

John B. Hickman, Ph.D.

Research Geologist IV
Kentucky Geological Survey
University of Kentucky
<http://www.linkedin.com/in/john-b-hickman-geologist>

504 Rose St., 228 MMR Bldg.
Lexington, KY 40506-0107
Email: jhickman@uky.edu

Curriculum Vitae

Education:

- Ph.D. in Geology - University of Kentucky, Lexington, KY ----- 2011
Advisor: Dr. William A. Thomas, Hudnall Professor of Geology
Dissertation: *Structural Evolution of an Intracratonic Rift System; Mississippi Valley Graben, Rough Creek Graben, and Rome Trough of Kentucky, USA*
- M.S. in Geology - Texas A&M University, College Station, TX ----- 1999
Thesis: *Structure and Evolution of the Active Fold-and-Thrust Belt of Southwestern Taiwan Using GPS Geodesy*
- B.S. in Geology - University of Michigan, Ann Arbor, MI ----- 1994

Professional Experience:

- Geologist II, III, & IV ----- 1/1999 - present
Energy & Minerals Section, Kentucky Geological Survey, University of Kentucky,
Lexington, KY
- Geologist Intern ----- 5/1998 - 8/1998
International Division, Pennzoil Exploration & Production Company (PEPCo),
Houston, TX
- Research Assistant ----- 6/1997 - 5/1998
Researched structural geology and active tectonics of Taiwan, Department of Geology
& Geophysics, Texas A&M University, College Station, TX
- Teaching Assistant ----- 8/1995 - 5/1997
Taught Principles of Geology (GLY-101) and Physical Geology (GLY-104) labs
Department of Geology & Geophysics, Texas A&M University, College Station,
TX
- Lab Technician ----- 5/1994 - 8/1995
Experimental Aqueous Geochemistry Lab, Department of Geological Sciences,
University of Michigan, Ann Arbor, MI
- Lab Technician ----- 10/1992 - 8/1995
Subsurface Lab & Drill Core Storage Facility, Department of Geological Sciences,
University of Michigan, Ann Arbor, MI

Research Focus:

Currently involved in cross-disciplinary subsurface research over a variety of scales and data mediums (EQ seismicity, reflection seismic, potential fields, commercial oil & gas data, etc.). Perform regional structural and tectonic analysis, stratigraphic correlation, and basin analysis for unconventional resource assessments.

Professional Affiliations:

American Association of Petroleum Geologists (AAPG), Eastern Section President 2016-'17
Geological Society of America (GSA)
American Geophysical Union (AGU)
Society of Exploration Geophysicists (SEG)

Publications:Theses:

- Hickman, J. B., 2011, Structural Evolution of an Intracratonic Rift System; Mississippi Valley Graben, Rough Creek Graben, and Rome Trough of Kentucky, USA [PhD dissertation]: University of Kentucky, Lexington, KY, 31 pl., 186 p.
- Hickman, J.B., 1999, Structure and evolution of the active fold and thrust belt of southwestern Taiwan using GPS geodesy [M.S. thesis]: Texas A&M University, College Station, TX, 59 p.

Peer Reviewed:

- Hickman, J.B.**, Wiltschko, D.V., Hung, J.-H., Fang, P., and Bock, Y., 2002, Structure and evolution of the active fold-and-thrust belt of southwestern Taiwan from GPS analysis, *in* Byrne, T.B., and Liu, C.-S., eds., *Geology and Geophysics of an Arc-Continent Collision, Taiwan*: Boulder, CO, *Geological Society of America Special Paper 358*, p. 75-92.
- Hung, J.-H., Wiltschko, D.V., Lin, H.-C., **Hickman, J.B.**, Fang, P., Bock, Y., 1999, Structure and motion of the southwestern Taiwan fold and thrust belt: *Terrestrial Atmospheric and Oceanic Sciences*, v. 10, n. 3, p. 543-568.

Field Trip Guides:

- Hickman, J.B., Overfield, B., 2007, Field Trip 3: Kentucky River Palisades Canoe Trip: *AAPG Eastern Section Meeting - Program with Abstracts*, v. 36, p. 22.
- Andrews, W.M. Jr., Crawford, M.M., and **Hickman, J.B.**, 2002, Field Trip 7 - The Impact of Geology on the Culture and History of Central Kentucky, *in* Ettensohn, F.R., and Smath, M.L., eds., *Guidebook for geology field trips in Kentucky and adjacent areas: 2002 North-Central Section (36th) and Southeastern Section (51st) Joint GSA Annual Meeting - Field Trips Guidebook*, p. 110-128.
- Ettensohn, F.R., **Hickman, J.B.**, 2002, Structural framework, *in* Andrews, W.M. Jr., Ettensohn, F.R., Gooding, P.J., Smath, M.L., eds., *Impact of geology on human history at Camp*

Nelson and Perryville, Kentucky: *Annual Field Conference of the Kentucky Society of Professional Geologists - Guidebook*, p. 11-14.

