**CO2 Sequestration 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.

Adams, E.E., and K. Caldeira, 2008, Ocean storage of CO2: Elements, v. 4, p. 319-324.

Akhbari, D., and M.A. Hesse, 2017, Causes of underpressure in natural CO2 reservoirs and implications for geological storage: Geology, v. 45, p. 47-50.

Ambrose, W.A., S. Lakshminarasimhan, M.H. Holtz, V. Núñez-López, S.D. Hovorka, and I. Duncan, 2008, Geologic factors controlling CO2 storage capacity and permanence: case studies based on experience with heterogeneity in oil and gas reservoir applied to CO2 storage: Environmental Geology, v. 54, p. 1619-1633.

Ambrose, W.A., C. Breton, S.D. Hovorka, I.J. Duncan, G. Gülen, M.H. Holtz, and V. Núñez-López, 2011, Geologic and infrastructure factors for delineating areas for clean coal: examples in Texas, USA: Environmental Earth Sciences, v. 63, p. 513-532.

**Ambrose, W.A., C. Breton, V. Núñez-López, and G. Gülen, 2012, Geologic and economic criteria for siting clean-coal facilities in the Texas Gulf Coast, USA: Natural Resources Research, v. 21, p. 461-482.**

**Ambrose, W.A., C. Breton, V. Núñez-López, and G. Gűlen, 2015, EOR potential from CO2 captured from coal-fired power plants in the Upper Cretaceous (Cenomanian) Woodbine Group, East Texas Basin, and southeastern Texas Gulf Coast, USA: Natural Resources Research, v. 24, p. 161-188.**

An, H., X.R. Wei, G.X. Wang, P. Massarotto, F.Y. Wang, V. Rudolph, and S.D. Golding, 2015, Modeling anisotropic permeability of coal and its effects on CO2 sequestration and enhanced coalbed methane recovery: International Journal of Coal Geology, v. 152, , Part B, p. 15-24.

Anderson, S.T., 2017, Cost implications of uncertainty in CO2 storage resource estimates: A review: Natural Resources Research, v. 26, p. 137-159.

Angelone, M., C. Gasparini, M. Guerra, S. Lombardi, L. Pizzino, F. Quattrocchi, E. Sacchi, and G.M. Zuppi, 2005, Fluid geochemistry of the Sardinian Rift-Campidiano Graben (Sardinia, Italy): fault segmentation, seismic quiescence of geochemically “active” faults, and new constraints for selection of CO2 storage sites: Applied Geochemistry, v. 20, p. 317-340.

Anggara, F., K. Sasaki, S. Rodrigues, and Y. Sugai, 2014, The effect of megascopic texture on swelling of a low rank coal in supercritical carbon dioxide: International Journal of Coal Geology, v. 125, p. 45-56.

Anggara, F., K. Sasaki, and Y. Sugai, 2016, The correlation between coal swelling and permeability during CO2 sequestration: A case study using Kushiro low rank coals: International Journal of Coal Geology, v. 166, p. 62-70.

Anonymous, 2009, Geologic carbon sequestration opportunities in Pennsylvania: Pennsylvania Department of Conservation and Natural Resources, 150 p. <http://www.dcnr.state.pa.us/info/carbon/mastercstareport2.pdf>

Anonymous, 2010, KGS assessing carbon sequestration: American Oil & Gas Reporter, v. 53, no. 6, p. 154-155.

Arif, M., A. Barifcani, M. Lebedev, and S. Iglauer, 2016, CO2–wettability of low to high rank coal seams: Implications for carbon sequestration and enhanced methane recovery: Fuel, v. 181, p. 680-689.

Ayers, W.B., Jr., S.K. Ruhl, M. Hoffman, J.A. Rushing, D.A. McVay, and R.I. Ramazanova, 2005, Low-rank coals of the Wilcox Group, east-central Texas: coalbed methane resources, potential for CO2 sequestration, and enhanced methane production, in P. Lufholm and D. Cox, eds., 2005 WTGS Fall Symposium: West Texas Geological Society, Publication No. 05-115, p. 43-65.

Bachu, S., W.D. Gunter, and E.H. Perkins, 1994, Aquifer disposal of CO2: Hydrodynamic and mineral trapping: Energy Conversion and Management, v. 35, p. 269-279.

Bachu, S., 2001, Geologic sequestration of anthropogenic carbon dioxide; applicability and current issues, in L.C. Gerhard, W.E. Harrison, and B.M. Hanson, eds., Geological perspectives of global climate change: AAPG Studies in Geology 47, p. 285-303.

Bachu, S., 2002, Sequestration of CO2 in geological media in response to climate change: Road map for site selection using the transform of the geological space into CO2 space: Energy Conversion and Management, v. 43, p. 87-102.

Bachu, S., and S. Stewart, 2002, Geological sequestration of anthropogenic carbon dioxide in the Western Canada sedimentary basin: suitability analysis: Journal Canadian Petroleum Technology, v. 41, no. 2, p. 32-40.

Bachu, S., 2008, CO2 storage in geological media: role, means, status and barriers to deployment: Progress in Energy and Combustion Science, v. 34, p. 254-273.

Baines, S.J., and R.H. Worden, eds., 2004, Geological storage of carbon dioxide: London, Geological Society Special Publication 233, 255 p.

Bakhshian, S., and S.A. Hosseini, 2019, Prediction of CO2 adsorption-induced deformation in shale nanopores: Fuel, v. 241, p. 767-776.

Balan, H.O., and F. Gumrah, 2009, Assessment of shrinkage-swelling influences in coal seams using rank-dependent physical coal properties: International Journal of Coal Geology, v. 77, p. 203-213.

Balashov, V.N., G.D. Guthrie, J.A. Hakala, C.L. Lopano, J.D. Rimstidt, and S.L. Brantley, 2013, Predictive modeling of CO2 sequestration in deep saline sandstone reservoirs: Impacts of geochemical kinetics: Applied Geochemistry, v. 30, p. 41-56.

Balashov, V.N., G.D. Guthrie, C.L. Lopano, J.A. Hakala, and S.L. Brantley, 2015, Reaction and diffusion at the reservoir/shale interface during CO2 storage: Impact of geochemical kinetics: Applied Geochemistry, v. 61, p. 119-131.

Ball, D., N. Gupta, and B. Metzger, 2007, Energy industry examining CO2 sequestration options: Oil & Gas Journal, v. 105.18, p. 20-27.

Bandilla, K.W., 2020, Carbon capture and storage, in T.M. Letcher, ed., Future energy: Improved, sustainable and clean options for our planet, third edition: Elsevier, Cambridge, MA, p. 669-692.

Barnes, D.A., D.H. Bacon, and S.R. Kelley, 2009, Geological sequestration of carbon dioxide in the Cambrian Mount Simon Sandstone: Regional storage capacity, site characterization, and large-scale injection feasibility, Michigan Basin: Environmental Geosciences, v. 16, no. 3, p. 163-183.

Barnhart, E.P., K.J. Davis, M. Varonka, W. Orem, A.B. Cunningham, B.D. Ramsay, and M.W. Fields, 2017, Enhanced coal-dependent methanogenesis coupled with algal biofuels: Potential water recycle and carbon capture: International Journal of Coal Geology, v. 171, p. 69-75.

Battistutta, E., P. van Hemert, M. Lutynski, H. Bruining, and K.-H. Wolf, 2010, Swelling and sorption experiments on methane, nitrogen and carbon dioxide on dry Selar Cornish coal: International Journal of Coal Geology, v. 84, p. 39-48.

Beecy, D.J., and V.A. Kuuskraa, 2001, Status of U.S. geologic carbon sequestration research and technology: Environmental Geosciences, v. 8, p. 152-159.

Beinlich, A., H. Austrheim, J. Glodny, M. Erambert, and T.B. Andersen, 2010, CO2 sequestration and extreme Mg depletion in serpentinized peridotite clasts from the Devonian Solund Basin, SW-Norway: Geochimica et Cosmochimica Acta, v. 74, p. 6935-6964.

Bennaceur, K., 2014, CO2 capture and sequestration, in T.M. Letcher, ed., Future energy, second edition: New York, Elsevier, p. 583-611.

**Benson, S.M., and D.R. Cole, 2008, CO2 sequestration in deep sedimentary formations: Elements, v. 4, p. 325-331.**

Bertier, P., R. Swennen, B. Laenen, D. Lagrou, and R. Dreesen, 2006, Experimental identification of CO2-water-rock interactions caused by sequestration of CO2 in Westphalian and Buntsandstein sandstones of the Campine Basin (NE-Belgium): Journal of Geochemical Exploration v. 89, p. 10-14.

Bickle, M., and N. Kampman, 2013, Lessons in carbon storage from geological analogues: Geology, v. 41, p. 525-526.

Bihani, A., and H. Daigle, 2019, On the role of spatially correlated heterogeneity in determining mudrock sealing capacity for CO2 sequestration: Marine and Petroleum Geology, v. 106, p. 116-127.

Bowen, B.B., R.I. Ochoa, N.D. Wilkens, J. Brophy, T.R. Lovell, N. Fischietto, C.R. Medina, and J.A. Rupp, 2011, Depositional and diagenetic variability within the Cambrian Mount Simon Sandstone: Implications for carbon dioxide sequestration: Environmental Geosciences Journal, v. 18, no. 2.

Bowersox, J.R., and M.J. Lynch, 2010, Carbon storage tests by the Kentucky Geological Survey in western Kentucky—ownership, access, and liability issues: UK Center for Applied Energy Research, Energeia, v. 21, no. 3, p. 1-3.

Bracmort, K., J.L. Ramseur, J.E. McCarthy, P. Folger, and D.J. Marples, 2010, Methane capture: options for greenhouse gas emission reduction: Congressional Research Service, R40813, 24 p. <http://ncseonline.org/NLE/CRSreports/10Jun/R40813.pdf>

Bradshaw, J., and others, 2007, CO2 storage capacity estimation: issues and development of standards: International Journal of Greenhouse Gas Control, v. 1, p. 62-68.

Brennan, S.T., and R.C. Burruss, 2006, Specific storage volumes: a useful tool for CO2 storage capacity assessment: Natural Resources Research, v. 15, p. 165-182.

Brennan, S.T., R.C. Burruss, M.D. Merrill, P.A. Freeman, and L.F. Ruppert, 2010, A probabilistic assessment methodology for the evaluation of geologic carbon dioxide storage: U.S. Geological Survey Open-File Report 2010-1127, 31 p. <http://pubs.usgs.gov/of/2010/1127/ofr2010-1127.pdf>

Bromhal, G.S., W.N. Sams, S. Jikich, T. Ertekin, and D.H. Smith, 2005, Simulation of CO2 sequestration in coal beds: the effects of sorption isotherms: Chemical Geology, v. 217, p. 201-211.

Brown, D., 2007, CO2 answers are as elusive as CO2; capture, costs part of equation: AAPG Explorer, v. 28, no. 8, p. 14-18.

Brown, D., 2008, Sequestration faces variety of hurdles; EOR a rational starting point: AAPG Explorer, v. 29, no. 9, p. 24, 26, 28. <http://www.aapg.org/explorer/2008/09sep/co2.cfm>

Buchanan, R., and T.R. Carr, 2011, Geologic sequestration of carbon dioxide in Kansas: Kansas Geological Survey, Public Information Circular 27, 4 p. <http://www.kgs.ku.edu/Publications/PIC/pic27.html>

Burke, L., 2011, Carbon dioxide fluid-flow modeling and injectivity calculations: U.S. Geological Survey, Scientific Investigations Report 2011-5083, 24 p. <http://pubs.usgs.gov/sir/2011/5083/sir2011-5083.pdf>

Burruss, R.C., and S.T. Brennan, 2003, Geologic sequestration of carbon dioxide; an energy resource perspective: U.S.G.S. Fact Sheet FS 0026-03, 2 p. <http://pubs.usgs.gov/fs/fs026-03/>

Busch, A., Y. Gensterblum, and B.M. Krooss, 2003, Methane and CO2 sorption and desorption measurements on dry Argonne premium coals: pure components and mixtures: International Journal of Coal Geology, v. 55, p. 205-224.

Busch, A., Y. Gensterblum, B.M. Krooss, and R. Littke, 2004, Methane and carbon dioxide adsorption—diffusion experiments on coal: upscaling and modeling: International Journal of Coal Geology, v. 60, p. 151-168.

Busch, A., Y. Gensterblum, B.M. Krooss, and N. Siemons, 2006, Investigation of high-pressure selective adsorption/desorption behaviour of CO2 and CH4 on coals: an experimental study: International Journal of Coal Geology, v. 66, p. 53-68.

Busch, A., S. Alles, Y. Gensterblum, D. Prinz, D.N. Dewhurst, M.D. Raven, H. Stanjek, and B.M. Krooss, 2008, Carbon dioxide storage potential of shales: International Journal of Greenhouse Gas Control, v. 2, p. 297-308.

Busch, A., and Y. Gensterblum, 2011, CBM and CO2-ECBM related sorption processes in coal: a review: International Journal of Coal Geology, v. 87, p. 49-71.

Bustin, A.M.M., R.M. Bustin, L. Chikatamarla, R. Downey, and J. Mansoori, 2016, Learnings from a failed nitrogen enhanced coalbed methane pilot: Piceance Basin, Colorado: International Journal of Coal Geology, v. 165, p. 64-75. (ECBM)

Bustin, R.M., 2001, Hydrogen sulphide sorption on coal with comparisons to methane, carbon dioxide, nitrogen and hydrogen: implications for acid gas sequestration and co-production of methane: Tuscaloosa, Alabama, Proceedings, International Coalbed Methane Symposium, Paper 112, p. 343-350.

Bustin, R.M., X. Cui, and L. Chikatamarla, 2008, Impacts of volumetric strain on CO2 sequestration in coals and enhanced CH4 recovery: AAPG Bulletin, v. 92, p. 15-29.

Buursink, M.L., M.D. Merrill, W.H. Craddock, T.L. Roberts-Ashby, S.T. Brennan, M.S. Blondes, P.A. Freeman, S.M. Cahan, C.A. DeVara, and C.D. Lohr, 2012, Geologic framework for the National Assessment of Carbon Dioxide Storage Resources—Williston Basin, Central Montana basins, and Montana thrust belt study areas: USGS Open-File Report 2012-1024-J, 47 p. <http://pubs.usgs.gov/of/2012/1024/j/>

Buursink, M.L., S.M. Cahan, and P.D. Warwick, 2015, National assessment of geologic carbon dioxide storage resources—Allocations of assessed areas to federal lands: U.S. Geological Survey Scientific Investigations Report 2015-5021, 21 p. <http://pubs.usgs.gov/sir/2015/5021/>

Byrer, C.W., and H.G. Guthrie, 1999, Coal deposits: potential geological sink for sequestering carbon dioxide emissions from power plants, in B. Eliasson, P.W.F. Riemer, and A. Wokaun, eds., Greenhouse gas control technologies: Pergamon, Elsevier Science Ltd., p. 181-187.

Cao, X., M. Mastalerz, M.A. Chappell, L.F. Miller, Y. Li, and J. Mao, 2011, Chemical structures of coal lithotypes before and after CO2 adsorption as investigated by advanced solid-state 13C nuclear magnetic resonance spectroscopy: International Journal of Coal Geology, v. 88, p. 67-74.

Caramanna, G., Y. Wei, M. M. Maroto-Valer, P. Nathanail, and M. Steven, 2013, Laboratory experiments and field study for the detection and monitoring of potential seepage from CO2 storage sites: Applied Geochemistry, v. 30, p. 105-113.

Carr, T.R., D.F. Merriam, and J.D. Bartley, 2005, Use of relational databases to evaluate regional petroleum accumulation, groundwater flow, and CO2 sequestration in Kansas: AAPG Bulletin, v. 89, p. 1607-1627.

Carr, T.R., and D.F. Merriam, 2005, CO2 sequestration, petroleum accumulation, and groundwater flow in Kansas: a regional assessment (abstract): 2005 AAPG Annual Conventional Abstracts Volume, v. 14, p. A23.

