

VITA

DARREL W. SCHMITZ, Ph.D., P.G.

EDUCATION

Merit Graduate – May 1973

Eupora High School, Eupora, Mississippi

Bachelor of Science – Geology – May 1980

Mississippi State University, Mississippi State, Mississippi

Master of Science – Engineering Science – Geology – May 1985

University of Mississippi, University, Mississippi

Doctor of Philosophy – Geology – May 1991

Texas A & M University, College Station, Texas

U.S. Geological Survey, Water Resources Division Training Courses

-Analytical Methods to Determine Aquifer Properties and to Predict Aquifer Response – November 1985

-Ground Water Concepts (Self-Paced) – 1986

-Surface Geophysical Methods (Regional) – January 1986

-Ground Water – Surface Water Relationships – May 1986

National Water Well Association Training

-DRASTIC Workshop – February 1986

-Ground Water Modeling Without Advanced Mathematics Course I – January 1987

-Ground Water Modeling Without Advanced Mathematics Course II – January 1987

-Visual Modflow – March 1998

Hazardous Materials Handling Courses

-Hazardous Waste Operations (NUS Corp.) – July 1987

-Hazardous Waste Supervisory Training (BCM Inc.) – January 1988

U.S.E.P.A. Accredited Asbestos Containing Materials Courses

-Building Inspector's Course (BCM Inc.) – March 1988

-Management Planner's Course (BCM Inc.) – March 1988

Groundwater Short Course: Contaminant Hydrogeology – March 1990

ESRI Course: ArcGis Desktop I: Getting Started with GIS – May, 2009

EXPERIENCE

Mississippi State University, Department of Geosciences, Mississippi State, Mississippi – Full time

- Assistant Professor (until August 1995), Associate Professor (August 1995 to 2000) and Full Professor (August 2000 until present) (nine-month appointments) responsible for teaching, research, and service in the areas of Engineering Geology, Hydrogeology, Environmental Geology, and Mississippi and Gulf Coast Geology.
- Department Head July 1 2004 to August 2012 (twelve month appointment)

Texas A & M University, Department of Geology, Center for Engineering Geosciences, College Station, Texas – September 1988 to May 1989 and September 1989 to May 1990 – Half-time.

- Teaching Assistant and Assistant Lecturer responsible for instructing laboratories, lecture and field trips of Geology for Engineers, a junior level course.

United States Army Corps of Engineers, Waterways Experiment Station, Geotechnical Laboratory, Vicksburg, Mississippi – May 1989 to August 1989 – Full-time; September 1989 to May 1990 – Half-time; and May 1990 to August 1990 – Full-time.

- on contract, responsible for providing hydrogeologic expertise in evaluating groundwater data, conducting groundwater evaluations, and assisting in field studies.

BCM Converse, Inc., Jackson, Mississippi – July 1986 to August 1988 – Full-time; and August 1988 to May 1989 – Part-time.

- Hydrogeologist responsible for project management, field investigations and technical report writing for projects involving environmental geology and groundwater investigations dealing with nonhazardous, underground storage tank, hazardous waste, and superfund sites throughout the eastern United States; and the review and preparation of technical comments for the final Environmental Assessment for a high-level radioactive waste repository in Mississippi.

State of Mississippi – August 1982 to June 1986 Full-time Mississippi Department of Natural Resources, Mississippi Bureau of Pollution Control, Ground Water Division, Ground Water Planning Section, Jackson, Mississippi – April 1985 to June 1986.

- Section Coordinator – responsible for the development and implementation of a ground water protection strategy for Mississippi; and assessing ground water contamination incidents in Mississippi.

Mississippi Department of Natural Resources, Mississippi Bureau of Geology, Geological Survey Division, Ground Water Section, Jackson, Mississippi – July 1983 to March 1985.

- Geologist responsible for the sampling, analyzing, and research on surface and ground water resources; research, compile, and prepare data for publications; supply information on surface and ground water; assist in ground water exploration; conduct geophysical logs on water wells and test holes; and secondary responsibilities in mineral resources.

EXPERIENCE CONTINUED

Mississippi Research and Development Center, Mississippi Mineral Resources Institute Unit, Jackson, Mississippi – August 1982 to July 1983.

-Geologist and technical advisor for marketing of Mississippi minerals; in charge of or assist with mineral exploration and sampling programs of Lignite, Gravel, Zeolite, and other clays; compilation of data, construction of, and some drafting of various types of maps; compile oil and gas data from completion cards and geophysical logs.

Exploration Services, Inc., Ark-La-Tex District, Tyler, Texas – January 1982 to June 1982 Full-time

-Logging Geologist responsible for Hydrocarbon well logging in East Texas; maintenance of field laboratories and equipment; and well site geology, as requested.

North American Exploration, Inc., Kaysville, Utah – February 1980 to January 1982 Full-time

-Geologist and Crew Chief responsible for lignite development programs for Phillips Coal Company in the Gulf Coast region with duties as follows: collecting, describing and core; coordinating drilling of, locating on maps and air photos of, describing lithology of, and collecting density logs of drill holes; tabulating lignite seams from geophysical logs; and responsible for permit men, logging and drilling personnel, and a geologist.

United States Department of the Interior, United States Geological Survey, Water Resources Division; Baton Rouge District, Baton Rouge, Louisiana – August 1974 to January 1977 as Co-op student

-Assistant Field Hydrologist and Hydrologic Technician as Co-op student in Southeast Louisiana with various duties as follows:

Water Quality Section – collecting core, water, and sediment samples; compiling and preparing water quality data for publication.

Surface Water Section – collecting recordings and readings from stage and rain gauges; maintenance of recorders and their housing; making discharge measurements; analyzing recordings; and plotting data on hydrologic graphs.

Ground Water Section – measuring water levels of monitor wells

Special Studies Section – collecting water samples during time of travel studies; calculating levels for, drawing and field checking preliminary flood maps; and chief of survey crews, surveying valley profiles.

Consulting Geologist, Brandon, Mississippi – July 1982 to June 1986; and Starkville, Mississippi – August 1990 to present – Part-time as requested.