Ettensohn, F.R., **Hickman, J.B.**, Anderson, W.H., Kuhnhenh, G.L., 2002, Stop 5, Lexington fault system and displacement between the Camp Nelson and Lexington Limestones, *in* Andrews, W.M. Jr., Ettensohn, F.R., Gooding, P.J., Smath, M.L., eds., *Impact of geology on human history at Camp Nelson and Perryville, Kentucky: Annual Field Conference of the Kentucky Society of Professional Geologists - Guidebook*, p. 83-84.

Reports and Other Publications:

Hickman, J., Eble, C., Riley, R., Erenpreiss, M., Carter, K., Harper, J., Dunst, B., Smith, L., Cooney, M., Soeder, D., Metzger, G., Moore, J., Hohn, M., Pool, S., Saucer, J., Patchen, D., 2015, A Geologic Play Book for Utica Shale Appalachian Basin Exploration: Appalachian Oil & Natural Gas Consortium, Morgantown, WV, 205 p.

Hickman, J.B., 2014, Rough Creek Graben Consortium Final Report: Kentucky Geological Survey, Series 12, Contract Report 55, 70 p.

Hickman, J.B., 2014, Using Time-Lapse Three-Dimensional Vertical Seismic Profiling to Monitor Injected Fluids During Geologic Carbon Sequestration: Kentucky Geological Survey, Series 12, Report of Investigation 26, 20 p.

Harris, D.C., **Hickman, J.B.**, 2013, Evaluation of Geologic CO₂ Storage Potential at LG&E and Kentucky Utilities Power Plant Locations, Central & Western Kentucky: Kentucky Geological Survey, Series 12, Contract Report 1, 114 p.

Nuttall, B.C., Harris, D.C., **Hickman, J.B.**, Solis, M.P., 2010, Site Bank Assessment Geologic Data Report, Round 2, 2008, *in* Parris, T.M., Greb, S.F., Nuttall, B.C., eds., *Evaluation of geologic CO₂ sequestration potential and CO₂ enhanced oil recovery in Kentucky: KGS Series 12, Report of Investigation 21*, p. 213-224.

Patchen, D.G., **Hickman, J.B.**, Harris, D.C., Drahovzal, J.A., Lake, P.D., Smith, L.B., Nyahay, R., Schulze, R., Riley, R.A., Baranoski, M.T., Wickstrom, L.H., Laughrey, C.D., Kostelnik, J., Harper, J.A., Avary, K.L., Bocan, J., Hohn, M.E., and McDowell, R., 2006, A Geologic Play Book for Trenton-Black River Appalachian Basin Exploration: US-DOE Project Report Number: DE-FC26-03NT41856, 562 p., 39 pl.

Nuttall, B.C., **Hickman, J.B.**, and Smath, R.A., 2003, Scanned Images of Oil and Gas Maps of Kentucky (Sheets 1 thru 4): Kentucky Geological Survey, KGS Series 12, Digital Publication 3 (CD-ROM), scale 1:250,000.

Harris, D.C., Drahovzal, J.A., **Hickman, J.B.**, Nuttall, B.C., Baranoski, M.T., and Avary, K.L., 2002, Rome Trough Consortium Final Report: Kentucky Geological Survey, Series 12, Open File Report # 0406.

Hickman, J.B., 1998, Petroleum Systems and Production History of Negara Brunei Darussalam: Internal Report, Pennzoil Exploration & Production Co., International Division.

Walter, L.M., Budai, J.M., Abriola, L.M., Stearns, C.H., Martini, A.M., Ku, T.C.W., **Hickman, J.B.**, Huston, T.J., Lehman, K.A., Richards, J.A., 1995, Hydrogeochemistry of the Antrim Shale, Northern Michigan Basin: *GRI Topical Report*, Contract 5093-220-2704, 171p.