Carroll, R.E., and J.C. Pashin, 2002, Carbon sequestration potential of coalbed methane reservoirs in the Black Warrior basin: relationship of sorption capacity to coal quality (abstract): TSOP Abstracts and Program, v. 18, p. 23-24.

Carroll, R.E., and J.C. Pashin, 2003, Relationship of sorption capacity to coal quality: CO2 sequestration potential of coal bed methane reservoirs in the Black Warrior Basin: Proceedings of the International Coal Bed Methane Symposium, paper 0317, 11 p.

Ceglarska-Stefańska, G., and K. Zarębska, 2002, The competitive sorption of CO2 and CH4 with regard to the release of methane from coal: Fuel Processing Technology, v. 77-78, p. 423-429.

Ceglarska-Stefańska, G., and K. Zarębska, 2005, Sorption of carbon dioxide-methane mixtures: International Journal of Coal Geology, v. 62, p. 211-222.

Chadwick, R.A., and D.J. Noy, 2010, History-matching flow simulations and time-lapse seismic data from the Sleipner CO2 plume, in B.A. Vining and S.C. Pickering, eds., Petroleum geology: from mature basins to new frontiers: London, Geological Society, Proceedings of the 7th Petroleum Geology Conference, p. 1171-1182.

Chapman, J., 2004, Carbon dioxide alchemy: Geotimes, v. 49, no. 12, p. 10-11.

Chareonsuppanimit, P., S.A. Mohammad, R.L. Robinson, Jr., and K.A.M. Gasem, 2012, High-pressure adsorption of gases on shales: Measurements and modeling: International Journal of Coal Geology, v. 95, p. 34-46.

Chareonsuppanimit, P., S.A. Mohammad, R.L. Robinson, Jr., and K.A.M. Gasem, 2014, Modeling gas-adsorption-induced swelling and permeability changes in coals: International Journal of Coal Geology, v. 121, p. 98-109.

Charrière, D., Z. Pokryszka, and P. Behra, 2010, Effect of pressure and temperature on diffusion of CO2 and CH4 into coal from the Lorraine Basin (France): International Journal of Coal Geology, v. 81, p. 373-380.

Chaturvedi, T., J.M. Schembre, and A.R. Kovscek, 2009, Spontaneous imbibition and wettability characteristics of Powder River Basin coal: International Journal of Coal Geology, v. 77, p. 34-42.

Chen, C., W. Hu, J. Sun, W. Li, and Y. Song, 2019, CH4 adsorption and diffusion in shale pores from molecular simulation and a model for CH4 adsorption in shale matrix: International Journal of Heat and Mass Transfer, v. 141, p. 367-378.

Chen, M., L.J. Hosking, R.J Sandford, and H.R. Thomas, 2019, Dual porosity modelling of the coupled mechanical response of coal to gas flow and adsorption: International Journal of Coal Geology, v. 205, p. 115-125.

Chen, Z., J. Liu, D. Elsworth, L.D. Connell, and Z. Pan, 2010, Impact of CO2 injection and differential deformation on CO2 injectivity under in-situ stress conditions: International Journal of Coal Geology, v. 81, p. 97-108.

Chidsey, T.C., Jr., 2007, Geological sequestration of carbon dioxide and enhanced oil recovery: Utah Geological Survey, Survey Notes, v. 39, no. 2, p. 4-7.

Clark, J.R., 2006, Clean coal urged for CO2 control, energy security: Oil & Gas Journal, v. 104.16, p. 35-38.

Conaway, C.H., J.J. Thordsen, M.A. Manning, P.J. Cook, R.C. Trautz, B. Thomas, and Y.K. Kharaka, 2016, Comparison of geochemical data obtained using four brine sampling methods at the SECARB Phase III Anthropogenic Test CO2 injection site, Citronelle Oil Field, Alabama: International Journal of Coal Geology, v. 162, p. 85-95.

Connell, L.D., and C. Detournay, 2009, Coupled flow and geomechanical processes during enhanced coal seam methane recovery through CO2 sequestration: International Journal of Coal Geology, v. 77, p. 222-233.

Connell, L.D., R. Sander, Z. Pan, M. Camilleri, and D. Heryanto, 2011, History matching of enhanced coal bed methane laboratory core flood tests: International Journal of Coal Geology, v. 87, p. 128-138.

Cook, P.J., ed., 2014, Geologically storing carbon: Learning from the Otway project experience: John Wiley & Sons Ltd., 384 p.

Cormos, C.-C., 2016, Oxy-combustion of coal, lignite and biomass: A techno-economic analysis for a large scale carbon capture and storage (CCS) project in Romania: Fuel, v. 169, p. 50-57.

Corum, M.D., and C. DeVera, 2014, Natural occurring CO2 in sedimentary basins in the U.S.: Are there any similarities in the geochemistry of these basins?(abstract): TSOP Program and Abstracts, v. 31, p. 35-36.

Crocker, M., and S. Morton, III, 2010, Development of an algae-based system for CO2 mitigation from coal-fired power plants: University of Kentucky Center for Applied Energy Research, Energeia, v. 21, no. 6, p. 1-4.

Czerw, K., 2011, Methane and carbon dioxide sorption/desorption on bituminous coal—Experiments on cubicoid samples cut from the primal coal lump: International Journal of Coal Geology, v. 85, p. 72-77.

Czerw, K., P. Baran, and K. Zarębska, 2017, Application of the stretched exponential equation to sorption of mine gases and sorption induced swelling of bituminous coal: International Journal of Coal Geology, v. 173, p. 76-83.

Dallbauman, L., 2004, GTI research on carbon dioxide sequestration: GasTIPS, v. 10, no. 2, p. 31-33.

Damen, K., A. Faaij, F. Van Bergen, J. Gale, and E. Lysen, 2005, Identification of early opportunities for CO2 sequestration—worldwide screening for CO2-EOR and CO2-ECBM projects: Energy, v. 30, p. 1931-1952.

Dance, T., 2013, Assessment and geological characterization of the CO2CRC Otway Project CO2 storage demonstration site: From prefeasibility to injection: Marine and Petroleum Geology, v. 46, p. 251-269.

Daneshfar, J., R.G. Hughes, and F. Civan, 2009, Feasibility investigation and modeling analysis of CO2 sequestration in Arbuckle Formation utilizing salt water disposal wells: Journal of Energy Resources Technology, v. 131, p. 023301-1 to 023301-10.

Dashtgard, S.E., M.B.E. Buschkuehle, B. Fairgrieve, and H. Berhane, 2008, Geological characterization and potential carbon dioxide (CO2) enhanced oil recovery in the Cardium Formation, central Pembina Field, Alberta: Bulletin of Canadian Petroleum Geology, v. 56, p. 147-164.

Dawson, G.K.W., S.D. Golding, D. Biddle, and P. Massarotto, 2015, Mobilisation of elements from coal due to batch reactor experiments with CO2 and water at 40°C and 9.5 MPa: International Journal of Coal Geology, v. 140, p. 63-70.

Day, S., R. Fry, and R. Sakurovs, 2008, Swelling of Australian coals in supercritical CO2: International Journal of Coal Geology, v. 74, p. 41-52.

Day, S., R. Sakurovs, and S. Weir, 2008, Supercritical gas sorption on moist coals: International Journal of Coal Geology, v. 74, p. 203-214.

Day, S., R. Fry, and R. Sakurovs, 2011, Swelling of moist coal in carbon dioxide and methane: International Journal of Coal Geology, v. 86, p. 197-203.

Day, S., R. Fry, and R. Sakurovs, 2012, Swelling of coal in carbon dioxide, methane and their mixtures: International Journal of Coal Geology, v. 93, p. 40-48.

De Caritat, P., A. Hortle, M. Raistrick, C. Stalvies, and C. Jenkins, 2013, Monitoring groundwater flow and chemical and isotopic composition at a demonstration site for carbon dioxide storage in a depleted natural gas reservoir: Applied Geochemistry, v. 30, p. 16-32.

DePaolo, D.J.,D.R. Cole, A. Navrotsky, and J.C. Bourg, eds., 2013, Geochemistry of geologic CO2 sequestration: Mineralogical Society of America, Reviews in Mineralogy & Geochemistry 77, 539 p.

De Silva, G.P.D., P.G. Ranjith, and M.S.A. Perera, 2015, Geochemical aspects of CO2 sequestration in deep saline aquifers: A review: Fuel, v. 155, p. 128-143.

De Silva, P.N.K., P.G. Ranjith, and S.K. Choi, 2011, A study of methodologies for CO2 storage capacity estimation of coal: Fuel, v. 91, p. 1-15.

De Silva, P.N.K., and P.G. Ranjith, 2014, Understanding and application of CO2 adsorption capacity estimation models for coal types: Fuel, v. 121, p. 250-259.

Dittrick, P., 2010, DOE partnerships testing CO2 EOR, sequestration synergies: Oil & Gas Journal, v. 108.13, p. 18-20.

Dixit, N.C., M. Ahmadi, C.L. Hanks, and O. Awoleke, 2017, Preliminary study of the carbon sequestration and enhanced coal bed methane production potential of subbituminous to high-volatile bituminous coals of the Healy Creek Formation, Nenana Basin, interior Alaska: Natural Resources Research, v. 26, p. 339-363. (ECBM)

DOE/EA, 2002, Enhanced coalbed methane production and sequestration of CO2 in unmineable coal seams: DOE National Energy Technology Laboratory, Environmental assessment, DOE/EA-1420. <http://www.netl.doe.gov/ISO14001/esh-ism/EA/pubs/Consol_drftEA.PDF>

Donda, F., D. Civile, E. Forlin, V. Volpi, M. Zecchin, E. Gordini, B. Merson, and L. De Santis, 2013, The northernmost Adriatic Sea: a potential location for CO2 geological storage?: Marine and Petroleum Geology, v. 42, p. 148-159.

Drake, R.M., II, S.T. Brennan, J.A. Covault, M.S. Blondes, P.A. Freeman, S.M. Cahan, C.A. DeVera, and C.D. Lohr, 2012, Geologic framework for the national assessment of carbon dioxide storage resources—Denver Basin, Colorado, Wyoming, and Nebraska: U.S. Geological Survey Open-File Report 2012-1024-G, 17 p.

Dressel, B., and D. Olsen, 2010, Geologic storage formation classifications: understanding its importance and impacts on CCS opportunities in the United States: U.S. Department of Energy, National Energy Technology Laboratory, 56 p. <http://www.fe.doe.gov/news/techlines/2010/10050-Geologic_Storage_Manual_Issued.html>

Du, X., M. Gu, Z. Hou, Z. Liu, and T. Wu, 2019, Experimental study on the kinetics of adsorption of CO2 and CH4 in gas-bearing shale reservoirs: Energy & Fuels, v. 33, p. 12587-12600.

Du, Y., C. Fu, Z. Pan, S. Sang, W. Wang, S. Liu, Y. Zhao, and J. Zhang, 2020, Geochemistry effects of supercritical CO2 and H2O on the mesopore and macropore structures of high-rank coal from the Qinshui Basin, China: International Journal of Coal Geology, v. 223, 103467. (ECBM)

Duda, J.R., V. Kuuskraa, M. Godec, and T. Van Leeuwen, 2010, Modeling exercises assess US CO2-EOR potential: Oil & Gas Journal, v. 108.13, p. 52-55.

Durham, L.S., 2007, Demonstration being monitored, corralling CO2 a win-win for oil: AAPG Explorer, v. 28, no. 7, p. 16-18. <http://www.aapg.org/explorer/2007/07jul/carbon_sequestration.cfm>

Durucan, S., and J.-Q. Shi, 2009, Improving the CO2 well injectivity and enhanced coalbed methane production performance in coal seams: International Journal of Coal Geology, v. 77, p. 214-221.

Dutta, P., S. Harpalani, and B. Prusty, 2008, Modeling of CO2 sorption on coal: Fuel, v. 87, p. 2023-2036.

Dutta, P., S. Bhowmik, and S. Das, 2011, Methane and carbon dioxide sorption on a set of coals from India: International Journal of Coal Geology, v. 85, p. 289-299.

Duttlinger, D., 2004, Enhanced recovery intertwines naturally with CO2 sequestration: The American Oil & Gas Reporter, v. 47, no. 1, p. 29.

EIA, 1998, Greenhouse gases, global climate change, and energy: EIA brochure. <http://www.eia.doe.gov/oiaf/1605/ggccebro/chapter1.html>

EIA, 2002, Emissions of greenhouse gases in the United States 2001: EIA-0573(2001). <ftp://ftp.eia.doe.gov/pub/oiaf/1605/cdrom/pdf/ggrpt/057301.pdf>

Ellett, K.M., R.S. Middleton, P.H. Stauffer, and J.A. Rupp, 2017, Facilitating CCS business planning by extending the functionality of the SimCCS integrated system model: Energy Procedia, v. 114, p. 6526-6535.

Enick, R., J. Ammer, and W. Schuller, 2012, Mobility and conformance control for carbon dioxide EOR–Part 1: World Oil, v. 233, no. 3, p. 89-91.

EPA, 2002, Inventory of U.S. greenhouse gas emissions and sinks: 1990-2000: EPA 430-R-02-003. <http://yosemite.epa.gov/oar/globalwarming.nsf/content/ResourceCenterPublicationsGHGEmissionsUSEmissionsInventory2002.html>

Espinoza, D.N., M. Vandamme, J.-M. Pereira, P. Dangla, and S. Vidal-Gilbert, 2014, Measurement and modeling of adsorptive-poromechanical properties of bituminous coal cores exposed to CO2: Adsorption, swelling strains, swelling stresses and impact on fracture permeability: International Journal of Coal Geology, v. 134-135, p. 80-95.

Esposito, R.A., J.C. Pashin, and P.M. Walsh, 2008, Citronelle Dome: A giant opportunity for multizone carbon storage and enhanced oil recovery in the Mississippi Interior Salt Basin of Alabama: AAPG Bulletin, v. 15, p. 53-62.

Esser, R., R. Levey, B. McPherson, W. O’Dowd, J. Litynski, and S. Plasynski, 2010, Preparing for a carbon constrained world; overview of the United States regional carbon sequestration partnerships programme and its Southwest Regional Partnership, in B.A. Vining and S.C. Pickering, eds., Petroleum geology: from mature basins to new frontiers: London, Geological Society, Proceedings of the 7th Petroleum Geology Conference, p. 1189-1195.

Fathi, E., and I.Y. Akkutlu, 2008, Counter-diffusion and competitive adsorption effects during CO2 injection and coalbed methane production: SPE paper 115482, 15 p.

Fender, T.D., M. Rouainia, C. Van Der Land, M. Jones, M. Mastalerz, J.A.I. Hennissen, S.P. Graham, and T. Wagner, 2020, Geomechanical properties of coal macerals; measurements applicable to modelling swelling of coal seams during CO2 sequestration: International Journal of Coal Geology, v. 228, 103528.

Fessenden, J., 2012, Carbon sequestration and natural analogs: Geology, v. 40, p. 575-576.

Firouzi, M., E.C. Rupp, C.W. Liu, and J. Wilcox, 2014, Molecular simulation and experimental characterization of the nanoporous structures of coal and gas shale: International Journal of Coal Geology, v. 121, p. 123-128.

Fokker, P.A. and L.G.H. Van der Meer, 2004, The injectivity of coalbed CO2 injection wells: Energy, v. 29, p. 1423-1429.

Förster, A., R. Schöner, H.-J. Förster, B. Norden, A.-W. Blaschke, J. Luckert, G. Beutler, and R. Gaupp, 2010, Reservoir characterization of a CO2 storage aquifer: the Upper Triassic Stuttgart Formation in the Northeast German Basin: Marine and Petroleum Geology, v. 27, p. 2156-2172.

Frailey, S.M., R.J. Finley, and T.S. Hickman, 2006, CO2 sequestration: storage capacity guideline needed: Oil & Gas Journal, v. 104.30, p. 44-46, 48-49.