-Geological investigations for various interests, including lignite, clay, gravel, fluvial, groundwater and environmental.

Adjunct Professor: University of Mississippi 1992 to 2000; Texas A & M University – 1994 to present.

PUBLICATIONS

- Economic Minerals Map of Mississippi (Map), 1983, Compiled by Booth, D. and **Schmitz, D.**, Mississippi Bureau of Geology and Mississippi Mineral Resources Institute.
- Mississippi Water Management, 1985, **Schmitz, Darrel W.**, Alabama Association for Water Pollution Control Newsletter, Vol. 5, No. 3, p. 6.
- Electric Logs of Water Wells and Test Holes on File at the Mississippi Bureau of Geology (Map), 1986, Compiled by Sims, James J., Jr. and **Schmitz, Darrel W.**, Mississippi Bureau of Geology.
- Physical Geology Laboratory Text and Manual, Mississippi State University Edition, 1992, Dallmeyer, R.D., Compiled by **Schmitz, D.W.** and Miller, D.W., Kendal/Hunt Publishing. Co., Dubuque, Iowa, 340 p.
- Gulf Coast Association of Geological Societies Transactions, Volume XLII, 1992, **Schmitz, D.**, Swann, C. and Walton, K., Editors, Gulf Coast Association of Geological Societies Transactions, Jackson, MS, 871 p.
- A Predictive Model to Optimize the Collection of Data Needed to Characterize Fluvial Sand Bodies, 1994, **Schmitz, Darrel W.** and May, James H., Technical Report GL-94-10, U. S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi.
- Post-Oligocene Stratigraphy and Mapping Considerations, 1995, May, J. H., Harrelson, D.W., Moore, W.H., Patrick, D.M., Cameron, C.P., and **Schmitz, D.W.**, Mississippi Geology, Vol. 16, No. 1, pp. 1-7.
- Distribution of Illite and Mixed-Layered Illite in the Smackover Formation of the Manila Embayment of Southwest Alabama (Wilcox, Clarke, and Monroe Counties), 1995, Amy, J.P., **Schmitz, D.W.**, and Baria, L.R., Gulf Cost Association of Geological Societies Transactions, Vol. XLV, pp. 13-20.
- Development of a Predictive Model for Defining Subsurface Sand Bodies, 1996, May, J. H. and **Schmitz, D.W.**, Engineering Geology, Vol. 42, pp. 175-186.
- Test Applications of a Predictive Model for Delineation of Fluvial Sand Bodies Using Geologically Based Calculations, 1996, **Schmitz, D.W.** and May, J. H., Engineering Geology, Vol. 42, pp. 187-203.
- An Earthquake and Environmental Assessment of Faulting in the Demopolis Chalk in Lowndes County, Mississippi, 1998, **Schmitz, D.W.** and Russell, E.E., Mississippi Geological Society Bulletin, Vol. 46, No. 8, pp. 5-7.
- Shallow Groundwater Resources of the Proposed Red Hills Facility and Mine Area, 1999, Charlton, J.E. and **Schmitz, D.W.**, Proceedings of the twenty-ninth Mississippi Water Resources Conference, pp. 130-138.
- Influence of Water Availability on Settlement Patterns, 1999, **Schmitz, D.W.**, Wax, C.L. And Pote, J.W., Proceedings of the twenty-ninth Mississippi Water Resources Conference, pp. 153-155.
- A Systematic Approach to Determine the Existence or Non-Existence of Atrazine and its Major Degradation Products in Mississippi Groundwater, 2001, Crowe, C.R. and **Schmitz, D.W.**, Proceedings of the thirty-first Mississippi Water Resources Conference, pp. 17-33.
- A Contrast in Water Resource Development and Settlement Patterns: North Central Hills And Black Prairie Regions of Mississippi, 2002, **Schmitz, D.W.** and Wax, C.L., Proceedings of the thirty-second Annual Mississippi Water Resources Conference, pp. 176-187.

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- ASBOG, the National Association of State Boards of Geology, 2002, Schmitz, D.W.,
Turek, F.S., and Philley, J.C., *The Professional Geologists*, Vol. 39, No. 4, pp. 30-34.
- Water-resource Controls on Human Habitation in the Black Prairie of North-Central
Mississippi, 2003, Schmitz, D.W., Wax, C.L., and Peacock, E. in *Blackland Prairies of*
the Gulf Coastal Plain: Nature, Culture, and Sustainability, Peacock, E. and
Schauwecker, T., Ed., The University of Alabama Press, pp. 194-211.
- New Geology Graduates: What They Need vs. What They are Getting, 2003, Schmitz,
D.W., in *Visioning the Future of Engineering Geology – Vol. 2: Degree program*
Quality and Accreditation, AEG Symposium Proceedings, p. 10.
- Assessing Functional Integrity of Moist-Soil Managed Wetlands by Comparison with
Nearby Non-Managed Systems, 2003, Ervin, G.N., Bried, J., Herman, B., and Schmitz,
D., 2003 Proceedings, Mississippi Water Resources Conference, pp. 13-25.
- Glauconite, Fractured Grains, and Hematite: Shallow-Burial Diagenesis in Mississippi, 2004,
Culpepper, J.D., Paul, K.A., Antia, J., Lynch, F.L., and **Schmitz, D.W.**, *The Compass:*
Journal of Earth Sciences Sigma Gamma Epsilon, Vol. 78, No. 1, p. 12.
- Technical Note: Soil-Based Controlled Low-Strength Materials, 2004, Green, B.H., and
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- National Association of State Boards of Geology FG & PG Examinations Test
Development Procedures, 2004, Schmitz, D.W., Warner, J.L., and Warner, S.P., AEG
News, Vol. 47, No. 3, pp. 10-12.
- National Association of State Boards of Geology: FG & PG Examinations Test
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Professional Geologist, Vol. 41, No. 5, pp. 33-36.
- An Experimental Exercise Used to Determine if Mississippi's Science Framework is
Adequately Preparing High School Graduates to Make Informed Decisions about
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Mississippi Academy of Sciences, v. 52, No. 3, pp. 172-177.
- Geologic Conditions Underlying the 2005 17th Street Canal Levee Failure in New Orleans,
2008, Rogers, J.D., Boutwell, G.P., **Schmitz, D.W.**, Karadeniz, D., Watkins, C.M.,
Athanasopoulos-Zekkos, A.G., Cobos-Roa, D., *Journal of Geotechnical and*
Geoenvironmental Engineering, Vol. 134, No. 5, pp. 583-601.
- Curriculum Accreditation Needed, 2009, Schmitz, D., AAPG Explorer, Vol.30, No. 8, pp.54-56
- Observations from Ship Island, Mississippi on Day 80 of the BP Oil Spill, 2010, Mukherjee,
M., Ruckstuhl, K., and **Schmitz, D.**, *AEG News*, Vol. 53, No. 3, pp. 19-23.
- The Need for Accreditation of Geology Programs in the United States, 2010, Schmitz, D., in
Geologically Active, Williams, A. et. al., Ed., CRC Press, pp. 4467-4470.