Published Abstracts:

- Hickman, J.B.**, 2016, Kinematics of Past Tectonic Forces Inferred from Differential Sedimentation: Program with Abstracts – Eastern Section of the American Association of Petroleum Geologists, 45th Annual Meeting, Lexington, Kentucky, p. 40-41.
- Eble, C.F., **Hickman, J.B.**, 2016, Organic Matter Maturation Trends and Source Rock Quality in the Utica Shale, East-Central Ohio: Program with Abstracts – Eastern Section of the American Association of Petroleum Geologists, 45th Annual Meeting, Lexington, Kentucky, p. 34-35.
- Hickman, J.B.**, Harris, D.C., Eble, C.F., 2015, Cambrian Rogersville Shale in the Rome Trough, Kentucky and West Virginia: A Potential New Unconventional Reservoir in the Appalachian Basin: AAPG Datapages/Search and Discovery Article #90216, 2015 AAPG Annual Convention and Exhibition, Denver, CO, May 31 - June 3, 2015
- Hickman, J.B.**, Harris, D.C., 2015, Structural Evolution and Petroleum Potential of a Cambrian Intracratonic Rift System—Mississippi Valley Graben, Rough Creek Graben, and Rome Trough of Kentucky, USA: Program and Abstracts - 34th Annual Gulf Coast Section SEPM Foundation Perkins-Rosen Research Conference, Houston, TX, Dec. 13–16, 2015
- Bowersox, J.R., Greb, S.F., Moecher, D.P., **Hickman, J.B.**, 2014, The Precambrian Middle Run Formation in Kentucky: Evidence for Fluvial and Tidal Facies: Abstract 249326 presented at 2014 GSA Annual Meeting, Vancouver, British Columbia, Canada.
- Lahann, R., Medina, C., Rupp, J., Lovell, T., Bowen, B., Barnes, D., **Hickman, J.**, Bandy, R., and Sminchak, J., 2012, SA Regional Lithostratigraphic Model of the Eau Claire Formation (Cambrian): How Much Shale is in the Confining Unit?: Search and Discovery Article #41040, Presented at the AAPG Eastern Section meeting, Cleveland, Ohio, 22-26 Sept. 2012.
- Thomas, W.A., **Hickman, J.B.**, 2011, Cambrian to Recent Structures around the New Madrid Seismic Zone: Abstract S22A-02 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- Hickman, J.B.**, 2011, Evidence of Crustal-Scale Thermal Subsidence Surrounding Cambrian Intracratonic Rift Structures in the Southern Illinois Basin: Abstracts with Programs - Geological Society of America, v. 43, n. 5, p. 202.
- Bowersox, J.R., Williams, D.A., **Hickman, J.B.**, and Harris, D.C., 2011, Storage in US Midcontinent Cambro-Ordovician Carbonates - Implications of the Western Kentucky Carbon Storage Test: Abstracts with Programs - Geological Society of America, v. 43, n. 5, p. 581.
- Bowersox, J.R., **Hickman, J.B.**, Greb, S.F., Drahovzal, J.A., and Harris, D.C., 2010, Precambrian Middle Run Sandstone in Western Kentucky - Results from the Kentucky Geological Survey #1 Marvin Blain CO₂ Sequestration Test Well: Abstracts with Programs - Geological Society of America, v. 42, n. 5, p. 608.
- Greb, S.F., Solis, M.P., **Hickman, J.B.**, Drahovzal, J.A., and Bowersox, J.R., 2010, Mapping and testing the southern margin of the Mount Simon Sandstone (Cambrian), a major target for CO₂ storage in the Midwest: Geological Society of America Abstracts with Programs, v. 42; n. 5, p. 383.
- Hickman, J.B.**, 2006, Are the Mississippi Valley Graben and the Rome Trough Connected? An Analysis of Cambrian Faulting Patterns with Respect to Obliquity of Rifting: Abstracts with Programs - Geological Society of America, v. 38, n. 3, p. 10.