Frailey, S.M., R.J. Finley, and J.A. Rupp, 2013, Illinois Basin, Midwest carbon dioxide EOR challenges may be surmountable: Oil & Gas Journal, v. 111.1, p. 64-73.

Fujioka, M., S. Yamaguchi, and M. Nako, 2010, CO2-ECBM field tests in the Ishikari coal basin of Japan: International Journal of Coal Geology, v. 82, p. 287-298.

Galeczka, I., D. Wolff-Boenisch, T. Jonsson, B. Sigfusson, A. Stefansson, and S.R. Gislason, 2013, A novel high pressure column flow reactor for experimental studies of CO2 mineral storage: Applied Geochemistry, v. 30, p. 91-104.

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.

Garner, C., G. Finqueneisel, T. Zimny, Z. Pokryszka, S. Lafortune, P.D.C. Défossez, and E.C. Gaucher, 2011, Selection of coals of different maturities for CO2 storage by modeling of CH4 and CO2 adsorption isotherms: International Journal of Coal Geology, v. 87, p. 80-86.

Gensterblum, Y., P. van Hemert, P. Billemont, E. Battistutta, A. Busch, B.M. Krooss, G. De Weireld, and K.-H.A.A. Wolf, 2010, European inter-laboratory comparison of high pressure CO2 sorption isotherms II: natural coals: International Journal of Coal Geology, v. 84, p. 115-124.

Gentzis, T., 2000, Subsurface sequestration of carbon dioxide — an overview from an Alberta (Canada) perspective: International Journal of Coal Geology, v. 43, p. 287-305.

Giavarini, C., F. Maccioni, and M.L. Santarelli, 2009, CO2 sequestration from coal fired power plants: Fuel, v. 89, p. 623-628.

Gilliland, E.S., N. Ripepi, M. Conrad, M.J. Miller, and M. Karmis, 2013, Selection of monitoring techniques for a carbon storage and enhanced coalbed methane recovery pilot test in the central Appalachian Basin: International Journal of Coal Geology, v. 118, p. 105-112.

Godec, M., G. Koperna, R. Petrusak, and A. Oudinot, 2013, Potential for enhanced gas recovery and CO2 storage in the Marcellus Shale in the eastern United States: International Journal of Coal Geology, v. 118, p. 95-104.

Goodman, A.L., A. Busch, G.J. Duffy, J.E. Fitzgerald, K.A.M. Gasem, Y. Gensterblum, B.M. Krooss, J. Levy, E. Ozdemir, Z. Pan, R.L. Robinson, Jr., K. Schroeder, M. Sudibandriyo, and C. White, 2004, An inter-laboratory comparison of CO2 isotherms measured on Argonne premium coal samples: Energy and Fuels, v. 18, p. 1175-1182.

Goodman, A.L., R.N. Favors, M.M. Hill, and J.W. Larsen, 2005, Structure changes in Pittsburgh No. 8 coal caused by sorption of CO2 gas: Energy & Fuels, v. 19, p. 1759-1760.

Goodman, A.L., A. Busch, R.M. Bustin, L. Chikatamarla, S. Day, G.J. Duffy, J.E. Fitzgerald, K.A.M. Gasem, Y. Gensterblum, C. Hartman, C. Jing, B.M. Krooss, S. Mohammed, T. Pratt, R.L. Robinson, Jr., V. Romanov, R. Sakurovs, K. Schroeder, and C.M. White, 2007, Inter-laboratory comparison II: CO2 isotherms measured on moisture-equilibrated Argonne premium coals at 55°C and up to 15 MPa: International Journal of Coal Geology, v. 72, p. 153-164. (see Yu et al., 2008 for comment)

Goodman, A., S. Sanguinito, M. Tkach, S. Natesakhawat, B. Kutchko, J. Fazio, and P. Cvetic, 2019, Investigating the role of water on CO2-Utica Shale interactions for carbon storage and shale gas extraction activities – Evidence for pore scale alterations: Fuel, v. 242, p. 744-755.

Grimm, R.P., K.A. Eriksson, N. Ripepi, C. Eble, and S.F. Greb, 2012, Seal evaluation and confinement screening criteria for beneficial carbon dioxide storage with enhanced coal bed methane recovery in the Pocahonta Basin, Virginia: International Journal of Coal Geology, v. 90-91, p. 110-125.

**Grobe, M., J.C. Pashin, and R.L. Dodge, eds., 2010, Carbon dioxide sequestration in geological media—state of the science: AAPG Studies in Geology 59, 716 p.**

Gruszkiewicz, M.S., M.T. Naney, J.G. Blencoe, D.R. Cole, J.C. Pashin, and R.E. Carroll, 2009, Adsorption kinetics of CO2, CH4, and their equimolar mixture on coal from the Black Warrior Basin, west-central Alabama: International Journal of Coal Geology, v. 77, p. 23-33.

Gu, Z., and M. Deo, 2009, Applicability of carbon dioxide enhanced oil recovery to reservoirs in the Uinta Basin, Utah: Utah Geological Survey, OFR-538, CD-ROM, 13 p. <http://ugspub.nr.utah.gov/publications/open_file_reports/OFR-538.pdf>

Gunter, W.D., T. Gentzis, B.A. Rotternfusser, and R.J.H. Richardson, 1997, Deep coalbed methane in Alberta, Canada: a fuel resource with the potential of zero greenhouse emissions: Energy Conversion and Management, v. 38S, p. S217-S222.

Gunter, W.D., S. Wong, D.B. Cheel, and G. Sjostrom, 1998, Large CO2 sinks: their role in the mitigation of greenhouse gases from international, national (Canadian) and provincial (Alberta) perspective: Applied Energy, v. 61, p. 209-227.

Győre, D., S.M.V. Gilfillan, and F.M. Stuart, 2017, Tracking the interaction between injected CO2 and reservoir fluids using noble gas isotopes in an analogue of large-scale carbon capture and storage: Applied Geochemistry, v. 78, p. 116-128.

Gysi, A.P., and A. Stefánsson, 2012, CO2-water–basalt interaction. Low temperature experiments and implications for CO2 sequestration into basalts: Geochimica et Cosmochimica Acta, v. 81, p. 129-152.

Haase, C., M. Ebert, and F. Dethlefsen, 2016, Uncertainties of geochemical codes and thermodynamic databases for predicting the impact of carbon dioxide on geologic formations: Applied Geochemistry, v. 67, p. 81-92.

Hamza, A., I.A. Hussein, M.J. Al-Marri, M. Mahmond, R. Shawabkeh, and S. Aparicio, 2021, CO2 enhanced gas recovery and sequestration in depleted gas reservoirs: A review: Journal of Petroleum Science and Engineering, v. 196, 107685.

Han, F., A. Busch, N. van Wageningen, J. Yang, Z. Liu, and B.M. Krooss, 2010, Experimental study of gas and water transport processes in the inter-cleat (matrix) system of coal: anthracite from Qinshui Basin, China: International Journal of Coal Geology, v. 81, p. 128-138.

Han, F., A. Busch, B.M. Krooss, Z. Liu, and J. Yang, 2013, CH4 and CO2 sorption isotherms and kinetics for different size fractions of two coals: Fuel, v. 108, p. 137-142.

Han, F., G. Chen, Z. Liu, and J. Yang, 2016, Correlation of swelling and sorption properties of block coal sample: Fuel, v. 188, p. 452-461. (ECBM)

Harbin, S., N.J. Twombly, R.D. West, and V.M. Malhotra, 2015, Is there a potential of emission of sequestered CO2 from Illinois bituminous coal under shockwaves?: Fuel, v. 150, p. 131-138.

Harper, J.A., 2004, Practical uses for air pollution—carbon dioxide: Pennsylvania Geology, v. 34, no. 2, p. 2-9.

Harper, J.A., 2013, Potential for CO2-enhanced oil and gas recovery, southwestern Pennsylvania: Pennsylvania Geology, v. 42, no. 4, p. 3-13.

Harrison, W.B., III, G.M. Grammer, and D.A. Barnes, 2009, Reservoir characteristics of the Bass Islands dolomite in Otsego County, Michigan: Results for a saline reservoir CO2 sequestration demonstration: Environmental Geosciences, v. 16, no. 3, p. 139-151.

He, M., L. Ribeiro e Sousa, D. Elsworth, and E. Vargas, Jr., eds., 2012, CO2 storage in Carboniferous formations and abandoned coal mines: New York, CRC Press, 201 p.

Heath, J., and others, 2009, Seal analysis of geologic CO2 storage sites (abstract): AAPG Annual Convention and Exhibition, Abstracts Volume, p. 90-91.

Heinemann, N., M. Wilkinson, R.S. Haszeldine, A.E. Fallick, and G.E. Pickup, 2013, CO2 sequestration in a UK North Sea analogue for geological carbon storage: Geology, v. 41, p. 411-414.

Hellevang, H., 2015, Carbon capture and storage (CCS), in K. Bjørlykke, ed., Petroleum geoscience: From sedimentary environments to rock physics (second edition): Springer-Verlag, New York, p. 591-602.

Hermanrud, C., G.M.G. Teige, M. Iding, O. Eiken, L. Rennan, and S. Østmo, 2010, Differences between flow of injected CO2 and hydrocarbon migration, in B.A. Vining and S.C. Pickering, eds., Petroleum geology: from mature basins to new frontiers: London, Geological Society, Proceedings of the 7th Petroleum Geology Conference, p. 1183-1188.

Ho, T.A., Y. Wang, Y. Xiong, and L.J. Criscenti, 2018, Differential retention and release of CO2 and CH4 in kerogen nanopores: Implications for gas extraction and carbon sequestration: Fuel, v. 220, p. 1-7.

Hol, S. C.J. Peach, and C.J. Spiers, 2011, Applied stress reduces the CO2 sorption capacity of coal: International Journal of Coal Geology, v. 85, p. 128-142.

Hol, S., C.J. Peach, and C.J. Spiers, 2012, Effect of 3-D stress state on adsorption of CO2 by coal: International Journal of Coal Geology, v. 93, p. 1-15.

Hol, S., Y. Gensterblum, and C.J. Spiers, 2013, Direct determination of total CO2 uptake in coal: A new technique compared with the manometric method: Fuel, v. 105, p. 192-205.

Hol, S., Y. Gensterblum, and P. Massarotto, 2014, Sorption and changes in bulk modulus of coal—experimental evidence and governing mechanisms for CBM and ECBM applications: International Journal of Coal Geology, v. 128-129, p. 119-133.

Holtz, M.H., V. Núñez-López, and C. Breton, 2005, Moving Permian Basin technology to the Gulf Coast: The geologic distribution of CO2 EOR potential in Gulf Coast reservoirs: West Texas Geological Society Publication 05-115, 11 p.

Hong, B.D., and E.R. Slatick, 1994, Carbon dioxide emission factors for coal: EIA, Quarterly Coal Report, DOE/EIA-0121(94/1Q), p. 1-8.

Humez, P., J. Lions, P. Négrel, and V. Lagneau, 2014, CO2 intrusion in freshwater aquifers: Review of geochemical tracers and monitoring tools, classical uses and innovative approaches: Applied Geochemistry, v. 46, p. 95-108.

Huy, P.Q., K. Sasaki, Y. Sugai, and S. Ichikawa, 2010, Carbon dioxide gas permeability of coal core samples and estimation of fracture aperture width: International Journal of Coal Geology, v. 83, p. 1-10.

Irani, M., A.T. Jacobson, K.A.M. Gasem, and M. Fan, 2017, Modified carbon nanotubes/tetraethylenepentamine for CO2 capture: Fuel, v. 206, p. 10-18.

Izadi, G., S. Wang, D. Elsworth, J. Liu, Y. Wu, and D. Pone, 2011, Permeability evolution of fluid-infiltrated coal containing discrete fractures: International Journal of Coal Geology, v. 85, p. 202-211. (swelling-induced sorption of CO2)

Jiang, R., and H. Yu, 2019, Interaction between sequestered supercritical CO2 and minerals in deep coal seams: International Journal of Coal Geology, v. 202, p. 1-13.

Jinlong, J., S. Shuxun, C. Liwen, and L. Shiqi, 2018, Characteristics of CO2/supercritical CO2 adsorption-induced swelling to anthracite: An experimental study: Fuel, v. 216, p. 639-647.

Johnson, H., and A.G. Doré, 2010, Unconventional oil and gas resources and the geological storage of carbon dioxide: overview, in B.A. Vining and S.C. Pickering, eds., Petroleum geology: from mature basins to new frontiers: London, Geological Society, Proceedings of the 7th Petroleum Geology Conference, p. 1061-1063.

Jones, J.C., 2010, The possible importance of solubility parameter in carbon dioxide sequestration in coal mines: Fuel, v. 89, p. 4061.

Jordan, P.D., C.M. Oldenburg, and J.-P. Nicot, 2013, Measuring and modeling fault density for CO2 storage plume-fault encounter probability estimation: AAPG Bulletin, v. 97, p. 597-618.

Jung, H.B., S. Kabilan, J.P. Carson, A.P. Kuprat, W. Um, P. Martin, M. Dahl, Y. Kafentzis, T. Varga, S. Stephens, B. Arey, K.C. Carroll, A. Bonneville, and C.A. Fernandez, 2014, Wellbore cement fracture evolution at the cement-basalt caprock interface during geologic carbon sequestration: Applied Geochemistry, v. 47, p. 1-16.

Kang, S.M., E. Fathi, R.J. Ambrose, I.Y. Akkutlu, and R.F. Sigal, 2010, Carbon dioxide storage capacity of organic-rich shales: Society of Petroleum Engineers, SPE 134583, 17 p.

Karacan, C.Ö., 2003, Heterogeneous sorption and swelling in a confined and stressed coal during CO2 injection: Energy and Fuels, v. 17, p. 1595-1605.

Karacan, C.Ö., and G.D. Mitchell, 2003, Behavior and effect of different coal microlithotypes during gas transport for carbon dioxide sequestration into coal seams: International Journal of Coal Geology, v. 53, p. 201-217.

Karacan, C.Ö., 2007, Swelling-induced volumetric strains internal to a stressed coal associated with CO2 sorption: International Journal of Coal Geology, v. 72, p. 209-220.

Keating, E.H., J.A. Hakala, H. Viswanathan, J.W. Carey, R. Pawar, G.D. Guthrie, and J. Fessenden-Rahn, 2013, CO2 leakage impacts on shallow groundwater: Field-scale reactive-transport simulations informed by observations at a natural analog site: Applied Geochemistry, v. 30, p. 136-147.

Kelemen, S.R., and L.M. Kwiatek, 2009, Physical properties of selected block Argonne Premium bituminous coal related to CO2, CH4, and N2 adsorption: International Journal of Coal Geology, v. 77, p. 2-9.

Keshavartz, A., R. Sakurovs, M. Grigore, and M. Sayyafzadeh, 2017, Effect of maceral composition and coal rank on gas diffusion in Australian coals: International Journal of Coal Geology, v. 173, p. 65-75.

Kharaka, Y.K., D.R. Cole, J.J. Thordsen, E. Kakouros, and H.S. Nance, 2006, Gas-water-rock interactions in sedimentary basins: CO2 sequestration in the Frio Formation, Texas, USA: Journal of Geochemical Exploration, v. 89, p. 183-186.

Kharaka, Y.K., J.J. Thordsen, S.D. Hovorka, H.S. Nance, D.R. Cole, T.J. Phelps, and K.G. Knauss, 2009, Potential environmental issues of CO2 storage in deep saline aquifers: Geochemical results from the Frio-I brine pilot test, Texas, USA: Applied Geochemistry, v. 24, p. 1106-1112.

Khosrokhavar, R., K.-H. Wolf, and H. Bruining, 2014, Sorption of CH4 and CO2 on a carboniferous shale from Belgium using a manometric setup: International Journal of Coal Geology, v. 128-129, p. 153-161.

Kirschner, J.P., and D.A. Barnes, 2009, Geological sequestration capacity of the Dundee Limestone, Michigan Basin, United States: Environmental Geosciences, v. 16, no. 3, p. 127-138.