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- Delineation of Fluvial Sand Bodies Using Geologically Based Calculations (Abstract), 1992, Schmitz, Darrel W., Journal of the Mississippi Academy of Sciences, Vol. 37, Issue 1, p. 40.
- Predicting Data Point Locations Needed to Characterize Fluvial Sand Bodies (Abstract), 1992, Schmitz, Darrel W., Mississippi Geological Society Bulletin, Vol. 40, No. 8, p. 2.
- The Urban Geology of Jackson, Mississippi (Abstract), 1993, Schmitz, Darrel W., Journal of the Mississippi Academy of Sciences, Vol. 38, Issue 1, p. 41.
- A Predictive Model for Delineation of Fluvial Sand Bodies Using Geologically Based Calculations (Abstract), 1993, Schmitz, Darrel W., and May, James H., Proceedings, Association of Engineering Geologists Thirty-Sixth Annual Meeting, pp. 69-70.
- Large-Scale Field Experimentation Investigating Groundwater Transport Processes at a Heterogeneous Site (Abstract), 1993, Schmitz, Darrel W., and Waldrop, William R., Proceedings, Association of Engineering Geologists Thirty-Sixth Annual Meeting, p. 70.
- Structure in the Middle Demopolis Chalk: Lowndes County, Mississippi (Abstract), 1994, Schmitz, Darrel and Russell, Ernest E., Journal of the Mississippi Academy of Sciences, Vol. 39, Issue 1, p. 47.
- Large-Scale Field Experimentation Investigating Groundwater Transport Processes at the Columbus (Mississippi) Groundwater Research Test Site (Abstract), 1995, Schmitz, Darrel W. and Waldrop, William R., Journal of the Mississippi Academy of Sciences, Vol. 40, Issue 1, p. 54.
- Lignite: Mississippi Coal (Abstract), 1996, Schmitz, Darrel W. and Luppens, James A. Journal of The Mississippi Academy of Sciences, Vol. 41, No. 1, p. 56.
- Geomorphology of the Youngest Terrace of the Tombigbee River North of Columbus, Mississippi (Abstract), 1998, Journal of the Mississippi Academy of Sciences, Vol. 43, No. 1, p. 35.
- Shallow Groundwater Resources of the Proposed Red Hills Facility and Mine Area (Abstract), 1999, Charlton, J.E. and Schmitz, D.W., Mississippi Water Resources Conference Program and Abstracts, p. 32.
- Influence of Water Availability on Settlement Patterns (Abstract), 1999, Schmitz, D.W., Wax, C.L., and Pote, J.W., Mississippi Water Resources Conference Program and Abstracts, p. 36.
- Lithofacies of the Tupelo Tongue of the Coffee Sand (Abstract), 1999, Russell, E.E. and Schmitz, D.W., Journal of the Mississippi Academy of Sciences, Vol. 44, No. 1, p. 41.
- Current Status on Research at Kilmichael Dome (Abstract), 1999, Schmitz, D.W., Everett, T. and Ingram, S.L., Journal of the Mississippi Academy of Sciences, Vol. 44, No. 1, p. 48.
- Ground-Water Conditions of the East Coast of the United Arab Emirates (Abstract), 1999, Alhay, S. and Schmitz, D., Program with Abstracts of the Association of Engineering Geologists Forty-Second Annual Meeting, p. 55.
- Development of Soil-Based Controlled Low-Strength Materials (Abstract), 2000, Green, B. H. and Schmitz, D.W., AEG News, Vol. 43, No. 4, p. 87.
- Preliminary Earthquake Analysis of Mississippi State University (Abstract), 2001, Snodgrass, D.H. and Schmitz, D.W., Journal of the Mississippi Academy of Sciences, Vol. 46, No. 1, p. 39.

