.

Xia, T., F. Zhou, F. Gao, J. Kang, J. Liu, and J. Wang, 2015, Simulation of coal self-heating processes in underground methane-rich coal seams: International Journal of Coal Geology, v. 141-142, p. 1-12. (spontaneous combustion)

Xie, J., S. Xue, W. cheng, and G. Wang, 2011Early detection of spontaneous combustion of coal in underground coal mines with development of an ethylene enriching system: International Journal of Coal Geology, v. 85, p. 123-127.

Xu, P., B. Zhang, X. Zeng, Y. Xu, G. Luo, and H. Yao, 2017, Influence of Hg occurrence in coal on accuracy of Hg direct measurement based on thermal decomposition: International Journal of Coal Geology, v. 170, p. 14-18.

Xu, X., Q. Chen, and H. Fan, 2003, The influence of high-temperature crystallite growth and petrography of pulverized char on combustion characteristics: Fuel, v. 82, p. 853-858.

Xu, Y., X. Liu, P. Zhang, J. Guo, J. Han, Z. Zhou, and M. Xu, 2016, Role of chlorine in ultrafine particulate matter formation during the combustion of a blend of high-Cl coal and low-Cl coal: Fuel, v. 184, p. 185-191.

Yan, X., S. Dai, I.T. Graham, X. He, K. Shan, and X. Liu, 2018, Determination of Eu concentrations in coal, fly ash and sedimentary rocks using a cation exchange resin and inductively coupled plasma mass spectrometry (ICP-MS): International Journal of Coal Geology, v. 191, p. 152-156. (Europium)

Yang, J., Y. Zhao, V. Zyryanov, J. Zhang, and C. Zheng, 2014, Physical-chemical characteristics and elements enrichment of magnetospheres from coal fly ashes: Fuel, v. 135, p. 15-26.

Yao, Z.T., M.S. Xia, P.K. Sarker, and T. Chen, 2014, A review of the alumina recovery from coal fly ash, with a focus in China: Fuel, v. 120, p. 74-85.

Yossifova, M., S. Valćeva, and E. Djourova, 2007, Mineralogy and environmental geochemistry of lagooned ashes resulted from combustion of Maritza East lignite, Bulgaria: International Journal of Coal Geology, v. 71, p. 287-302.

Yuan, L., and A.C. Smith, 2011, CO and CO2 emissions from spontaneous heating of coal under different ventilation rates: International Journal of Coal Geology, v. 88, p. 24-30.

Zhang, B., J. Chen, J. Sha, S. Zhang, J. Zeng, P. Chen, D. Yao, W. Liu, X. Wang, P. Zhang, G. Liu, and X. Li, 2020, Geochemistry of coal thermally-altered by igneous intrusion: A case study from the Pansan coal mine of Huainan coalfield, Anhui, eastern China: Journal of Geochemical Exploration, v. 213, 106532.

Zhang, H., K. Chen, J. Yan, and M. Ni, 2002, The fragmentation of coal particles during the coal combustion in a fluidized bed: Fuel, v. 81, p. 1835-1840.

Zhang, J., Y. Zhao, C. Wei, B. Yao, and C. Zheng, 2010, Mineralogy and microstructure of ash deposits from the Zhuzhou coal-fired power plant in China: International Journal of Coal Geology, v. 81, p. 309-319.

Zhang, X., C. Chen, X. Sun, and Y. Zheng, 1995, Maceral and rank influences on the morphology and reactivity of coal char, in J.A. Pajares and J.M.D. Tascon, eds., Coal science: New York, Elsevier, Coal Science and Technology 24, v. 1, p. 307-310.

Zhang, Q., T. Branam, and G. Olyphant, 2017, Development and testing of a model for simulating wethering and trace elements release from fixated scrubber sludge utilized in abandoned coal mine reclamation site: International Journal of Coal Geology, v. 169, p. 92-105.

Zhang, W., and R.Q. Honaker, 2018, Rare earth elements recovery using staged precipitation from a leachate generated from coarse coal refuse: International Journal of Coal Geology, v. 195, p. 189-199.

Zhang, Y., J. Wang, J. Wu, S. Xue, Z. Li, and L. Chang, 2015, Modes and kinetics of CO2 and CO production from low-temperature oxidation of coal: International Journal of Coal Geology, v. 140, p. 1-8. (spontaneous combustion)

Zhang, Y., M. Shi, J. Wang, J. Yao, Y. Cao, C.E. Romero, and W.-P. Pan, 2016, Occurrence of uranium in Chinese coals and its emissions from coal-fired power plants: Fuel, v. 166, p. 404-409.

Zhang, Y., J. Wang, S. Xue, J. Wu, L. Chang, and Z. Li, 2016, Kinetic study on changes in methyl and methylene groups during low-temperature oxidation of coal via in-situ FTIR: International Journal of Coal Geology, v. 154-155, p. 155-164. (spontaneous combustion)

Zhang, Y., L. Zhao, R. Guo, J. Wang, Y. Cao, W. Orndorff, and W.-P. Pan, 2017, Influences of NO on mercury adsorption characteristics for HBr modified fly ash: International Journal of Coal Geology, v. 170, p. 77-83.

Zhang, Y., X. Zhang, J.C. Hower, and S. Hu, 2020, Mineralogical and geochemical characteristics of pyrometamorphic rocks induced by coal fires in Junggar Basin, Xinjiang, China: Journal of Geochemical Exploration, v. 213, 106511.

Zhao, L., S. Dai, R.B. Finkelman, D. French, I.T. Graham, Y. Yang, J. Li, and P. Yang, 2020, Leaching behavior of trace elements from fly ashes of five Chinese coal power plants: International Journal of Coal Geology, v.219, 103381.

Zhao, S., Y. Duan, J. Lu, S. Liu, D. Pudasainee, R. Gupta, M. Liu, and J. Lu, 2018, Enrichment characteristics, thermal stability and volatility of hazardous trace elements in fly ash from a coal-fired power plant: Fuel, v. 225, p. 490-498.

Zhao, S., Y. Duan, J. Lu, R. Gupta, D. Pudasainee, S. Liu, M. Liu, and J. Lu, 2018, Thermal stability, chemical speciation and leaching characteristics of hazardous trace elements in FGD gypsum from coal-fired power plants: Fuel, v. 231, p. 94-100.

Zhao, Y., J. Zhang, C.-L. Chou, Y. Li, Z. Wang, Y. Ge, and C. Zheng, 2008, Trace element emissions from spontaneous combustion of gob piles in coal mines, Shanxi, China: International Journal of Coal Geology, v. 73, p. 52-62.

Zhao, Y., J. Zhang, and C. Zheng, 2012, Transformation of aluminum-rich minerals during combustion of a bauxite-bearing Chinese coal: International Journal of Coal Geology, v. 94, p. 182-190.

Zhou, F., W. Ren, D. Wang, T. Song, X. Li, and Y. Zhang, 2006, Application of three-phase foam to fight an extraordinarily serious coal mine fire: International Journal of Coal Geology, v. 67, p. 95-100.

Zielinski, R.A., and R.B. Finkelman, 1997, Radioactive elements in coal and fly ash: abundance, forms, and environmental significance: U.S. Geological Survey, Fact Sheet FS-163-97, 4 p.

Zyryanov, V.V., S.A. Petrov, and A.A. Matvienko, 2011, Characterization of spinel and magnetospheres of coal fly ashes collected in power plants in the former USSR: Fuel, v. 90, p. 486-492.