Kiyama, T., S. Nishimoto, M. Fujioka, Z. Xue, Y. Ishijima, Z. Pan, and L.D. Connell, 2011, Coal swelling strain and permeability change with injecting liquid/supercritical CO2 and N2 at stress-constrained conditions: International Journal of Coal Geology, v. 85, p. 56-64.

Klusman, R.W., 2003, A geochemical perspective and assessment of leakage potential for a mature carbon dioxide–enhanced oil recovery project and as a prototype for carbon dioxide sequestration; Rangely field, Colorado: AAPG Bulletin, v. 87, p. 1485-1507.

Klusman, R.W., 2003, Rate measurements and detection of gas microseepage to the atmosphere from an enlarged oil recovery/sequestration project, Rangely, Colorado, USA: Applied Geochemistry, v. 18, p. 1825-1838.

Klusman, R.W., 2003, Computer modeling of methanotrophic oxidation of hydrocarbons in the unsaturated zone from an enhanced oil recovery/sequestration project, Rangely, Colorado, USA: Applied Geochemistry, v. 18, p. 1839-1852.

Klusman, R.W., 2005, Baseline studies of surface gas exchange and soil-gas composition in preparation for CO2 sequestration research: Teapot Dome, Wyoming: AAPG Bulletin, v. 89, p. 981-1003.

Klusman, R.W., 2015, Surface geochemical measurements applied to monitoring, verification, and accounting of leakage from sequestration projects: Interpretation, v. 3, no. 2, p. SM1-SM21.

Kolak, J.J., and R.C. Burruss, 2006, Geochemical investigation of the potential for mobilizing non-methane hydrocarbons during carbon dioxide storage in deep coal beds: Energy and Fuels, v. 20, p. 566-574.

Kolak, J.J., and R.C. Burruss, 2014, The use of solvent extractions and solubility theory to discern hydrocarbon associations in coal, with application to the coal–supercritical CO2 system: Organic Geochemistry, v. 73, p. 56-69.

Kolak, J.J., P.C. Hackley, L.F. Ruppert, P.D. Warwick, and R.C. Burruss, 2015, Using ground and intact coal samples to evaluate hydrocarbon fate during supercritical CO2 injection into coal beds: Effects of particle size and coal moisture: Energy and Fuels, v. 29, p. 5187-5203.

Koperna, G.J., Jr., R. Rhudy, R. Trautz, R. Esposito, and J. Hill, 2011, The SECARB anthropogenic test: the first U.S. integrated CO2 capture, transportation and storage test: 28th Annual International Pittsburgh Coal Conference, 10 p. <http://www.adv-res.com/pdf/Pitt_Coal_Conference_Paper_FINAL.pdf>

Koperna, G., D. Riestenberg, V. Kuuskraa, R. Rhudy, R. Trautz, G.R. Hill, and R. Esposito, 2012, The SECARB anthropogenic test: A US integrated CO2 capture, transportation and storage test: International Journal of Clean Coal and Energy, v. 1, p. 13-26.

Krooss, B.M., F. van Bergen, Y. Gensterblum, N. Siemons, H.J.M. Pagnier, and P. David, 2002, High-pressure methane and carbon dioxide adsorption on dry and moisture-equilibrated Pennsylvanian coals: International Journal of Coal Geology, v. 51, p. 69-92.

Kumar, H., D. Elsworth, J.P. Mathews, J. Liu, and D. Pone, 2014, Effect of CO2 injection on heterogeneously permeable coalbed reservoirs: Fuel, v. 135, p. 509-521.

Kutchko, B.G., A.L. Goodman, E. Rosenbaum, S. Natesakhawat, and K. Wagner, 2013, Characterization of coal before and after supercritical CO2 exposure via feature relocation using field-emission scanning electron microscopy: Fuel, v. 107, p. 777-786.

**Kuuskraa, V., and M. Godec, 2009, Turning lemons into lemonade: Achieving benefits from CCS: Hart’s E&P, v. 82, no. 11, p. 74-76. (CO2-EOR)**

Lahann, R., M. Mastalerz, J.A. Rupp, and A. Drobniak, 2013, Influence of CO2 on New Albany Shale composition and pore structure: International Journal of Coal Geology, v. 108, p. 2-9.

Lammers, L.N., G.E. Brown, Jr., D.K. Bird, R.B. Thomas, N.C. Johnson, R.J. Rosenbauer, and K. Maher, 2015, Sedimentary reservoir oxidation during geologic CO2 sequestration: Geochimica et Cosmochimica Acta, v. 155, p. 30-46.

Lan, Y., Z. Yang, P. Wang, Y. Yan, L. Zhang, and J. Ran, 2019, A review of microscopic seepage mechanism for shale gas extracted by supercritical CO2 flooding: Fuel, v. 238, p. 412-424.

La Pointe, P., and R. Ord, 2007, Find EOR, carbon-capture tradeoffs: Hart’s E&P, v. 80, no. 6, p. 87-88.

**Larsen, J.W., 2004, The effects of dissolved CO2 on coal structure and properties: International Journal of Coal Geology, v. 57, p. 63-70.**

Lawson, B., 2011, CO2 availability key to the future of CO2 EOR in U.S.: American Oil & Gas Reporter, v. 54, no. 10, p. 31.

Lawson, B., 2012, There is progress on capturing CO2 to use in enhanced recovery: American Oil & Gas Reporter, v. 55, no. 2, p. 27.

Leach, W.H., Jr., 2003, Enhanced oil recovery, CO2 flooding: Oil and Gas Investor, v. 23, no. 11, p. 57-59.

Leblond, D., 2005, IEA: CO2 capture, storage offer emissions solution: Oil & Gas Journal, v. 103.2, p. 29-30.

Lewis, J.E., 2013, Evaluation of the Newburg Sandstone of the Appalachian Basin as a CO2 geologic storage resource: Environmental Geosciences Journal, v. 20, no. 4.

**Li, D., Q. Liu, P. Weniger, Y. Gensterblum, A. Busch, and B.M. Krooss, 2009, High-pressure sorption isotherms and sorption kinetics of CH4 and CO2 on coals: Fuel, v. 89, p. 569-580. (subbituminous coals have highest CO2 sorption capacity)**

Li, L., N. Zhao, W. Wei, and Y. Sun, 2013, A review of research progress on CO2 capture, storage, and utilization in Chinese Academy of Sciences: Fuel, v. 108, p. 112-130.

Li, W., Y.-P. Cheng, and L. Wang, 2011, The origin and formation of CO2 gas pools in the coal seam of the Yaojie coalfield in China: International Journal of Coal Geology, v. 85, p. 227-236.

Li, W., Z. Liu, E. Su, and Y. Cheng, 2019, Experimental investigation on the effects of supercritical carbon dioxide on coal permeability: Implications for CO2 injection method: Energy & Fuels, v. 33, p. 503-512.

Li, X., and Z.-M. Fang, 2014, Current status and technical challenges of CO2 storage in coal seams and enhanced coalbed methane recovery: an overview: International Journal of Coal Science Technology, v. 1, p. 93-102. (ECBM)

Liu, C.J., G.X. Wang, S.X. Sang, and V. Rudolph, 2010, Changes in pore structure of anthracite coal associated with CO2 sequestration process: Fuel, v. 89, p. 2665-2672.

Liu, C.J., G.X. Wang, S.X. Sang, W. Gilani, and V. Rudolph, 2015, Fractal analysis in pore structure of coal under conditions of CO2 sequestration process: Fuel, v. 139, p. 125-132.

Liu, J., Z. Chen, D. Elsworth, X. Miao, and X. Mao, 2010, Linking gas-sorption induced changes in coal permeability to directional strains through a modulus reduction ratio: International Journal of Coal Geology, v. 83, p. 21-30.

**Liu, J., C.J. Peach, H. Zhou, and C.J. Spiers, 2015, Thermodynamic models for swelling of unconfined coal due to adsorption of mixed gases: Fuel, v. 157, p. 151-161.**

Liu, J., C.J. Peach, and C.J. Spiers, 2016, Anisotropic swelling behaviour of coal matrix cubes exposed to water vapour: Effects of relative humidity and sample size: International Journal of Coal Geology, v. 167, p. 119-135.

Liu, J., Y. Yao, D. Liu, and D. Elsworth, 2017, Experimental evaluation of CO2 enhanced recovery of adsorbed-gas from shale: International Journal of Coal Geology, v. 179, p. 211-218.

Liu, J., H. Xie, Q. Wang, S. Chen, and Z. Hu, 2019, The effect of pore size on shale gas recovery with CO2 sequestration: Insight into molecular mechanisms: Energy & Fuels, v. 33, p. 2897-2907.

Liu, R., N. Heinemann, J. Liu, W. Zhu, M. Wilkinson, Y. Xie, Z. Wang, T. Wen, F. Hao, and R.S. Haszeldine, 2019, CO2 sequestration by mineral trapping in natural analogues in the Yinggehai Basin, South China Sea: Marine and Petroleum Geology, v. 104, p. 190-199.

Liu, S., J. Ma, S. Sang, T. Wang, Y. Du, and H. Fang, 2018, The effects of supercritical CO2 on mesopore and macropore structure in bituminous and anthracite coal: Fuel, v. 223, p. 32-43. (ECBM)

Liu, S., S. Sang, J. Ma, T. Wang, Y. Du, and H. Fang, 2019, Effects of supercritical CO2 on micropores in bituminous and anthracite coal: Fuel, v. 242, p. 96-108.

Liu, Y., and J. Wilcox, 2012, Molecular simulation of CO2 adsorption in micro- and mesoporous carbons with surface heterogeneity: International Journal of Coal Geology, v. 104, p. 83-95.

Liu, Z., Y. Cheng, L. Wang, H. Wang, J. Jiang, and W. Li, 2018, Analysis of coal permeability rebound and recovery during methane extraction: Implications for carbon dioxide storage capability assessment: Fuel, v. 230, p. 298-307.

Lu, J., K. Milliken, R.M. Reed, and S. Hovorka, 2011, Diagenesis and sealing capacity of the middle Tuscaloosa mudstone at the Cranfield CO2 injection site, Mississippi, USA: Environmental Geosciences Journal, v. 18, no. 1.

Lu, P., Q. Fu, W.E. Seyfried, S.W. Hedges, Y. Soong, K. Jones, and C. Zhu, 2013, Coupled alkali feldspar dissolution and secondary mineral precipitation in batch systems—2: New experiments with supercritical CO2 and implications for carbon sequestration: Applied Geochemistry, v. 30, p. 75-90.

Luo, X., S. Wang, Z. Wang, Z. Jing, M. Lv, Z. Zhai, and T. Han, 2015, Adsorption of methane, carbon dioxide and their binary mixtures on Jurassic shale from the Qaidam Basin in China: International Journal of Coal Geology, v. 150-151, p. 210-223.

Luo, X., X. Ren, and S. Wang, 2019, Supercritical CO2-water-shale interactions and their effects on element mobilization and shale pore structure during stimulation: International Journal of Coal Geology, v. 202, p. 109-127.

Lutynski, M., and M.Á. González, 2016, Characteristics of carbon dioxide sorption in coal and gas shale — The effect of particle size: Journal of Natural Gas Science and Engineering, v. 28, p. 558-565.

Lyle, D., 2007, Enhanced gas recovery works: Worldwide efforts aim at increased coalbed methane recovery with CO2 sequestration: Hart’s E&P, v. 80, no. 6, p. 70.

Lyle, D., 2007, CO2 can tap residual oil zone: Hart’s E&P, v. 80, no. 6, p. 75-76.

Lyle, D., 2007, Enhanced gas recovery works: Hart’s E&P, v. 80, no. 6, p. 79-80.

Lyle, D., 2007, CO2 research promises oil gains: Harts E&P, v. 80, no. 12, p. 56, 58.

Ma, T., J. Rutqvist, C.M. Oldenburg, and W. Liu, 2017, Coupled thermal-hydrological-mechanical modeling of CO2-enhanced coalbed methane recovery: International Journal of Coal Geology, v. 179, p. 81-91.

Majewska, Z., and J. Ziętek, 2007, Changes of acoustic emission and strain in hard coal during gas sorption–desorption cycles: International Journal of Coal Geology, v. 70, p. 305-312.

Majewska, Z., G. Ceglarska-Stefańska, S. Majewski, and J. Ziętek, 2009, Binary gas sorption/desorption experiments on a bituminous coal: Simultaneous measurements on sorption kinetics, volumetric strain and acoustic emission: International Journal of Coal Geology, v. 77, p. 90-102.

Majewska, Z., S. Majewski, and J. Ziętek, 2010, Swelling of coal induced by cyclic sorption/desorption of gas: experimental observations indicating changes in coal structure due to sorption of CO2 and CH4: International Journal of Coal Geology, v. 83, p. 475-483.

Majewska, Z., S. Majewski, and J. Ziętek, 2013, Swelling and acoustic emission behavior of unconfined and confined coal during sorption of CO2: International Journal of Coal Geology, v. 116-117, p. 17-25.

Mankiewicz, P.J., R.J. Pottorf, M.G. Kozar, and P. Vrolijk, 2009, Gas geochemistry of the Mobile Bay Jurassic Norphlet Formation: Thermal controls and implications for reservoir connectivity: AAPG Bulletin, v. 93, p. 1319-1346.

Mao, L., N. Hao, L. An, F.-P. Chiang, and H. Liu, 2015, 3D mapping of carbon dioxide-induced strain in coal using digital volumetric speckle photography technique and X-ray computer tomography: International Journal of Coal Geology, v. 147-148, p. 115-125.

Mardon, S.M., C.F. Eble, J.C. Hower, K. Takacs, M. Mastalerz, and R.M. Bustin, 2014, Organic petrology, geochemistry, gas content and gas composition of Middle Pennsylvanian age coal beds in the Eastern Interior (Illinois) Basin: Implications for CBM development and carbon sequestration: International Journal of Coal Geology, v. 127, p. 56-74.

Mares, T.E., A.P. Radliński, T.A. Moore, D. Cookson, P. Thiyagarajan, J. Ilavsky, and J. Klepp, 2009, Assessing the potential for CO2 adsorption in a subbituminous coal, Huntly coalfield, New Zealand, using small angle scattering techniques: International Journal of Coal Geology, v. 77, p. 54-68.

**Marini, L., 2007, Geological sequestration of carbon dioxide: Thermodynamics, kinetics, and reaction path modeling: New York, Elsevier, Developments in Geochemistry 11, 453 p.**

Masoudian, M.S., D.W. Airey, and A. El-Zein, 2014, Experimental investigations on the effect of CO2 on mechanics of coal: International Journal of Coal Geology, v. 128-129, p. 12-23.

Massarotto, P., S.D. Golding, J.-S. Bae, R. Iyer, and V. Rudolph, 2010, Changes in reservoir properties from injection of supercritical CO2 into coal seams — a laboratory study: International Journal of Coal Geology, v. 82, p. 269-279.

Mastalerz, M., H. Gluskoter, and J. Rupp, 2004, Carbon dioxide and methane sorption in high volatile bituminous coals from Indiana, USA: International Journal of Coal Geology, v. 60, p. 43-55.

Mastalerz, M., A. Drobniak, and J. Rupp, 2008, Meso- and micropore characteristics of coal lithotypes: implications for CO2 adsorption: Energy and Fuels, v. 22, p. 4049-4061.

Mastalerz, M., J. Rupp, A. Drobniak, S. Harpalani, A. Anderson, K. Korose, S. Frailey, and D. Morse, 2009, Assessment of CO2 sequestration and enhanced coalbed methane potential in unminable coal seams of the Illinois Basin, in M. Grobe, J.C. Pashin, and R.L. Dodge, eds., Carbon dioxide sequestration in geological media–state of the art: AAPG Studies in Geology 59, p. 149-171.

Mastalerz, M., A. Drobniak, R. Walker, and D. Morse, 2010, Coal lithotypes before and after saturation with CO2; insights from micro- and mesoporosity, fluidity, and functional group distribution: International Journal of Coal Geology, v. 83, p. 467-474.