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- Explosively Induced Landslides (Abstract), 2001, Akins, F.T. and Schmitz, D.W., AEG News, Vol. 44, No. 4, p. 53.
- A Systematic Approach to Determine the Existence or Non-Existence of Atrazine and Its Major Degradation Products in Mississippi Groundwater (Abstract), 2001, Crowe, C.R. and Schmitz, D.W., AEG News, Vol. 44, No. 4, p. 58.
- From Slide Rules to Pocket Computers: The Evolution of the Field Geologist as Demonstrated by Recent Landslide Mapping in Honduras (Abstract), 2001, May, J.H., Smith, L., Olson, R., and Schmitz, D.W., AEG News, Vol. 44, No. 4, p. 69.
- The Role of the National Association of State Boards of Geology (ASBOG) in the Registration of Geologists (Abstract), 2002, Schmitz, D.W. and Kuper, D.E., AEG News, Vol. 45, Program with Abstracts, p. 83.
- Clay Mineral Evidence of Possible Provenance Change for Cat Island, Offshore Mississippi (Abstract), 2003, Barnhart, L.B., Lynch, F.L., and Schmitz, D.W., GSA Abstracts with Programs, Vol. 35, No. 1, p. 54.
- Implications of Comparisons of Tennessee with Tombigbee River Depositional Systems (Abstract), 2003, Russell, E.E., and Schmitz, D.W., GSA Abstracts with Programs, Vol. 35, No. 1, p. 70.
- New Geology Graduates: What They Need vs. What They are Getting (Abstract), 2003, Schmitz, D.W., AEG News, Vol. 46, Program with Abstracts, p. 73.
- Glauconite, Fractured Grains, and Hematite: Shallow-Burial Diagenesis in Mississippi (Abstract), 2003, Culpepper, J.D., Paul, K.A., Antia, J., Lynch, F.L., and Schmitz, D.W., GSA Abstracts with Programs, Vol. 35, No. 6, p. 192.
- Estimated Discharge Versus Measured Discharge of Selected Streams in the Ackerman Unit of the Tombigbee National Forest, Mississippi (Abstract), 2003, Hanks, M.B., Hughes, A.M., McIlwain, J.A., and Schmitz, D.W., GSA Abstracts with Programs, Vol. 35, No. 6, p. 315.
- Hamill Spring Restoration Project, Tombigbee National Forest, Mississippi (Abstract), 2004, Schmitz, D. W., AEG News, Vol. 47, Program with Abstracts, p. 53.
- The Geology and Hydrology of the Proposed Upper McCurtain Creek Watershed Impoundment, Choctaw County, Mississippi (Abstract), 2005, Rawlings, L. and Schmitz, D.W., AEG News, Vol 48, Program with Abstracts, p. 82.
- Estimated Discharge Versus Measured Discharge in Choctaw County, Mississippi (Abstract), 2005, McIlwain, J., Hanks, M., Hughes, A., and Schmitz, D., AEG News, Vol 48, Program with Abstracts, p. 77.
- "I Will Be Fearless as a Teacher!" A Peer Teaching and Learning Exercise Using Rachel Carson's Book *Silent Spring* (Abstract), 2005, Beasley, R., Schmitz, D. and Wax, C., AEG News, Vol 48, Program with Abstracts, p. 57.
- Use of Geographic Information Systems and Remote Sensing Along the Mississippi Gulf Coast in the Aftermath of Hurricane Katrina (Abstract), 2006, Schmitz, D.W., Cooke, III, W.H., Ruffin, N., Cartwright, J., and Samson, S.A., AEG News, Vol 49, Program with Abstracts, p. 70.
- An Experimental Design for Identifying Students' Naive Concepts about Groundwater Movement and Storage, (Abstract), 2006, Beasley, R., Schmitz, D., May, J., and Hamill, B., AEG News, Vol 49, Program with Abstracts, p. 51.

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- Geology and Hydrogeology of a Proposed Reservoir, Smith County, Mississippi: Implications of Oligocene Carbonates on the Implementation of a Reservoir, (Abstract), 2006, McIlwain, J.A., Schmitz, D.W., and May, J.H., AEG News, Vol 49, Program with Abstracts, p. 64.
- The Geology and Hydrology of the Proposed Impoundment of the Upper Sand Creek, Choctaw County, Mississippi, (Abstract), 2006, McMillin, J.R., Schmitz, D.W., and May, J.H., AEG News, Vol 49, Program with Abstracts, p. 64.
- Improvement of Carbon Dioxide Sweep Efficiency Using in situ Microbes to Modify Reservoir Permeability, (Abstract), 2006, Kirkland, B.L., Lynch, F.L., Brown, L.R., and Schmitz, D., Geological Society of America, Abstracts with Programs, v. 38, No. 7., p. 139.
- Hydrogeologic Assessment of a Proposed Reservoir Site, Smith County, Mississippi, (Abstract), 2007, McIlwain, J.A., Schmitz, D.W., and May, J.H., Journal of the Mississippi Academy of Sciences, v. 52, No. 1, p. 85.
- The Geology and Hydrology of the Proposed Impoundment of the Upper Sand Creek, Choctaw County, Mississippi, (Abstract), 2007, McMillin, J.R., Schmitz, D.W., and May, J.H., Journal of the Mississippi Academy of Sciences, v. 52, No. 1, pp. 85-86.
- The Tombigbee River Terrace System, (Abstract), 2007, Russell, E., and Schmitz, D., Journal of the Mississippi Academy of Sciences, v. 52, No. 1, p. 86.
- Chemical Derivatives Produced During the In-situ Chemical Oxidation of Petroleum Hydrocarbons by Hydrogen Peroxide in Sandy Clay Soils, (Abstract), 2007, Buell, N.R., Schmitz, D.W., Clary, R.M., and Dewey, C.P., AEG News, Vol 50, Program with Abstracts, p. 74.
- Licensure and the Case for Accreditation, (Abstract), 2007, Schmitz, D.W., AEG News, Vol 50, Program with Abstracts, p. 123.
- Importance of Geological Assessment for Siting and/or Construction of Reservoirs in the Gulf Coastal Plain Sediments: Three Examples from Mississippi, (Abstract), 2008, Schmitz, D.W., Rawlings, L., McMillin, J., McIlwain, J., May, J., GSA Abstracts with Programs, Vol. 40, No. 4, p. 5.
- A Look at Regular Grade Gasoline Reacted with Hydrogen Peroxide in a Laboratory Setting – What’s Left after the B T EX is Gone, (Abstract), 2008, Buell, N.R., Schmitz, D.W., Clary, R.M., and Dewey, C.P., GSA Abstracts with Programs, Vol. 40, No. 4, p.71.
- Chemistry and Derivatives of Petroleum Hydrocarbons Reacted with Hydrogen Peroxide in a Laboratory Environment, (Abstract), 2008, Buell, N.R., Schmitz, D.W., Clary, R.M., Dewey, C.P., AAPG 2008 Annual Convention and Exhibition Abstract Volumes, Vol. 17, P. 24.
- Accuracy of Supervised and Unsupervised Land Use Classification Techniques when Compared to Field Verified Land Use Types, (Abstract), 2008, Buell, N.R., Cooke III, W.H., and Schmitz, D.W., AEG News, Vol 51, Program with Abstracts, p. 59.
- A Review of Three Proposed Reservoir Sites and the Importance of Geological Assessment Preceding Reservoir Construction, (Abstract), 2008, McMillin, J., Schmitz, D., Rawlings, L., McIlwain, J., and May, J., AEG News, Vol 51, Program with Abstracts, p. 75.