- Harris, D.C., **Hickman, J.B.**, and Kincheloe, J, 2006, High matrix porosity in a dolomitized Black River reservoir, Clinton County, Kentucky: AAPG Eastern Section Meeting - Program with Abstracts, v. 35, p. 20-21.
- Hickman, J.B.**, 2006, Modeling on the cheap; Creating a 3D seismic velocity model with common software and free data: AAPG Eastern Section Meeting - Program with Abstracts, v. 35, p. 21.
- Hickman, J.B.**, 2006, Paleozoic tectonic effects on Trenton-Black River hydrothermal reservoirs: AAPG Eastern Section Meeting - Program with Abstracts, v. 35, p. 21.
- Solis, M.P., Drahovzal, J.A., Greb, S.F., and **Hickman, J.B.**, 2005, Western Kentucky Precambrian structure map: AAPG Eastern Section Meeting - Program with Abstracts, v. 34, p. 34.
- Greb, S.F., Nuttall, B.C., Solis, M., Parris, T.M., Drahovzal, J.A., Eble, C.F., Harris, D.C., **Hickman, J.B.**, Lake, P.D., Overfield, B., and Takacs, K.G., 2005, Siting coal-fired power plants in a carbon-managed future; the importance of geologic sequestration reservoirs: AAPG Eastern Section Meeting - Program with Abstracts, v. 34, p. 22.
- Baranoski, M.T., Harris, D.C., **Hickman, J.B.**, 2004, Updated lithostratigraphy and nomenclature for Ohio's Sub-Knox Cambrian strata: AAPG Eastern Section Meeting - Program with Abstracts, v. 33 p. 59-60.
- Harris, D.C., **Hickman, J.B.**, Baranoski, M.T., Avary, K.L., 2004, Rome Trough Consortium; Refined Cambrian lithostratigraphy, eastern Kentucky and West Virginia: AAPG Eastern Section Meeting - Program with Abstracts, v. 33, p. 84.
- Hickman, J.B.**, Harris, D.C., and Baranoski, M.T., 2004, Rome Trough Consortium; Structural/Tectonic Evolution of the Rome Trough Intraplate Extensional Graben System: AAPG Eastern Section Meeting - Program with Abstracts, v. 33, p. 86-87.
- Hickman, J.B.**, Harris, D.C., and Baranoski, M.T., 2004, Rome Trough Consortium; Analysis of 13 regional cross sections across Kentucky, Ohio, and West Virginia: AAPG Eastern Section Meeting - Program with Abstracts, v. 33, p. 87-88.
- Nuttall, B.C., **Hickman, J.B.**, Eble, C.F., Weisenfluh, J., Overfield, B., Drahovzal, J.A., 2004, Carbon sequestration opportunities in Kentucky: AAPG Eastern Section Meeting - Program with Abstracts, v. 33, p. 112.
- Riley, R.A., Baranoski, M.T., **Hickman, J.B.**, and Powers, D.M., 2003, Rose Run structure and isopach map of Ohio and Kentucky: AAPG Eastern Section Meeting - Program with Abstracts, v. 33, p. 112.
- Hickman, J.B.**, Drahovzal, J.A., Wickstrom, L.H., Carr, T.R., Rupp, J.A., Seyler, B., and White, S.W., 2002, Midcontinent Interactive Digital Carbon Atlas and Relational Database (MIDCARB): Abstracts with Programs - Geological Society of America, v. 34, n. 2, p. 36.
- Wiltschko, D.V., Hung, J.-H., **Hickman, J.B.**, Fang, P., Bock, Y., 1999, Uplift of the active fold and thrust belt of southwestern Taiwan using GPS geodesy: Abstracts with Programs - Geological Society of America, v. 31, n. 7, p. 370.
- Wiltschko, D.V., Hung, J.-H., Fang, P., Bock, Y., **Hickman, J.B.**, 1999, Uplift of the southern Taiwan orogen from GPS geodesy: Eos Transactions - American Geophysical Union, v. 80, n. 46, p. 1042.
- Hickman, J.B.**, Zhurina, E.N., and Kronenberg, A.K., 1997, Deformation of talc and pyrophyllite; Disruption of van der Waals bonds and comparisons with calculated interlayer forces: Eos Transactions - American Geophysical Union, v. 78, no. 46, p. F724.

Submitted or in preparation:

Hickman, J.B., 201X? (in preparation), Structure and Isopach maps for the Knox Group, Eau Claire Formation, and Reelfoot Arkose of the southern Illinois Basin: Kentucky Geological Survey, Series 13, Map & Chart Series XX, 1:500,000 scale, 12 plates.

Hickman, J.B., 201X? (in preparation), Major Basement Fault Systems of Kentucky: Kentucky Geological Survey, Series 13, Bulletin XX, X p.

Greb, S.F., Drahozal, J.A., **Hickman, J.B.**, Bowersox, J.R., Harris, D.C., and Bandy, R.E., 201X? (in preparation), Structural influences on the Mount Simon Sandstone (Middle Cambrian) in the eastern United States: GSA, Geology, vol.X, no.X, X p.