Mastalerz, M., and A. Drobniak, 2013, Variations in CO2 emissions from Pennsylvanian coals of the eastern part of the Illinois Basin: International Journal of Coal Geology, v. 108, p. 10-17.

Mavhengere, P., T. Maphala, and N. Wagner, 2015, Physical and structural effects of carbon dioxide storage on vitrinite-rich coal particles under subcritical and supercritical conditions: International Journal of Coal Geology, v. 150-151, p. 1-6.

Mavor, M.J., J.R. Robinson, W.D. Gunter, D.H.S. Law, and J. Gale, 2002, Testing for CO2 sequestration and enhanced methane production from coal: SPE Gas Technology Symposium Proceedings, SPE-75683, 14p.

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.

Mazumder, S., and K.H. Wolf, 2008, Differential swelling and permeability change of coal in response to CO2 injection for ECBM: International Journal of Coal Geology, v. 74, p. 123-138.

McBride, J.H., R.W. Keach II, E.E. Wolfe, H.E. Leetaru, C.K. Chandler, and S.R. Greenhalgh, 2014, Investigating fault continuity associated with geologic carbon storage planning in the Illinois Basin: Interpretation, v. 2, no. 1, p. SA151-SA162.

McIlvried, H.G., III, S.E. Plasynski, J.T. Litynski, D.M. Vikara, and R.D. Srivastava, 2011, The critical role of monitoring, verification, and accounting for geologic CO2 storage projects: Environmental Geosciences Journal, v. 18, no. 1.

McKee, B., 2003, CO2 capture and storage in geological formations: International Energy Agency (IEA), 14 p.

McPherson, B.J., and E.T. Sundquist, 2009, Carbon sequestration and its role in the global carbon cycle: Washington, DC, American Geophysical Union, Geophysical Monograph 183, 359 p.

McVay, D.A., R.O. Bello, W.B. Ayers, Jr., G.A. Hernandez, J.A. Rushing, S.K. Ruhl, M.F. Hoffmann, and R.I. Ramazanova, 2009, Evaluation of the technical and economic feasibility of CO2 sequestration and enhanced coalbed methane recovery in Texas low-rank coals, in M. Grobe, J.C. Pashin, and R.L. Dodge, edcs., Carbon dioxide sequestration in geological media—State of the science: AAPG Studies in Geology 59, p. 665-688.

Medina, C.R., and J.A. Rupp, 2012, Reservoir characterization and lithostratigraphic division of the Mount Simon Sandstone (Cambrian): Implications for estimations of geologic sequestration storage capacity: Environmental Geosciences Journal, v. 19, no. 1.

Melnichenko, Y.B., A.P. Radlinski, M. Mastalerz, G. Cheng, and J. Rupp, 2009, Characterization of the CO2 fluid adsorption n coal as a function of pressure using neutron scattering techniques (SANS and USANS): International Journal of Coal Geology, v. 77, p. 69-79.

Melnichenko, Y.B., L. He, R. Sakurovs, A.L. Kholodenko, T. Blach, M. Mastalerz, A.P. Radliński, G. Cheng, and D.F.R. Mildner, 2011, Accessibility of pores in coal to methane and carbon dioxide: Fuel, v. 91, p. 200-208.

Melzer, L.S., 2011, Emergence of residual zones, price and supply factors usher in new day in CO2 EOR: American Oil & Gas Reporter, v. 54, no. 2, p. 104-113.

Melzer, L.S., 2012, Enhanced recovery projects constrained by shortage of carbon dioxide supplies: American Oil & Gas Reporter, v. 55, no. 2, p. 124-130.

Meng, M., and Z. Qiu, 2018, Experiment study of mechanical properties and microstructures of bituminous coals influenced by supercritical carbon dioxide: Fuel, v. 219, p. 223-238.

Merrill, M.D., E.R. Slucher, T.L. Roberts-Ashby, P.D. Warwick, M.S. Blondes, P.A. Freeman, S.M. Cahan, C.A. DeVera, and C.D. Lohr, 2015, Geologic framework for the national assessment of carbon dioxide storage resources—Permian and Palo Duro Basins and Bend Arch-Fort Worth Basin, Chapter K of Warwick, P.D., and M.D. Corum, eds., Geologic framework for the national assessment of carbon dioxide storage resources: U.S. Geological Survey, Open-File Report 2012-1024-K, 42 p. <http://pubs.usgs.gov/of/2012/1024/k/>

Merrill, M.D., B.M. Sleeter, P.A. Freeman, J. Liu, P.D. Warwick, and B.C. Reed, 2018, Federal lands greenhouse gas emissions and sequestration in the United States: Estimates for 2005-14: U.S. Geological Survey, Scientific Investigations Report 2018-5131, 44 p. <https://pubs.er.usgs.gov/publication/sir20185131>

Metz, B., O. Davidson, H. deConinck, M. Loos, and L. Meyer, eds., 2005, Carbon dioxide capture and storage: Online, IPCC Special Report, <http://www.ipcc.ch/pub/online.htm>

Michael, K., and B.E. Buschkuehle, 2006, Acid-gas injection at West Stoddart, British Columbia: An analogue for the detailed hydrogeological characterization of a CO2 sequestration site: Journal of Geochemical Exploration, v. 89, p. 280-283.

Ming, X.-R., L. Liu, L. Yu, H.-G. Bai, Z.-C. Yu, N. Liu, H.-X. Yang, F.-G. Wang, and B.-X. Li, 2017, Thin-film dawsonite in Jurassic coal measure strata of the Yaojie coalfield, Minhe Basin, China: A natural analogue for mineral carbon storage in wet supercritical CO2: International Journal of Coal Geology, v. 180, p. 83-99.

Mirzaeian, M., and P.J. Hall, 2006, The interactions of coal with CO2 and its effects on coal structure: Energy & Fuels, v. 20, p. 2022-2027.

Mishra, S., Y.D. Oruganti, and J. Sminchak, 2014, Parametric analysis of CO2 geologic sequestration in closed volumes: Environmental Geosciences Journal, v. 21, no. 2.

Mito, S., Z. Xue, and T. Sato, 2013, Effect of formation water composition on predicting CO2 behavior: A case study at the Nagaoka post-injection monitoring site: Applied Geochemistry, v. 30, p. 33-40.

**Mohan, H., K. Biglarbigi, and M. Carolus, 2009, Study places CO2 capture cost between $34 and $61/ton: Oil & Gas Journal, v. 107.38, p. 56-65.**

Moritis, G., 2003, CO2 sequestration adds new dimension to oil, gas production: Oil & Gas Journal, v. 101.9, p. 39-44.

Moritis, G., 2005, Norway study finds CO2 EOR too expensive, risky: Oil & Gas Journal, v. 103.30, p. 37-38.

Moritis, G., 2005, Numerous studies analyze CO2 sequestration options: Oil & Gas Journal, v. 103.33, p. 42-47.

Moritis, G., 2008, SWP advances CO2 sequestration, ECBM, EOR demos: Oil & Gas Journal, v. 106.37, p. 60-63.

Mørk, M.B.E., 2013, Diagenesis and quartz cement distribution of low-permeability Upper Triassic-Middle Jurassic reservoir sandstones, Longyearbyen CO2 lab well site in Svalbard, Norway: AAPG Bulletin, v. 97, p. 577-596.

Morse, D.G., M. Mastalerz, A. Drobniak, J.A. Rupp, and S. Harpalani, 2010, Variations in coal characteristics and their possible implications for CO2 sequestration: Tanquary injection site, southeastern Illinois, USA: International Journal of Coal Geology, v. 84, p. 25-38.

Myers, M., L. Stalker, B. Pejcic, and A. Ross, 2013, Tracers—Past, present and future applications in CO2 geosequestration: Applied Geochemistry, v. 30, p. 125-135.

Myshakin, E.M., H. Singh, S. Sanguinito, G. Bromhal, and A.L. Goodman, 2019, Flow regimes and storage efficiency of CO2 injected into depleted shale reservoirs: Fuel, v. 246, p. 169-177.

NATCARB (National Carbon Sequestration Database and Geographic Information System), 2005, A project of the Kansas Geological Survey funded by Department of Energy National Energy Technology Laboratory. <http://www.natcarb.org>

Neufelder, R.J., B.B. Bowen, R.W. Lahann, and J.A. Rupp, 2012, Lithologic, mineralogical, and petrophysical characteristics of the Eau Claire Formation: Complexities of a carbon storage system: Environmental Geosciences Journal, v. 19, no. 3.

Newell, R.G., and R.N. Stavins, 2000, Climate change and forest sinks — Factors affecting the costs of carbon sequestration: Journal of Environmental Economics and Management, v. 40, no. 3, p. 211-235.

Nielsen, L.C., I.C. Bourg, and G. Sposito, 2012, Predicting CO2–water interfacial tension under pressure and temperature conditions of geologic CO2 storage: Geochimica et Cosmochimica Acta, v. 81, p. 28-38.

Niu, Q., L. Cao, S. Sang, X. Zhou, and S. Liu, 2019, Experimental study of permeability changes and its influencing factors with CO2 injection in coal: Journal of Natural Gas Science and Engineering, v. 61, p. 215-225.

Nondorf, L., M. Gutierrez, and T.G. Plymate, 2011, Modeling carbon sequestration geochemical reactions for a proposed site in Springfield, Missouri: Environmental Geosciences Journal, v. 18, no. 2.

Nordbotten, J.M., and M.A. Celia, 2012, Geological storage of CO2: modeling approaches for large-scale simulation: Hoboken, NJ, John Wiley & Sons, Inc., 241 p.

Nuttall, B.C., 2007, Analysis of Devonian shale in eastern Kentucky for carbon sequestration possibilities: Energeia, v. 18, no. 3, p. 1-3.

Nuttall, B.C., J.A. Drahovzal, C.F. Eble, and R.M. Bustin, 2009, Regional assessment of organic-rich gas shales for carbon sequestration: an example from the Devonian shales of the Illinois and Appalachian basins, Kentucky: AAPG Studies in Geology, v. 59, p. 173-190.

Oelkers, E.H., and D.R. Cole, 2008, Carbon dioxide sequestration: a solution to a global problem: Elements, v. 4, p. 305-310.

Oelkers, E.H., S.R. Gislason, and J. Matter, 2008, Mineral carbonation of CO2: Elements, v. 4, p. 333-337.

Oko, E., M. Wang, and A.K. Olaleye, 2014, Simplification of detailed rate-based model of post-combustion CO2 capture for full chain CCS integration studies: Fuel, v. 142, p. 87-93.

Okuyama, Y., N. Todaka, M. Sasaki, S. Ajima, and C. Akasaka, 2013, Reactive transport simulation study of geochemical CO2 trapping on the Tokyo Bay model—With focus on the behavior of dawsonite: Applied Geochemistry, v. 30, p. 57-66.

Olierook, H.K.H., C. Delle Piane, N.E. Timms, L. Esteban, R. Rezaee, A.J. Mory, and L. Hancock, 2014, Facies-based rock properties characterization for CO2 sequestration: GSWA Harvey 1 well, western Australia: Marine and Petroleum Geology, v. 50, p. 83-102.

Olsson, J., N. Bovet, E. Makovicky, K. Bechgaard, Z. Balogh, and S.L.S. Stipp, 2012, Olivine reactivity with CO2 and H2O on a microscale: Implications for carbon sequestration: Geochimica et Cosmochimica Acta, v. 77, p. 86-97.

Ozdemir, E., B.I. Morsi, and K. Schroeder, 2004, CO2 adsorption capacity of Argonne premium coals: Fuel, v. 83, p. 1085-1094.

Ozdemir, E., 2009, Modeling of coal bed methane (CBM) production and CO2 sequestration in coal seams: International Journal of Coal Geology, v. 77, p. 145-152.

Ozdemir, E., 2016, Role of pH on CO2 sequestration in coal seams: Fuel, v. 172, p. 130-138.

Palmer, I., 2009, Permeability changes in coal: Analytical modeling: International Journal of Coal Geology, v. 77, p. 119-126.

Pan, J., M. Lv, Q. Hou, Y. Han, and K. Wang, 2019, Coal microcrystalline structural changes related to methane adsorption/desorption: Fuel, v. 239, p. 13-23.

Pan, Z., and L. Connell, 2007, A theoretical model for gas adsorption-induced coal swelling: International Journal of Coal Geology, v. 69, p. 243-252.

Pan, Z., L.D. Connell, and M. Camilleri, 2010, Laboratory characterization of coal reservoir permeability for primary and enhanced coalbed methane recovery: International Journal of Coal Geology, v. 82, p. 252-261.

Pan, Z., L.D. Connell, M. Camilleri, and L. Connelly, 2010, Effects of matrix moisture on gas diffusion and flow in coal: Fuel, v. 89, p. 3207-3217.

Pan, Z., and L.D. Connell, 2011, Modelling of anisotropic coal swelling and its impact on permeability behavior for primary and enhanced coalbed methane recovery: International Journal of Coal Geology, v. 85, p. 257-267.

Pan, Z., and L.D. Connell, 2012, Modelling permeability for coal reservoirs: A review of analytical models and testing data: International Journal of Coal Geology, v. 92, p. 1-44.

Pashin, J.C., R.H. Groshong, Jr., and R.E. Carroll, 2001, Carbon sequestration potential of coalbed methane reservoirs in the Black Warrior basin: a preliminary look: Tuscaloosa, Alabama, Proceedings, International Coalbed Methane Symposium, Paper 143, p. 51-62.

Pashin, J.C., R.H. Groshong, Jr., and R.E. Carroll, 2001, Enhanced coalbed methane recovery through sequestration of carbon dioxide: potential for a market-based environmental solution in the Black Warrior basin of Alabama: National Energy Technology Laboratory, First National Conference on Carbon Sequestration, 14 p. <http://www.netl.doe.gov/publications/proceedings/01/carbon_seq/3a2.pdf>

Pashin, J.C., R.E. Carroll, R.H. Groshong, Jr., D.E. Raymond, M. McIntyre, and W.J. Payton, 2002, Geologic screening criteria for sequestration of CO2 in coal: quantifying potential of the Black Warrior coalbed methane fairway, Alabama: U.S. Department of Energy, National Energy Technology Laboratory, Annual Technical Progress Report. <http://www.gsa.state.al.us/gsa/CO2PAGE/CO2page.htm>

Pashin, J.C., and R.E. Carroll, 2002, Influence of coal quality on the carbon sequestration potential of coalbed methane reservoirs in the Black Warrior basin (abstract): AAPG Annual Convention Official Program, v. 11, p. A137.

Pashin, J.C., and M.R. McIntyre, 2003, Temperature-pressure conditions in coalbed methane reservoirs of the Black Warrior basin: implications for carbon sequestration and enhanced coalbed methane recovery: International Journal of Coal Geology, v. 54, p. 167-183.

Pashin, J.C., R.E. Carroll, R.H. Groshong, Jr., D.E. Raymond, M. McIntyre, and W.J. Payton, 2003, Geologic screening criteria for sequestration of CO2 in coal: quantifying potential of the Black Warrior coalbed methane fairway, Alabama: U.S. Department of Energy, National Energy Technology Laboratory, Annual Technical Progress Report, 209 p. <http://www.gsa.state.al.us/gsa/CO2PAGE/CO2page.htm>

Pashin, J.C., P.E. Clark, M.R. McIntyre-Redden, R.E. Carroll, R.A. Esposito, A.Y. Oudinot, and G.J. Koperna, Jr., 2015, SECARB CO2 injection test in mature coalbed methane reservoirs of the Black Warrior Basin, Blue Creek field, Alabama: International Journal of Coal Geology, v. 144-145, p. 71-87.

Patzek, T.W., 2010, Subsurface sequestration of CO2 in the U.S.: Is it money best spent?: Natural Resources Research, v. 19, no. 1, p. 1-9.

Pearce, J.K., A. Golab, G.K.W. Dawson, L. Knuefing, C. Goodwin, and S.D. Golding, 2016, Mineralogical controls on porosity and water chemistry during O2-SO2-CO2 reaction of CO2 storage reservoir and cap-rock core: Applied Geochemistry, v. 75, p. 152-168.