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- A Preliminary Earthquake Site Analysis of Mississippi State University, (Abstract), 2009, Schmitz, D.W., Snodgrass, D.H., Harris, J.B., May, J.G., and Peiris, I., 5th (2009) Shlemon Specialty Conference: Advancing New Madrid Region Time-History Determination, p. 13.
- Surface Water Diversions can be Engineered to Allow for Natural Re-Establishment of Aquatic and Vegetative Resources, (Abstract), 2009, Buell, N.R., Sanborn, J., and Schmitz, D., AEG News, Vol 52, Program with Abstracts, p. 62.
- Comparison of a Supposed Continuous Lignite Seam in the Wilcox Formation, East-Central Mississippi, (Abstract), 2009, Johns, J.M., Schmitz, D.W., and Sellers, C.B., AEG News, Vol 52, Program with Abstracts, p. 81.
- Determine Quality and Quantity of Water Characteristics for a Proposed Lignite Mine, (Abstract), 2009, Sellers, C.M., Johns, J.M., Moore, K.M., Schmitz, D.W., Weeks, B.L., and McBryde, W.D., AEG News, Vol 52, Program with Abstracts, pp. 103-104.
- Earthquake Risk Assessment of Mississippi State University, (Abstract), 2009, Peiris, I., Schmitz, D.W., and May, J., GSA Abstracts with Programs, Vol. 41, No. 7, p.87.
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- The Need for Accreditation of Geology Programs in the United States, (Abstract), 2010, Schmitz, D., Extended Abstracts to the Proceedings of the 11th Congress of the IAEG. P. 582.
- Geology Program Accreditation, (Abstract), Schmitz, D., 2010, AEG News, Vol. 53, Program with Abstracts, p. 91.
- Use of the National Association of State Boards of Geology's Fundamentals of Geology Examination as an Assessment Tool, (Abstract), 2010, Schmitz, D., GSA Abstracts with Programs, Vol. 42, No. 5, p.332.
- Evidence of Microbial Weathering of Pyrite in Mississippi Sandstone, (Abstract), 2010, Aina, E., Degny, A., Kirkland, B., Lynch, F., McBryde, W., Miller, T., Schmitz, D., Sherman-Morris, K., Weeks, B., and Wright, K., GSA Abstracts with Programs, Vol. 42, No. 5, p.285.
- INSPIRE: Initiating New Science Partnerships in Rural Education, (Abstract), 2010, Donna M. Pierce, K. S. McNeal, L. M. Bruce, S. H. Harpole, and D. W. Schmitz., Bull. Am. Astron. Soc., Vol. 42, No. 37, p. 09.
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- Lignite Mine in Mississippi, (Abstract), 2011, Buell, R., Marcon, M., and Schmitz, D., AEG News, Vol 53, Program with Abstracts, p. 71.
- Agricultural Practices and the Effect of Nutrient Transportation on Surface Water Quality in Smith County, Mississippi, (Abstract), 2011, Cherry, W., McBryde, W., Jover, L., Ladner, C., and Schmitz, D., AEG News, Vol 53, Program with Abstracts, pp. 72-73.

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A Comparison of Estimated Versus Measured Stream Discharge in Selected Streams in

Smith County, Mississippi, (Abstract), 2011, Lenz, A., McBryde, W., and Schmitz, D., AEG News, Vol 53, Program with Abstracts, pp. 92-93.

Reinvestigation of a Hydrogeologic Feasibility Study for a Proposed Surface Water Reservoir

in Smith County, Mississippi, (Abstract), 2011, McBryde, W., Cherry, W., Jover, L., Ladner, C., and Schmitz, D., AEG News, Vol 53, Program with Abstracts, p. 95.

Influence of Coastal Plain Carbonates on Reservoir Development: Bienville National Forest,

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Study Of Spoil Slope Stability of The Open Pit Lignite Coal Mine In Choctaw County, MS.

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Developing Global Geoscientists: From Poland to Australia (Abstract), 2011, Cherry, W.,

McNeal, K., Schmitz, D., MCBryde, W., Burnett, E, and Irvin, S., GSA Abstracts with Programs, Vol. 42, No. 5, p..

Improvement of CO2 Sweep Efficiency Using Microbial Permeability Profile Modification

(Abstract), 2012, Schmitz, D., Kirkland, B., and Brown, L., Keynote Forum, Third Annual World Congress of Well Stimulation and EOR, Abstracts with proceedings.

Hydrogeological Assessment for the Selection of a Suitable Location for a Reservoir Lake

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Basin-specific Characterization of the Subsurface Geology of Potential Reservoir Locations

in George County, Mississippi (Abstract), 2012, Lenz, A., Ladner, C., Jover, L., and Schmitz, D., AEG News, Vol. 55, Program with Abstracts, p. 66.

Complex Geology and Spoil Stability – A Successful Case Study in Problem Identification

and Solution Implementation (Abstract), 2012, McGrew, N., Schmitz, D., and Jover, L. AEG News, Vol. 55, Program with Abstracts, p. 69.

Identification of Geologic Conditions of Concern During Site Assessment for Siting

and/or Construction of Reservoirs in Coastal Plain Sediments: Case History
Examples from the Northern Gulf of Mexico Basin (Abstract), 2013, Schmitz, D.W., Cherry, W., McBryde, W., McIlwain, J., McMillin, J., Rawlings, L., SAIEG/AEG AEG Foundation Shlemon Specialty Technical Conference, Life After Mining – “Envrio-Geotechnical” Answers to Development, Surface Stability, Seismicity, Water and Air Pollution, Sandton, Gauteng, South Africa, Abstract Book,

Parent Source Material of Calcium Bentonite in Smith County, Mississippi (Abstract), 2013,

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Reservoir Units of Diverse Lithologies in South-Central, Mississippi, USA (Abstract), 2013, Degny, A.D., Kirkland, B.L., Schmitz, D.W., AAPG Abstracts Volume, AAPG 2013Annual Convention and Exhibition

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Hydrogeological Assessment for the Selection of a Suitable Location for a Reservoir Lake in George County, Mississippi (Abstract), 2013, Ladner, C and Schmitz, D, AEG News, Vol. 56, Program with Abstracts, p. 68.