Pearce, J.K., G.K.W. Dawson, T.P. Blach, J. Bahadur, Y.B. Melnichenko, and S.D. Golding, 2018, Impure CO2 reaction of feldspar, clay, and organic matter rich cap-rocks: Decreases in the fraction of accessible mesopores measured by SANS: International Journal of Coal Geology, v. 185, p. 79-90.

Perera, M.S.A., P.G. Ranjith, S.K. Choi, and D. Airey, 2012, Investigation of temperature effect on permeability of naturally fracture black coal for carbon dioxide movement: An experimental and numerical study: Fuel, v. 94, p. 596-605.

Perera, M.S.A.., P.G. Ranjith, D.R. Viete, and S.K. Choi, 2012, Parameters influencing the flow performance of natural cleat systems in deep coal seams experiencing carbon dioxide injection and sequestration: : International Journal of Coal Geology, v. 104, p. 96-106.

Perera, M.S.A., P.G. Ranjith, S.K. Choi, and A. Bouazza, 2013, A parametric study of coal mass and cap rock behaviour and carbon dioxide flow during and after carbon dioxide injection: Fuel, v. 106, p. 129-138.

Perera, M.S.A., P.G. Ranjith, and S.K. Choi, 2013, Coal cleat permeability for gas movement under triaxial, non-zero lateral strain condition: A theoretical and experimental study: Fuel, v. 109, p. 389-399.

Perera, M.S.A., and K.H.S.M. Sampath, 2020, Modeling of free and adsorbed CO2-induced mechanical property alterations in coal: International Journal of Coal Geology, v. 117, 103348.

Peuble, S., M. Godard, L. Luquot, M. Andreani, I. Martinez, and P. Gouze, 2015, CO2 geological storage in olivine rich basaltic aquifers: New insights from reactive-percolation experiments: Applied Geochemistry, v. 52, p. 174-190.

Pickett, A., 2009, Expanding list of projects illustrates CO2 EOR’s merits in revitalizing mature fields: American Oil & Gas Reporter, v. 52, no. 11, p. 60-69.

Pirzada, M.A., M. Zoorabadi, H.L. Ramandi, I. Canbulat, and H. Roshan, 2018, CO2 sorption induced damage in coals in unconfined and confined stress states: A micrometer to core scale investigation: International Journal of Coal Geology, v. 198, p. 167-176.

Pluymakers, A., J. Liu, F. Kohler, F. Renard, and D. Dysthe, 2018, A high resolution interferometric method to measure local swelling due to CO2 exposure in coal and shale: International Journal of Coal Geology, v. 187, p. 131-142.

Pollyea, R.M., and J.D. Rimstidt, 2017, Rate equations for modeling carbon dioxide sequestration in basalt: Applied Geochemistry, v. 81, p. 53-62.

Pone, J.D.N., M. Hile, P.M. Halleck, and J.P. Mathews, 2009, Three-dimensional carbon dioxide-induced strain distribution within a confined bituminous coal: International Journal of Coal Geology, v. 77, p. 103-108.

Pone, J.D.N., P.M. Halleck, and J.P. Mathews, 2010, 3D characterization of coal strains induced by compression, carbon dioxide sorption, and desorption at in-situ stress conditions: International Journal of Coal Geology, v. 82, p. 262-268.

Popova, O.H., M.J. Small, S.T. McCoy, A.C. Thomas, B. Karimi, A. Goodman, and K.M. Carter, 2012, Comparative analysis of carbon dioxide storage resource assessment methodologies: Environmental Geosciences Journal, v. 19, no. 3.

Presley, J., 2013, New life for Oklahoma’s North Burbank field, CO2 EOR opens new chapter for an historic field: Hart Energy Publishing, E&P, v. 86, no. 10, p. 92, 95-96.

Qi, R., Z. Ning, Q. Wang, L. Huang, X. Wu, Z. Cheng, and W. Zhang, 2019, Measurements and modeling of high-pressure adsorption of CH4 and CO2 on shales: Fuel, v. 242, p. 728-743.

Radliński, A.P., T.L. Busbridge, E.M.A. Gray, T.P. Blach, and D.J. Cookson, 2009, Small angle X-ray scattering mapping and kinetics study of sub-critical CO2 sorption by two Australian coals: International Journal of Coal Geology, v. 77, p. 80-89.

Rahman, M.J., M. Fawad, and N.H. Mondol, 2020, Organic-rich shale caprock properties of potential CO2 storage sites in the northern North Sea, offshore Norway: Marine and Petroleum Geology, v. 122, 104665.

Ranathunga, A.S., M.S.A. Perera, P.G. Ranjith, and C.H Wei, 2016, An experimental investigation of applicability of CO2 enhanced coal bed methane recovery to low rank coal: Fuel, v. 189, p. 391-399. (ECBM)

Ranathunga, A.S., M.S.A. Perera, and P.G. Ranjith, 2016, Influence of CO2 adsorption on the strength and elastic modulus of low rank Australian coal under confining pressure: International Journal of Coal Geology, v. 167, p. 148-156. (ECBM)

Rani, S., E. Padmanabhan, and B.K. Prusty, 2019, Review of gas adsorption in shales for enhanced methane recovery and CO2 storage: Journal of Petroleum Science and Engineering, v. 175, p. 634-643.

Raza, A., R. Gholami, and M. Sarmadivaleh, 2020, Feasibility of limestone reservoirs as a carbon dioxide storage site: An experimental study: AAPG Bulletin, v. 104, p. 83-96.

Reeves, S., 2001, Geologic sequestration of CO2 in deep, unmineable coalbeds: an integrated research and commercial-scale demonstration project: National Energy Technology Laboratory, First National Conference on Carbon Sequestration. <http://www.netl.doe.gov/publications/proceedings/01/carbon_seq/3a1.pdf>

Reeves, S., 2002, Field studies of enhanced methane recovery and CO2 sequestration in coal seams: World Oil, v. 223, no. 12, p. 56-58, 60. <http://www.worldoil.com/magazine/MAGAZINE_DETAIL.asp?ART_ID=1906&MONTH_YEAR=DEC-2002>

Reeves, S.R., 2003, Enhanced CBM recovery, coalbed CO2 sequestration assessed: Oil & Gas Journal, v. 101.27, p. 49-53.

Reucroft, P.J., and A.R. Sethuraman, 1987, Effect of pressure on carbon dioxide induced coal swelling: Energy and Fuels, v. 1, p. 72-75.

Roberts-Ashby, T.L., M.T. Stewart, and B.N. Ashby, 2013, An evaluation of porosity and potential use for carbon dioxide storage in the Upper Cretaceous Lawson Formation and Paleocene Cedar Keys Formation of south-central and southern Florida: Environmental Geosciences Journal, v. 20, no. 3.

Roberts-Ashby, T.L., S.T. Brennan, M.L. Buursink, J.A. Covault, W.H. Craddock, R.M. Drake II, M.D. Merrill, E.R. Slucher, P.D. Warwick, M.S. Blondes, M.A. Gosai, P.A. Freeman, S.M. Cahan, C.A. DeVera, and C.D. Lohr, 2012, Geologic framework for the national assessment of carbon dioxide storage resources—U.S. Gulf Coast: U.S. Geological Survey Open-File Report 2012-1024-H, 77 p.

Robertson, E.P., 2009, Economic analysis of carbon dioxide sequestration in Powder River Basin coal: International Journal of Coal Geology, v. 77, p. 234-241.

Romanak, K., R.S. Harmon, and Y. Kharaka, 2013, Geochemical aspects of geologic carbon storage: Applied Geochemistry, v. 30, p. 1-3.

Romanov, V.N., A.L. Goodman, and J.W. Larsen, 2006, Errors in CO2 adsorption measurements caused by coal swelling: Energy and Fuels, v. 20, p. 415-416.

Romanov, V., and Y. Soong, 2009, Helium-volume dynamics of Upper Freeport coal powder and lumps: International Journal of Coal Geology, v. 77, p. 10-15.

Romanov, V.N., T.-B. Hur, J.J. Fazio, B.H. Howard, and G.A. Irdi, 2013, Comparison of high-pressure CO2 sorption isotherms on central Appalachian and San Juan Basin coals: International Journal of Coal Geology, v. 118, p. 89-94.

Rono, N., R. Biagioni, C. Rovey II, and M. Gutiérrez, 2013, Geochemical sequestration reactions within the Lamotte Sandstone at five different locations in Missouri: Environmental Geosciences Journal, v. 20, no. 3.

Rosenbauer, R.J., B. Thomas, J.L. Bischoff, and J. Palandri, 2012, Carbon sequestration via reaction with basaltic rocks: Geochemical modeling and experimental results: Geochimica et Cosmochimica Acta, v. 89, p. 116-133. (igneous)

Royer, D.L., R.A. Berner, I.P. Montañez, N.J. Tabor, and D.J. Beerling, 2004, CO2 as a primary driver of Phanerozoic climate: GSA Today, v. 14, no. 3, p. 4-10.

**Rubin, E.S., 2008, CO2 capture and transport: Elements, v. 4, p. 311-317.**

Ruthven, C.L., 2004, Reducing global warming by storing carbon dioxide beneath the Earth’s surface—exploring the prospects for carbon sequestration: Kentucky Geology, v. 5, no. 1.

Saghafi, A., M. Faiz, and D. Roberts, 2007, CO2 storage and gas diffusivity properties of coals from Sydney Basin, Australia: International Journal of Coal Geology, v. 70, p. 240-254.

Saghafi, A., K.L. Pinetown, P.G. Grobler, and J.H.P. van Heerden, 2008, CO2 storage potential of South African coals and gas entrapment enhancement due to igneous intrusions: International Journal of Coal Geology, v. 73, p. 74-87.

Saghafi, A., 2010, Potential for ECBM and CO2 storage in mixed gas Australian coals: International Journal of Coal Geology, v. 82, p. 240-251.

Saini, D., 2017, Engineering aspects of geologic CO2 storage: Synergy between enhanced oil recovery and storage: Springer Briefs in Petroleum Geoscience and Engineering, 73 p.

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.

Sakurovs, R., S. Day, S. Weir, and G. Duffy, 2008, Temperature dependence of sorption gases by coals and charcoals: International Journal of Coal Geology, v. 73, p. 250-258.

Sakurovs, R., S. Day, and S. Weir, 2009, Causes and consequences of errors in determining sorption capacity of coals for carbon dioxide at high pressure: International Journal of Coal Geology, v. 77, p. 16-22.

Sakurovs, R., S. Weir, D. French, and S. Day, 2011, Effect of impurity gases in carbon dioxide on sorption behavior and mineral matter in an Australian bituminous coal: International Journal of Coal Geology, v. 86, p. 367-371. (SO2 reduced CO2 sorption capacity)

Sakurovs, R., and S. Lavrencic, 2011, Contact angles in CO2-water-coal systems at elevated pressures: International Journal of Coal Geology, v. 87, p. 26-32.

Sakurovs, R., 2012, Relationships between CO2 sorption capacity by coals as measured at low and high pressure and their swelling: International Journal of Coal Geology, v. 90-91, p. 156-161.

Salehi, I.A., and S. Gowelly, 2005, Seismic imaging for site selection and monitoring of carbon dioxide sequestration, part 1—field studies: GasTIPS, v. 11, no. 4, p. 3-7.

Salehi, I.A., S. Gowelly, and S. Batarseh, 2006, Seismic imaging for site selection and monitoring of carbon dioxide sequestration, part 2—laboratory studies: GasTIPS, v. 12, no. 1, p. 2-4.

Sampath, K.H.S.M., M.S.A. Perera, P.G. Ranjith, and S.K. Matthai, 2019, CO2 interaction induced mechanical characteristics alterations in coal: International Journal of Coal Geology, v. 204, p. 113-129. (enhanced CBM)

Sander, R., L.D. Connell, Z. Pan, M. Camilleri, D. Heryanto, and N. Lupton, 2014, Core flooding experiments of CO2 enhanced coalbed methane recovery: International Journal of Coal Geology, v. 131, p. 113-125. (ECBM)

Santarosa, C.S., D. Crandall, I.V. Haljasmaa, T.-B. Hur, J.J. Fazio, R.P. Warzinski, R. Heemann, J.M.M. Ketzer, and V.N. Romanov, 2013, CO2 sequestration otential of Charqueadas coal field in Brazil: International Journal of Coal Geology, v. 106, p. 25-34.

Sarkus, T.A., 2008, Fossil energy, clean coal technology, and FutureGen: Coal Age, v. 113, no. 7, p. 56-59.

Saucier, H., 2019, Carbon capture and storage is a necessity for sustainability: AAPG Explorer, v. 40, no. 11, p. 8-9, 14. <https://explorer.aapg.org/story/articleid/54996/carbon-capture-and-storage-is-a-necessity-for-sustainability?utm_medium=website&utm_source=explorer_issue_page>

Schroeder, K., E. Ozdemir, and B.I. Morsi, 2001, Sequestration of carbon dioxide in coal seams: National Energy Technology Laboratory, First National Conference on Carbon Sequestration, 10 p. <http://www.netl.doe.gov/publications/proceedings/01/carbon_seq/3a4.pdf>

Scott, R.R., 2003, Assessment of CO2 sequestration and ECBM potential of U.S. coalbeds: U.S. Department of Energy Report No. DE-FC26-00NT40924.

Senior, W.J., J.D. Kantorowicz, and I.W. Wright, 2010, Geological storage of carbon dioxide: an emerging opportunity, in B.A. Vining and S.C. Pickering, eds., Petroleum geology: from mature basins to new frontiers: London, Geological Society, Proceedings of the 7th Petroleum Geology Conference, p. 1165-1169.

Shelton, J.L., J.C. McIntosh, P.D. Warwick, and A.L.Z. Yi, 2014, Fate of injected CO2 in the Wilcox Group, Louisiana, Gulf Coast Basin: Chemical and isotopic tracers of microbial-brine-rock-CO2 interactions: Applied Geochemistry, v. 51, p. 155-169.

Shi, F., B. Deng, G. Yin, D. Zhang, M. Li, P. Liu, and C. Liu, 2019, Kinetic behavior of heterogeneous sorption deformation on coal: Effect of maceral/micro-lithotype distribution: International Journal of Coal Geology, v. 216, 103324.

Shi, F., Z. Wei, D. Zhang, and G. Huang, 2020, Isotherms and kinetics of deformation of coal during carbon dioxide sequestration and their relationship to sorption: International Journal of Coal Geology, v. 231, 103606.

Shi, J.Q., and S. Durucan, 2003, A bidisperse pore diffusion model for methane displacement desorption in coal by CO2 injection: Fuel, v. 82, p. 1219-1229.

Shi, J.Q., S. Durucan, and S. Shimada, 2014, How gas adsorption and swelling affects permeability of coal: A new modelling approach for analyzing laboratory test data: International Journal of Coal Geology, v. 128-129, p. 134-142.

**Shukla, R., P. Ranjith, A. Haque, and X. Choi, 2010, Review article: A review of studies on CO2 sequestration and caprock integrity: Fuel, v. 89, p. 2651-2664.**

Siemons, N., and A. Busch, 2007, Measurement and interpretation of supercritical CO2 sorption on various coals: International Journal of Coal Geology, v. 69, p. 229-242.

Siemons, N., K.-H. A.A. Wolf, and J. Bruining, 2007, Interpretation of carbon dioxide diffusion behavior in coals: International Journal of Coal Geology, v. 72, p. 315-324.

Simons, N., and A. Busch, 2007, Measurement and interpretation of supercritical CO2 sorption on various coals: International Journal of Coal Geology, v. 69, p. 229-242.

Sinayuç, Ç., and F. Gűmrah, 2009, Modeling of ECBM recovery from Amasra coalbed in Zonguldak Basin, Turkey: International Journal of Coal Geology, v. 77, p. 162-174.

Sinayuc, C., J.-Q. Shi, C.E. Imrie, S.A. Syed, A. Korre, and S. Durucan, 2011, Implementation of horizontal well CBM/ECBM technology and the assessment of effective CO2 storage capacity in a Scottish coalfield: Energy Procedia, v. 4, p. 2150-2156.