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Geologic and Hydrogeologic Evaluation of a Proposed Reservoir in Smith County Mississippi for Karst (Abstract), 2013, Schmitz, D.W., Mylroie, J.I., Thompson, S., McBryde, W., and Cherry, W., GSA Annual Meeting & Exposition 2013 Abstracts with Programs.

Linking Graduate Student Research in the 7-12 Grade Science Classrooms Through a Graduate K-12 Training Program, (Abstract), 2013, McNeal, K., Radencic, S., Pierce, D., Hare, D., and Schmitz, D.W., GSA Annual Meeting & Exposition 2013 Abstracts with Programs.

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In-Situ Polyacrylamide Gels to Ex-Situ Microelectrodes and Centrifugation Colorimetric Measures: A Comparison of Porewater Analysis Methodologies (Abstract), 2014, Geroux, J.; McNeal, K.; Templeton, C. ; and **Schmitz, D.**, AAPG Abstracts Volume, AAPG 2014 Annual Convention and Exhibition

Identification of Geologic Conditions of Concern During Site Assessment for Proposed Reservoirs in Coastal Plain Sediments of the Northern Gulf of Mexico Basin (Abstract), 2014, **Schmitz, D.**, Ladner, C, Lenz, A. and Lenz, C., AEG News, Vol. 57, Program with Abstracts, p. 75.

Groundwater and Surface-Water Interactions Through Hydrograph Separation in the Pascagoula River Basin in Mississippi, (Abstract), 2014, Killian, C., **Schmitz, D.**, and Stewart, H., AEG News, Vol. 57, Program with Abstracts, p. 62.

Geoscientists & Secondary Education Communities: Enhancing and Expanding the Communication of Geosciences to General Public Audiences, (Abstract), 2014, Radencic, S., **Schmitz, D.**, McNeal, K., and Pierce, D., AEG News, Vol. 57, Program with Abstracts, p. 70.

Evaluating the Impacts of Crop Rotations on Groundwater Recharge and Water Table Depths Through a Watershed Modeling Approach, (Abstract), 2014, Dakhllalla, A., Parajuli, P., and **Schmitz, D.**, GSA Annual Meeting & Exposition 2014 Abstracts with Programs.

Groundwater and Surface Water Contribution for a Proposed Reservoir in George County, Mississippi, (Abstract), 2014, Killian, C., **Schmitz, D.**, and Stewart, H., GSA Annual Meeting & Exposition 2014 Abstracts with Programs.

INSPIRE-ing Engagement and Interest in Geosciences With 7th – 8th grade Underrepresented Populations of Mississippi, (Abstract), 2014, Pounders, D., Radencic, S., Testa, M., **Schmitz, D.**, Pierce, D., and McNeal, K., GSA Annual Meeting & Exposition 2014 Abstracts with Programs.

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- Mississippi Groundwater Protection Strategy, 1986, Mississippi Department of Natural Resources, Bureau of Pollution Control, Jackson, Mississippi Paleozoic Rock Areas with Potential for Hydraulic Fracture Permeability Enhancement, 1992, Schmitz, D.W. and Miller, Jr., D.W., Mississippi Mineral Resources Institute Open File Report, 31 p.
- Rocky Mountain Arsenal Northwest Boundary Containment/Treatment System Operational Assessment Report, FY 91, Part IV: Groundwater Flow Evaluation And Appendix, September 1992, Hurt, K., Kelly, B., and Schmitz, D., Geotechnical Laboratory, U.S. Army Engineer Waterways Experiment Station Contract Report.
- Rocky Mountain Arsenal Northwest Boundary Containment/Treatment System Operational Assessment Report, FY 92, Part IV: Groundwater Flow Evaluation And Appendix, August 1993, Amy, J., Kirkova, J., Lockhart, D., and Schmitz, D., Geotechnical Laboratory, U.S. Army Engineer Waterways Experiment Station Contract Report.
- Final Report on the Assimilation of existing field site information at the "MADE" site For the Subsurface Conceptualization Task, 1994, Schmitz, Darrel W., Geotechnical Laboratory, U.S. Army Engineer Waterways Experiment Station Contract Report.
- Report on Quartzites in Attala, Choctaw, and Montgomery Counties, Mississippi, 1997, Ingram, S.L. and Schmitz, D.: Mississippi Office of Geology Unpublished Investigation Report, 4 p.
- Surface Water Sampling Plan, 1997, Schmitz, Darrel W., Water Resources Research Institute Grant Report, 31 p.