Siriwardane, H., I. Haljasmaa, R. McLendon, G. Irdi, Y. Soong, and G. Bromhal, 2009, Influence of carbon dioxide on coal permeability determined by pressure transient methods: International Journal of Coal Geology, v. 77, p. 109-118.

Siriwardane, H.J., R.K. Gondle, and D.H. Smith, 2009, Shrinkage and swelling of coal induced by desorption and sorption of fluids: Theoretical model and interpretation of a field project: International Journal of Coal Geology, v. 77, p. 188-202.

Siriwardane, H.J., B.D. Bowes, G.S. Bromhal, R.K. Gondle, A.W. Wells, and B.R. Strazisar, 2012, Modeling of CBM production, CO2 injection, and tracer movement at a field CO2 sequestration site: International Journal of Coal Geology, v. 96-97, p. 120-136.

Sivaraman, R., 2003, The potential role of hydrate technology in sequestering carbon dioxide: GasTIPS, v. 9, no. 4, p. 4-7.

Sminchak, J., M. Gupta, and J. Gerst, 2009, Well test results and reservoir performance for a carbon dioxide injection test in the Bass Islands dolomite in the Michigan Basin: Environmental Geosciences, v. 16, no. 3, p. 153-162.

Sorai, M., T. Ohsumi, M. Ishikawa, and K. Tsukamoto, 2007, Feldspar dissolution rates measured using phase-shift interferometry: Implications to CO2 underground sequestration: Applied Geochemistry, v. 22, p. 2795-2809.

Staib, G., R. Sakurovs, and E.M.A. Gray, 2013, A pressure and concentration dependence of CO2 diffusion in two Australian bituminous coals: International Journal of Coal Geology, v. 116-117, p. 106-116. (enhanced coalbed methane)

Staib, G., R. Sakurovs, and E.M.A. Gray, 2014, Kinetics of coal swelling in gases: Influence of gas pressure, gas type and coal type: International Journal of Coal Geology, v. 132, p. 117-122. (enhanced coalbed methane)

Stanton, R., R. Flores, P.D. Warwick, H. Gluskoter, and G.D. Stricker, 2001, Coal bed sequestration of carbon dioxide: National Energy Technology Laboratory, First National Conference on Carbon Sequestration, 12 p. <http://www.netl.doe.gov/publications/proceedings/01/carbon_seq/3a3.pdf>

Stanton, R.W., R.M. Flores, P.D. Warwick, and H.J. Gluskoter, 2002, Sequestration of carbon dioxide in low-rank coals (abstract): TSOP Abstracts and Program, v. 18, p. 111.

Stefanopoulos, K.L., T.G.A. Youngs, R. Sakurovs, L.F. Ruppert, J. Bahadur, and Y.B. Melnichenko, 2017, Neutron scattering measurements of carbon dioxide adsorption in pores within the Marcellus Shale: Implications for sequestration: Environmental Science & Technology.

Stell, J., 2007, CO2 sequestration: Oil and Gas Investor, v. 27, no. 9, p. 13.

Stevens, S.H., V.A. Kuuskraa, J.J. Gale, and D. Beecy, 2000, CO2 injection and sequestration in depleted oil and gas fields and deep coal seams; worldwide potential and costs: AAPG Bulletin, v. 84, p. 1497-1498.

Su, E., Y. Liang, Q. Zou, F. Niu, and L. Li, 2019, Analysis of effects of CO2 injection on coalbed permeability: Implications for coal seam CO2 sequestration: Energy & Fuels, v. 33, p. 6606-6615.

Sundquist, E.T., R.C. Burruss, S.P. Faulkner, R.A. Gleason, J.W. Harden, Y.K. Kharaka, L.L. Tieszen, and M.P. Waldrop, 2008, Carbon sequestration to mitigate climate change: U.S. Geological Survey, Fact Sheet 2008-3097, 4 p. <http://pubs.usgs.gov/fs/2008/3097/>

Švábová, M., Z. Weishauptová, and O. Přibyl, 2012, The effect of moisture on the sorption process of CO2 on coal: Fuel, v. 92, p. 187-196.

Sweatman, R., and G.R. McColpin, 2009, Monitoring technology enables long-term CO2 geosequestration: Hart’s E&P, v. 82, no. 11, p. 72-73.

Sweatman, R.E., M.E. Parker, and S.L. Crookshank, 2009, Industry CO2 EOR experience relevant for carbon capture and storage (CCS): Oil & Gas Journal, v. 107.45, p. 20-25.

Swift, A.M., L.M. Anovitz, J.M. Sheets, D.R. Cole, S.A. Welch, and G. Rother, 2014, Relationship between mineralogy and porosity in seals relevant to geologic CO2 sequestration: Environmental Geosciences Journal, v. 21, no. 2.

Tabet, D.E., 2005, Deep Utah coal deposits—repositories for greenhouse gas emissions?: Utah Geological Survey, Survey Notes, v. 37, no. 1, p. 10-11.

Tamulonis, K.L., T.E. Jordan, and B. Slater, 2011, Carbon dioxide storage potential for the Queenston Formation near the AES Cayuga coal-fired power plant in Tompkins County, New York: Environmental Geosciences Journal, v. 18, no. 1.

Tamulonis, K.L., T.E. Jordan, and R.D. Jacobi, 2014, Regional variability of carbon dioxide storage potential of the Queenston Formation in New York: Interpretation, v. 2, no. 1, p. T25-T48.

Tang, X., 2019, Surface thermodynamics of hydrocarbon vapors and carbon dioxide adsorption on shales: Fuel, v. 238, p. 402-411.

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

Tian, H., T. Xu, Y. Li, Z. Yang, and F. Wang, 2015, Evolution of sealing efficiency for CO2 geological storage due to mineral alteration within a hydrogeologically heterogeneous caprock: Applied Geochemistry, v. 63, p. 380-397.

Tomsich, C.S., C.L. Hanks, D.B. Stone, R.J. Newberry, and B.J. Coakley, 2015, Ultramafic and mafic rock distributions in central Alaska and implications for CO2 sequestration: Natural Resources Research, v. 24, p. 349-368.

Tremosa, J., S. Mito, P. Audigane, and Z. Xue, 2017, Experimental assessment of well integrity for CO2 geological storage: A numerical study of the geochemical interactions between a CO2-brine mixture and a sandstone-cement-steel sample: Applied Geochemistry, v. 78, p. 61-73.

Tsotsis, T.T., H. Patel, B.F. Najafi, D. Racherla, M.A. Knackstedt, and M. Sahimi, 2004, Overview of laboratory and modeling studies of carbon dioxide sequestration in coal beds: Industrial and Engineering Chemistry Research, v. 43, p. 2887-2901.

Umekwe, P., J. Mongrain, M. Ahmadi, and C. Hanks, 2013, Assessment of Alaska’s North Slope oil field capacity to sequester CO2: Natural Resources Research, v. 22, p. 45-58.

U.S. Department of Energy (DOE), 2010, 2010 carbon sequestration atlas of the United States and Canada: U.S. Department of Energy, NETL, Atlas III, <http://www.netl.doe.gov/technologies/carbon_seq/refshelf/atlasIII/index.html>

USGS, 2013, The gigaton question: How much geologic carbon storage potential does the United States have?: <http://www.usgs.gov/blogs/features/usgs_top_story/the-gigaton-question-how-much-geologic-carbon-storage-potential-does-the-united-states-have/?from=image>

USGS Geologic Carbon Dioxide Storage Resources Assessment Team, 2013, National assessment of geologic carbon dioxide storage resources—results: U.S. Geological Survey, Circular 1386, 54 p. <https://pubs.usgs.gov/circ/1386/>

Van Bergen, F., J. Gale, K.J. Damen, and A.F.B. Wildenborg, 2004, Worldwide selection of early opportunities for CO2-enhanced oil recovery and CO2-enhanced coal bed methane production: Energy, v. 29, p. 1611-1621.

Van Bergen, F., C. Spiers, G. Floor, and P. Bots, 2009, Strain development in unconfined coals exposed to CO2, CH4 and Ar: Effect of moisture: International Journal of Coal Geology, v. 77, p. 43-53.

Van Bergen, F., S. Hol, and C. Spiers, 2011, Stress-strain response of pre-compacted granular coal samples exposed to CO2, CH4, He and Ar: International Journal of Coal Geology, v. 86, p. 241-253.

Van Der Meer, B., and P. Egberts, 2008, Calculating subsurface CO2 storage capacities: The Leading Edge, v. 27, p. 502.

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.

Van Vergen, F., P. Krzystolik, N. van Wageningen, H. Pagnier, B. Jura, J. Skiba, P. Winthaegen, and Z. Kobiela, 2009, Production of gas from coal seams in the Upper Silesian coal basin in Poland in the post-injection period of an ECBM pilot site: International Journal of Coal Geology, v. 77, p. 175-187.

Varma, S., J. Underschultz, T. Dance, R. Langford, J. Esterle, K. Dodds, and D. van Gent, 2009, Regional study on potential CO2 geosequestration in the Collie Basin and the southern Perth Basin of western Australia: Marine and Petroleum Geology, v. 26, p. 1255-1273.

Verma, M.K., 2015, Fundamentals of carbon dioxide-enhanced oil recovery (CO2-EOR)—A supporting document of the assessment methodology for hydrocarbon recovery using CO2-EOR associated with carbon sequestration: U.S. Geological Survey Open-File Report 2015-1071, 19 p. <http://pubs.usgs.gov/of/2015/1071/>

Vialle, S., J. Ajo-Franklin, and J.W. Carey, eds., 2019, Geological carbon storage: Subsurface seals and caprock integrity: American Geophysical Union, Geophysical Monograph 238, 352 p.

Viete, D.R., and P.G. Ranjith, 2006, The effect of CO2 on the geomechanical and permeability behaviour of brown coal: implications for coal seam CO2 sequestration: International Journal of Coal Geology, v. 66, p. 204-216.

Viete, D.R., and P.G. Ranjith, 2007, The mechanical behaviour of coal with respect to CO2 sequestration in deep coal seams: Fuel, v. 86, p. 2667-2671.

Vishal, V., P.G. Ranjith, and T.N. Singh, 2013, CO2 permeability of Indian bituminous coals: Implications for carbon sequestration: International Journal of Coal Geology, v. 105, p. 36-47.

Vishal, V., T.N. Singh, and P.G. Rahjith, 2015, Influence of sorption time in CO2-ECBM process in Indian coals using coupled numerical simulation: Fuel, v. 139, p. 51-58.

Vishal, V., 2017, Saturation time dependency of liquid and supercritical CO2 permeability of bituminous coals: Implications for carbon storage: Fuel, v. 192, p. 201-207.

Voltattorni, N., A. Sciarra, G. caramanna, D. Cinti, L. Pizzino, and F. Quattrocchi, 2009, Gas geochemistry of natural analogues for the studies of geological CO2 sequestration: Applied Geochemistry, v. 24, p. 1339-1346.

Walker, P.L., Jr., S.K. Verma, J. Rivera-Utrilla, and M.R. Khan, 1988, A direct measurement of expansion in coals and macerals induced by carbon dioxide and methanol: Fuel, v. 67, p. 719-726.

Walker, S., 2003, Enhanced oil recovery with CO2: World Coal, v. 12, no. 2, p. 35-36, 38-41.

Wang, C., J. Liu, J. Feng, M. Wei, C. Wang, and Y. Jiang, 2016, Effects of gas diffusion from fractures to coal matrix on the evolution of coal strains: Experimental observations: International Journal of Coal Geology, v. 162, p. 74-84.

Wang, G.X., P. Massarotto, and V. Rudolph, 2009, An improved permeability model of coal for coalbed methane recovery and CO2 geosequestration: International Journal of Coal Geology, v. 77, p. 127-136.

Wang, G.X., X.R. Wei, K. wang, P. Massarotto, and V. Rudolph, 2010, Sorption-induced swelling/shrinkage and permeability of coal under stressed adsorption/desorption conditions: International Journal of Coal Geology, v. 83, p. 46-54.

Wang, K., G. Wang, T. Ren, and Y. Cheng, 2014, Methane and CO2 sorption hysteresis on coal: A critical review: International Journal of Coal Geology, v. 132, p. 60-80.

Wang, K., T. Xu, F. Wang, and H. Tian, 2016, Experimental study of CO2-brine-rock interaction during CO2 sequestration in deep coal seams: International Journal of Coal Geology, v. 154-155, p. 265-274.

Wang, S., D. Elsworth, and J. Liu, 2011, Permeability evolution in fractured coal: The roles of fracture geometry and water-content: International Journal of Coal Geology, v. 87, p. 13-25.

Wang, S., C. Chen, K. Li, N. Yuan, B. Shiau, and J.H. Harwell, 2019, In situ CO2 enhanced oil recovery: Parameters affecting reaction kinetics and recovery performance: Energy & Fuels, v. 33, p. 3844-3854.

Wang, T., A.-H. A. Park, Y. Shi, and G. Gadikota, eds., Carbon dioxide capture and utilization—Closing the carbon cycle: Energy & Fuels, v. 33, p. 1693.

Warwick, P.D., and M.D. Corum, eds., 2014, Geologic framework for the National Assessment of Carbon Dioxide Storage Resources: USGS Open-File Report 2012-1024. <https://pubs.er.usgs.gov/publication/ofr20121024>

Warwick, P.D., M.K. Verma, P.A. Freeman, M.D. Corum, and S.H. Hickman, 2014, U.S. Geological Survey carbon sequestration—Geologic research and assessments: Energy Procedia, v. 63, p. 5305-5309. <http://www.sciencedirect.com/science/article/pii/S1876610214023765#>

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.

Wdowin, M., R. Tarkowski, and W. Franus, 2014, Determination of changes in the reservoir and cap rocks of the Chabowo Anticline caused by CO2-brine-rock interactions: International Journal of Coal Geology, v. 130, p. 79-88.

Weber, M., T.H. Wilson, B. Akwari, A.W. Wells, and G. Koperna, 2012, Impact of geological complexity of the Fruitland Formation on combined CO2 enhanced recovery/sequestration at San Juan Basin pilot site: International Journal of Coal Geology, v. 104, p. 46-58.

Wei, X., P. Massarotto, G. Wang, V. Rudolph, and S.D. Golding, 2010, CO2 sequestration in coals and enhanced coalbed methane recovery: New numerical approach: Fuel, v. 89, p. 1110-1118.

Weishauptová, Z., and I. Sýkorová, 2011, Dependence of carbon dioxide sorption on the petrographic composition of bituminous coals from the Czech part of the Upper Silesian Basin, Czech Republic: Fuel, v. 90, p. 312-323.

Weishauptová, Z., O. Přibyl, I. Sýkorová, and V. Machovič, 2015, Effect of bituminous coal properties on carbon dioxide and methane high pressure sorption: Fuel, v. 139, p. 115-124.

Wells, A.W., J.R. Diehl, G. Bromhal, B.R. Strazisar, T.H. Wilson, and C.M. White, 2007, The use of tracers to assess leakage from sequestration of CO2 in a depleted oil reservoir, New Mexico, USA: Applied Geochemistry, v. 22, p. 996-1016.

Weniger, P., W. Kalkreuth, A. Busch, and B.M. Krooss, 2010, High-pressure methane and carbon dioxide sorption on coal and shale samples from the Paraná Basin, Brazil: International Journal of Coal Geology, v. 84, p. 190-205.

Weniger, P., J. Francu, P. Hemza, and B.M. Krooss, 2012, Investigations on the methane and carbon dioxide sorption capacity of coals from the SW Upper Silesian coal basin, Czech Republic: International Journal of Coal Geology, v. 93, p. 23-39.

Westrich, H.R., J. Lorenz, S. Cooper, and others, 2002, Sequestration of CO2 in a depleted oil reservoir—An overview: Journal of Energy and Environmental Research, v. 2, p. 64-74.

Wheatley, D., S. Hollingworth, P. Steele, and M. Chan, 2020, Sedimentology, diagenesis, and reservoir characterization of the Permian White Rim Sandstone, southern Utah: Implications for carbon capture and sequestration potential: AAPG Bulletin, v. 104, p. 1357-1373.

White, C.M., B.R. Strazisar, E.J. Granite, J.S. Hoffman, and H.W. Pennline, 2003, Separation and capture of CO2 from large stationary sources and sequestration in geological formation—coalbeds and deep saline aquifers: Journal of the Air and Waste Management Association, v. 53, p. 645-715.

White, C.M., D.H. Smith, K.L. Jones, A.L. Goodman, S.A. Jikich, R.B. LaCount, S.B. DuBose, E. Ozdemir, B.I. Morsi, and K.T. Schroeder, 2005, Sequestration of carbon dioxide in coal with enhanced coalbed methane recovery—a review: Energy & Fuel, v. 19, p. 659-724.

White, D.J., G. Burrowes, T. Davis, Z. Hijnal, K. Hirsche, I. Hutcheon, E. Majer, B. Rostron, and S. Whittaker, 2004, Greenhouse gas sequestration in abandoned oil reservoirs: The International Energy Agency Weyburn pilot project: GSA Today, v. 14, no. 7, p. 4-10.

Wigand, M., J.W. Carey, H. Schütt, E. Epangenberg, and J. Erzinger, 2008, Geochemical effects of CO2 sequestration in sandstones under simulated in situ conditions of deep saline aquifers: Applied Geochemistry, v. 23, p. 2735-2745.

Wilcox, J., 2012, Carbon capture: New York, Springer Science.

Williams, P., 2008, Green oil: Oil and Gas Investor, v. 28, no. 10, p. 42-52.

Willyard, C., 2009, Capturing carbon from coal plants: is it feasible?: Earth, v. 54, no. 4, p. 36-43.

Wilson, E.J., and D. Gerard, eds., 2007, Carbon capture and sequestration: Blackwell Publishing, 296 p.

Wilson, T.H., H. Siriwardane, L. Zhu, R.A. Bajura, R.A. Winschel, J.E. Locke, and J. Bennett, 2012, Fracture model of the Upper Freeport coal: Marshall County West Virginia pilot ECBMR and CO2 sequestration site: International Journal of Coal Geology, v. 104, p. 70-82.

Wong, S., K. MacLeod, M. Wold, W.D. Gunter, M.J. Mavor, and J. Gale, 2001, CO2-enhanced coalbed methane recovery demonstration pilot — a case for Australia: Tuscaloosa, Alabama, Proceedings, International Coalbed Methane Symposium, Paper 148, p. 75-86.

Wong, S., D. Law, X. Deng, J. Robinson, B. Kadatz, W.D. Gunter, Y. Jianping, F. Sanli, and F. Zhiqiang, 2007, Enhanced coalbed methane and CO2 storage in anthracitic coals—Micro-pilot test at South Qinshui, Shanxi, China: International Journal of Greenhouse Gas Control, v. 1, no. 2, p. 215-222.

Wong, S., D. Macdonald, S. Andrei, W.D. Gunter, X. Deng, D. Law, J. Ye, S. Feng, Z. Fan, and P. Ho, 2010, Conceptual economics of full scale enhanced coalbed methane production and CO2 storage in anthracitic coals at South Qinshui Basin, Shanxi, China: International Journal of Coal Geology, v. 82, p. 280-286.

Worden, R.H., 2006, Dawsonite cement in the Triassic Lam Formation, Shabwa Basin, Yemen: A natural analogue for a potential mineral product of subsurface CO2 storage for greenhouse gas reduction: Marine and Petroleum Geology, v. 23, p. 61-77.

Wu, Y., J. Liu, Z. Chen, D. Elsworth, and D. Pone, 2011, A dual poroelastic model for CO2-enhanced coalbed methane recovery: International Journal of Coal Geology, v. 86, p. 177-189.

Wu, Y., J. Liu, D. Elsworth, H. Siriwardane, and X. Miao, 2011, Evolution of coal permeability: Contribution of heterogeneous swelling processes: International Journal of Coal Geology, v. 88, p. 152-162.

Xu, J., C. Zhai, S. Liu, L Qin, and S. Wu, 2017, Pore variation of three different metamorphic coals by multiple freezing-thawing cycles of liquid CO2 injection for coalbed methane recovery: Fuel, v. 208, p. 41-51. (ECBM)

Xu, T., J.A. Apps, and K. Pruess, 2004, Numerical simulation of CO2 disposal by mineral trapping in deep aquifers: Applied Geochemistry, v. 19, p. 917-936.

Xu, T., J.A. Apps, and K. Pruess, 2005, Mineral sequestration of carbon dioxide in a sandstone-shale system: Chemical Geology, v. 217, p. 295-318.

Xu, T., G. Yue, F. Wang, and N. Liu, 2014, Using natural CO2 reservoir to constrain geochemical models for CO2 geological sequestration: Applied Geochemistry, v. 43, p. 22-34.

Yamazaki, T., K. Aso, and J. Chinju, 2006, Japanese potential of CO2 sequestration in coal seams: Applied Energy, v. 83, p. 911-920.

Yang, F., Z. Pang, L. Lin, Z. Jia, F. Zhang, Z. Duan, and Z. Zong, 2013, Hydrogeochemical and isotopic evidence for trans-formational flow in a sedimentary basin: Implications of CO2 storage: Applied Geochemistry, v. 30, p. 4-15.

Yang, S., K. Wu, J. Xu, J. Li, and Z. Chen, 2019, Roles of multicomponent adsorption and geomechanics in the development of an Eagle Ford shale condensate reservoir: Fuel, v. 242, p. 710-718.

Yi, J., I.Y. Akkutlu, C.Ő. Karacan, and C.R. Clarkson, 2009, Gas sorption and transport in coals: A poroelastic medium approach: International Journal of Coal Geology, v. 77, p. 137-144.

Yin, G., B. Deng, M. Li, D. Zhang, W. Wang, W. Li, and D. Shang, 2017, Impact of injection pressure on CO2–enhanced coalbed methane recovery considering mass transfer between coal fracture and matrix: Fuel, v. 196, p. 288-297.

Younger, P.L., D.J. Roddy, and G. González, 2010, King coal: restoring the monarchy by underground gasification coupled to CCS, in B.A. Vining and S.C. Pickering, eds., Petroleum geology: from mature basins to new frontiers: London, Geological Society, Proceedings of the 7th Petroleum Geology Conference, p. 1155-1163.

Yu, H., G. Zhou, W. Fan, and J. Ye, 2007, Predicted CO2 enhanced coalbed methane recovery and CO2 sequestration in China: International Journal of Coal Geology, v. 71, p. 345-357.

Yu, H., L. Zhou, W. Guo, J. Cheng, and Q. Hu, 2008, Predictions of the adsorption equilibrium of methane/carbon dioxide binary gas on coals using Langmuir and ideal adsorbed solution theory under feed gas conditions: International Journal of Coal Geology, v. 73, p. 115-129.

Yu, H., J. Yuan, W. Guo, J. Cheng, and Q. Hu, 2008, A preliminary laboratory experiment on coalbed methane displacement with carbon dioxide injection: International Journal of Coal Geology, v. 73, p. 156-166.

Yu, H., W. Guo, J. Cheng, and Q. Hu, 2008, Impact of experimental parameters for manometric equipment on CO2 isotherms measured: Comment on “Inter-laboratory comparison II: CO2 isotherms measured on moisture-equilibrated Argonne premium coals at 55°C and up to 15 MPa” by Goodman et al. (2007): International Journal of Coal Geology, v. 74, p. 250-258.

Yu, M., L. Liu, S. Yang, Z. Yu, S. Li, Y. Yang, and X. Shi, 2016, Experimental identification of CO2-oil-brine-rock interactions: Implications for CO2 sequestration after termination of a CO2-EOR project: Applied Geochemistry, v. 75, p. 137-151.

Yuan, C., Z. Zhang, and K. Liu, 2014, Assessment of the recovery and front contrast of CO2 EOR and sequestration in a new gas condensate reservoir by compositional simulation and seismic modeling: Fuel, v. 142, p. 81-86.

Zagorščak, R., and H.R. Thomas, 2018, Effects of subcritical and supercritical CO2 sorption on deformation and failure of high-rank coals: International Journal of Coal Geology, v. 199, p. 113-123.

Zang, J., K. Wang, and Y. Zhao, 2015, Evaluation of gas sorption-induced internal swelling in coal: Fuel, v. 143, p. 165-172.

**Zarębska, K., and G. Ceglarska-Stefańska, 2008, The change in effective stress associated with swelling during carbon dioxide sequestration on natural gas recovery: International Journal of Coal Geology, v. 74, p. 167-174.**

Zarrouk, S.J., and T.A. Moore, 2009, Preliminary reservoir model of enhanced coalbed methane (ECBM) in a subbituminous coal seam, Huntly coalfield, New Zealand: International Journal of Coal Geology, v. 77, p. 153-161.

Zelenka, T., and B. Taraba, 2014, Sorption of CO2 on low-rank coal: Study of influence of various drying methods on microporous characteristics: International Journal of Coal Geology, v. 132, p. 1-5.

Zeng, K., P. Jiang, Z. Lun, and R. Xu, 2019, Molecular simulation of carbon dioxide and methane adsorption in shale organic nanopores: Energy & Fuels, v. 33, p. 1785-1796.

Zhang, B., W. Liang, P.G. Ranjith, Z. Li, C. Li, and D. Hou, 2019, Coupling effects of supercritical CO2 sequestration in deep coal seam: Energy & Fuels, v. 33, p. 460-473.

Zhang, J., K. Liu, M.B. Clennell, D.N. Dewhurst, and M. Pervukhina, 2015, Molecular simulation of CO2–CH4 competitive adsorption and induced coal swelling: Fuel, v. 160, p. 309-317. (ECBM)

Zhang, J., M.B. Clennell, K. Liu, D.N. Dewhurst, M. Pervukhina, and N. Sherwood, 2016, Molecular dynamics study of CO2 sorption and transport properties in coal: Fuel, v. 177, p. 53-62. (ECBM)

Zhang, K., N. Jia, L. Liu, and S. Li, 2019, Main and interactive effects of four factors on CO2 storage in fractured nanopores: Energy & Fuels, v. 33, p. 6616-6627.

Zhang, L., Y. Wang, X. Miao, M. Gan, and X. Li, 2019, Geochemistry in geologic CO2 utilization and storage: A brief review: Advances in Geo-Energy Research, v. 3, p. 304-313.

Zhang, N., M. Yin, M. Wei, and B. Bai, 2019, Identification of CO2 sequestration opportunities: CO2 miscible flooding guidelines: Fuel, v. 241, p. 459-467.

Zhang, Q., K.M. Ellett, J.A. Rupp, M. Mastalerz, and C. Özgen Karacan, 2017, Regional- to reservoir-scale evaluation of CO2 storage resource estimates of coal seams: Energy Procedia, v. 114, p. 5346-5355.

Zhang, R., and S. Liu, 2017, Experimental and theoretical characterization of methane and CO2 sorption hysteresis in coals based on Langmuir desorption: International Journal of Coal Geology, v. 171, p. 49-60.

Zhang, W., T. Xu, and Y. Li, 2011, Modeling of fate and transport of coinjection of H2S with CO2 in deep saline formations: Journal of Geophysical Research, v. 116, B02202, 13 p.

Zhang, X., P.G. Ranjith, Y. Lu, and A.S. Ranathunga, 2019, Experimental investigation of the influence of CO2 and water adsorption on mechanics of coal under confining pressure: International Journal of Coal Geology, v. 209, p. 117-129.

Zhang, Y., M. Lebedev, M. Sarmadivaleh, A. Barifcani, T. Rahman, and S. Iglauer, 2016, Swelling effect on coal micro structure and associated permeability reduction: Fuel, v. 182, p. 568-576.

Zhang, Y., Z. Zhang, M. Sarmadivaleh, M. Lebedev, A. Barifcani, H. Yu, and S. Iglauer, 2017, Micro-scale fracturing mechanisms in coal induced by adsorption of supercritical CO2: International Journal of Coal Geology, v. 175, p. 40-50. (**ECBM**)

Zhang, Y., M. Lebedev, Y. Jing, H. Yu, and S. Iglauer, 2019, In-situ X-ray micro-computed tomography imaging of the microstructural changes in water-bearing medium rank coal by supercritical CO2 flooding: International Journal of Coal Geology, v. 203, p. 28-35.

Zhao, G., and C. Wang, 2019, Influence of CO2 on the adsorption of CH4 on shale using low-field nuclear magnetic resonance technique: Fuel, v. 238, p. 51-58. (NMR)

Zhao, Y., Z. Zhang, X. Qian, and Y. Han, 2014, Properties of carbon dioxide adsorption and reduction by sodium borohydride under atmospheric pressure: Fuel, v. 142, p. 1-8.

Zhao, Y., Y. Feng, and X. Zhang, 2015, Molecular simulation of CO2/CH4 self- and transport diffusion coefficients in coal: Fuel, v. 165, p. 19-27. (CO2-ECBM)

Zheng, S., Y. Yao, D. Elsworth, D. Liu, and Y. Cai, 2020, Dynamic fluid interactions during CO2-enhanced coalbed methane and CO2 sequestration in coal seams. Part i: CO2-CH4 interactions: Energy Fuels, v. 34, p. 8274-8282.

Zhi, S., D. Elsworth, and L. Liu, 2019, W-shaped permeability evolution of coal with supercritical CO2 phase transition: International Journal of Coal Geology, v. 211, 103221. (CO2-ECBM)

Zhou, F., F. Hussain, and Y. Cinar, 2013, Injecting pure N2 and CO2 to coal for enhanced coalbed methane: Experimental observations and numerical simulation: International Journal of Coal Geology, v. 116-117, p. 53-62.

Zhou, J., Z. Jin, and K.H. Luo, 2019, Effects of moisture contents on shale gas recovery and CO2 sequestration: Langmuir, v. 35, p. 8716-8725.

Zhu, Z., B. Bergamaschi, R. Bernknopf, D. Clow, D. Dye, S. Faulkner, W. Forney, R. Gleason, T. Hawbaker, J. Liu, S. Liu, S. Prisley, B. Reed, M. Reeves, M. Rollins, B. Sleeter, T. Sohl, S. Stackpoole, S. Stehman, R. Striegl, and A. Wein, 2010, A method for assessing carbon stocks, carbon sequestration, and greenhouse-gas fluxes in ecosystems of the United States under present conditions and future scenarios: U.S. Geological Survey Scientific Investigations Report 2010-5233, 187 p. <http://pubs.usgs.gov/sir/2010/5233/pdf/sir2010-5233.pdf>

Zhu, Z. (ed.), M. Bouchard, D. Butman, T. Hawbaker, Z. Li, J. Liu, S. Liu, C. McDonald, R. Reker, K. Sayler, B. Sleeter, T. Sohl, S. Stackpoole, A. Wein, and Z. Zhu, 2011, Baseline and projected future carbon storage and greenhouse-gas fluxes in the Great Plains region of the United States: U.S. Geological Survey Professional Paper 1787, 28 p. <http://pubs.usgs.gov/pp/1787/p1787.pdf>

Zhu, Z., and B.C. Reed, eds., 2012, Baseline and projected future carbon storage and greenhouse-gas fluxes in ecosystems of the western United States: U.S. Geological Survey Professional Paper 1797, 191 p. <http://pubs.usgs.gov/pp/1797/pdf/PP1797_WholeDocument.pdf>

Ziemiański, P.P., A. Derkowski, J. Szczurowski, and M. Kozieł, 2020, The structural versus textural control on the methane sorption capacity of clay minerals: International Journal of Coal Geology, v. 224, 103483.

Zimmer, M., P. Pilz, and J. Erzinger, 2011, Long-term surface carbon dioxide flux monitoring at the Ketzin carbon dioxide storage test site: Environmental Geosciences Journal, v. 18, no. 2.