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- Mississippi Lignite Project Quarterly Ground Water Sampling, Choctaw County, Mississippi, November 1997, Schmitz, Darrel W., Water Resources Research Institute Grant Report, 25 p.
- Mississippi Lignite Project Surface Water and Ground Water February 1998 Quarterly Sampling, Choctaw County, Mississippi, Schmitz, Darrel W., Water Resources Research Institute Grant Report, 75 p.
- Mississippi Lignite Project Surface Water and Ground Water May 1998 Quarterly Sampling, Choctaw County, Mississippi, Schmitz, Darrel W., Water Resources Research Institute Grant Report, 80 p.
- Mississippi Lignite Project Surface Water and Ground Water August 1998 Quarterly Sampling, Choctaw County, Mississippi, Schmitz, Darrel W., Water Resources Research Institute Grant Report, 89 p.
- Mississippi Lignite Project Surface Water and Ground Water November 1998 Quarterly Sampling, Choctaw County, Mississippi, Schmitz, Darrel W., Water Resources Research Institute Grant Report, 120 p.
- Mississippi Lignite Project Surface Water and Ground Water 1998 Sampling, Choctaw County, Mississippi, Schmitz, Darrel W., Water Resources Research Institute Grant Report, 74 p.
- Red Hills Mine First Quarter 1999 Surface Water and Ground Water Sampling, Schmitz, Darrel W., Water Resources Research Institute Grant Report, 87 p.
- Red Hills Mine Second Quarter 1999 Surface Water and Ground Water Sampling, Schmitz, Darrel W., Water Resources Research Institute Grant Report, 72 p.
- Red Hills Mine Third Quarter 1999 Surface Water and Ground Water Sampling, Schmitz, Darrel W., Water Resources Research Institute Grant Report, 57 p.
- Red Hills Mine Fourth Quarter 1999 Surface Water and Ground Water Sampling, Schmitz, Darrel W., Water Resources Research Institute Grant Report, 49 p.
- Spring Inventory: Tombigbee National Forest, Ackerman Unit, 1999, Abbott, C.L. and Schmitz, D.W., Water Resources Research Institute Grant Report, 10 p.
- Spring Inventory: Tombigbee National Forest, Ackerman Unit, 2000, Fortson, B.L. and Schmitz, D. W., Water Resources Research Institute Grant Report, 14 p.
- Red Hills Mine Surface Water and Ground Water 2001 Sampling, Choctaw County, Mississippi, Schmitz, Darrel W., Water Resources Research Institute Grant Report, 225 p.
- Tombigbee National Forest Service Stream and Spring Baseline Monitoring, 2002 Year End Report, Dykes, S. and Schmitz, D.W., Water Resources Research Institute Grant Report, 12 p.
- Tombigbee National Forest Service Stream and Spring Baseline Monitoring, 2003 Year End Report, Dykes, S. and Schmitz, D.W., Water Resources Research Institute Grant Report, 9 p.
- Tombigbee National Forest Service Stream and Spring Baseline Monitoring, 2004 Year End Report, McIllwain, J., McMillin, J. and Schmitz, D.W., Department of Geosciences Grant Report, 10 p.
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- A Final Report on Mississippi State University Department of Geosciences Tasks of the Phase 3 Feasibility Study for a Potential Multi-Use/Multi-Purpose Water Impoundment in Choctaw County, Mississippi, 2005, Department of Geosciences Grant Report, Schmitz, D., Rawlings, Jr., L., Wax, C., and Pote, J., 49 p.
- Improvement of carbon dioxide sweep efficiency by utilization of microbial permeability profile modification to reduce the amount of oil by passed during carbon dioxide flood, March 2006, Schmitz, D., Brown, L.R., Lynch F.L., and Kirkland, B.L., First semi-annual Progress Report to DOE, 12 p.
- Improvement of carbon dioxide sweep efficiency by utilization of microbial permeability profile modification to reduce the amount of oil by passed during carbon dioxide flood, October 2006, Schmitz, D., Brown, L.R., Lynch F.L., Kirkland, B.L., Collins, K., and Funderburk, W., Second Semi-annual Progress Report to DOE, 19 p.
- Tombigbee National Forest Service Stream and Spring Baseline Monitoring, 2006 Year End Report, McIllwain, J., McMillin, J., Buell, R. and Schmitz, D.W., Department of Geosciences Grant Report, 12 p.
- Improvement of carbon dioxide sweep efficiency by utilization of microbial permeability profile modification to reduce the amount of oil by passed during carbon dioxide flood, April 2007, Schmitz, D., Brown, L.R., Lynch F.L., Kirkland, B.L., Collins, K., and Funderburk, W., Third Semi-annual Progress Report to DOE, 25 p.
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- Improvement of carbon dioxide sweep efficiency by utilization of microbial permeability profile modification to reduce the amount of oil by passed during carbon dioxide flood, November 2007, Schmitz, D., Brown, L.R., Lynch F.L., Kirkland, B.L., Collins, K., and Funderburk, W., Fourth Semi-annual Progress Report to DOE, 32 p.
- A Final Report on Mississippi State University Department of Geosciences Tasks of the Feasibility Study for a Potential Reservoir in Smith County, Mississippi, 2007, Schmitz, D.W., May, J., McIllwain, J., and Buell, N.R., Mississippi State University Department of Geosciences Grant Report, 51 p.
- A Final Report on Mississippi State University Department of Geosciences Tasks of the Feasibility Study for a Potential Lake in Choctaw County, Mississippi, 2007, Schmitz, D.W., Wax, C.L., May, J., McMillan, J., and Buell, N.R., Mississippi State University Department of Geosciences Grant Report, 54 p.
- Schmitz, D., Brown, L.R., Lynch F.L., Kirkland, B.L., Collins, K., and Funderburk, W., March 2008, Improvement of carbon dioxide sweep efficiency by utilization of microbial permeability profile modification to reduce the amount of oil by passed during carbon dioxide flood, Fifth Semi-annual Progress Report to DOE, 34 p.
- Schmitz, D., Brown, L.R., Lynch F.L., Kirkland, B.L., Collins, K., and Funderburk, W., September 2008, Improvement of carbon dioxide sweep efficiency by utilization of microbial permeability profile modification to reduce the amount of oil by passed during carbon dioxide flood, Sixth Semi-annual Progress Report to DOE, 37 p.
- Cherry, W., Johns, J., Jover, L., Sellers, C., McBryde, W., Moore, K., and Schmitz, D.W., 2009, Tombigbee National Forest Service Stream and Spring Baseline Monitoring, 2008 Year End Report, Department of Geosciences Grant Report, 17 p.

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- Schmitz, D., Brown, L.R., Lynch F.L., Kirkland, B.L., Collins, K., and Funderburk, W., March 2009, Improvement of carbon dioxide sweep efficiency by utilization of microbial permeability profile modification to reduce the amount of oil by passed during carbon dioxide flood, Seventh Semi-annual Progress Report to DOE, 37 p.
- Schmitz, D., and May, J., 2009, Geology of Jackson, Mississippi Area, Department of Geosciences Grant Report, 35p.
- May, J., and Schmitz, D., 2009, Geomorphology of the Proposed Lefleurs Lake Area, Department of Geosciences Grant Report, 24 p.
- Schmitz, D., Brown, L.R., Lynch F.L., Kirkland, B.L., Collins, K., and Funderburk, W., September 2009, Improvement of carbon dioxide sweep efficiency by utilization of microbial permeability profile modification to reduce the amount of oil by passed during carbon dioxide flood, Eighth Semi-annual Progress Report to DOE, 37 p.
- Cherry, W., Johns, J., Jover, L., Sellers, C., McBryde, W., Moore, K., and Schmitz, D.W., 2010, Tombigbee National Forest Service Stream and Spring Baseline Monitoring, 2009 Year End Report Department of Geosciences Grant Report, 19 p.
- Schmitz, D., Brown, L.R., Lynch F.L., Kirkland, B.L., Collins, K., and Funderburk, W., March 2010, Improvement of carbon dioxide sweep efficiency by utilization of microbial permeability profile modification to reduce the amount of oil by passed during carbon dioxide flood, Ninth Semi-annual Progress Report to DOE, 37 p.
- Schmitz, D., Brown, L.R., Lynch F.L., Kirkland, B.L., Collins, K., and Funderburk, W., September 2010, Improvement of carbon dioxide sweep efficiency by utilization of microbial permeability profile modification to reduce the amount of oil by passed during carbon dioxide flood, Tenth Semi-annual Progress Report to DOE, 40 p.
- Schmitz, D., Brown, L.R., Lynch F.L., Kirkland, B.L., Collins, K., and Funderburk, W., 2010, Improvement of carbon dioxide sweep efficiency by utilization of microbial permeability profile modification to reduce the amount of oil by passed during carbon dioxide flood, Final Report to DOE, 52 p.
- Cherry, W., Johns, J., Jover, L., Sellers, C., Ladner, C., Moore, K., McBryde, W., and Schmitz, D.W., 2011, Tombigbee National Forest Service Stream and Spring Baseline Monitoring, 2010 Year End Report Department of Geosciences Grant Report, 13 p.
- Kirkland, B., Schmitz, D., Lindner, J., and Esposito, R., 2012, Kemper County IGCC Carbon Sequestration Research: Preliminary assessment of potential storage sites for carbon dioxide, MSU Department of Geosciences, MSU Energy Institute, and Southern Company Final Report, 22p. plus 2 worksheets.
- Schmitz, D., and Mylroie, J., 2012, Geologic and Hydrogeologic Investigations, Proposed Smith County Lake, Smith County, Mississippi, MSU Department of Geosciences and Pickering, Firm, Inc., 410 p.
- Schmitz, D., Lenz, A., and Ladner, C., 2013, Geo-Hydrology, Theoretical George County Lake, MSU Department of Geosciences Grant Report, 110 p. plus appendices.
- Cherry, W., Jover, L., Ladner, C., Lenz, A., Breland, B., Calhoun, K., Stewart, H., and Schmitz, D.W., 2013, Tombigbee National Forest Service Stream and Spring Baseline Monitoring, 2012 Year End Report Department of Geosciences Grant Report, 15 p.
- Breland, B., Calhoun, K., Killian, C., Stewart, H., and Schmitz, D.W., 2013, Tombigbee National Forest Service Stream and Spring Baseline Monitoring, 2013 Year End Report Department of Geosciences Grant Report, 15 p.

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The following are sole or primary authored proprietary documents. Blanks are proprietary.

Hydrogeologic Assessment, _____ Landfill and _____ Disposal Site (An Abandoned hazardous waste site), 1986, Mississippi Bureau of Pollution Control Report.

Demonstration of Waiver for RCRA Groundwater Monitoring Requirements for _____ (A hazardous waste site), 1986, BCM Converse, Inc. Report.

Phase I Investigation for _____ (An underground storage tank site), 1986, BCM Converse, Inc. Report.

Geochemical Investigation for _____ (A non-hazardous waste impoundment Site), 1987, BCM Converse, Inc. Report.

Industrial Landfill Groundwater Quality Baseline Studies for _____ (A non-Hazardous waste landfill), 1987, BCM Converse, Inc. Report.

Phase II Investigation for _____ (An underground storage tank site), 1987, BCM Converse, Inc. Report.

Remedial Investigation Sampling for _____ (A hazardous waste impoundment Site), 1987, BCM Converse, Inc. Report.

Site Investigation for _____ (An underground storage tank site), 1987, BCM Converse, Inc. Report.

Contamination Source Investigation for _____ (An underground storage tank site), 1988, BCM Converse, Inc. Report.

Phase I Investigation, Assessment of Hydrogeological Conditions for _____ (A transportation terminal pavement failure), 1988, BCM Converse, Inc. Report.

Soil Assessment Investigation for _____ (A closed manufacturing plant), 1988, BCM Converse, Inc. Report.

Environmental Assessment at the _____ Bus Terminal for _____ (An Asbestos survey and underground storage tank site), 1989, BCM Converse, Inc. Report.

Environmental Investigation of Dump Site Right of Way Acquisition for _____ (A closed municipal dump site), 1989, BCM Converse, Inc. Report.

Geology and Hydrogeology of the Mississippi State University Solid Waste Landfill, 1991, Mississippi State University, Department of Geology and Geography Report.

Water Valuation for Hopewell (Valuation of a commercial groundwater supply), 1992, Revised 1993, and 1994, Consulting Report.

Groundwater Waiver Documentation for _____ (A hazardous waste closure site), 1992, Consulting Report.

Hillary Artesian Water Valuation (Valuation of a commercial groundwater supply), 1993, Consulting Report.

Water Valuation for Saratoga Spring (Valuation of a groundwater supply), 1993, Schmitz, D.W. and Amy, J., Consulting Report.

Identification of Unknown Particle (Identification of sand sized particle for insurance Settlement), 1993, Schmitz, D.W., and Amy, J., Consulting Report.

Location Assessment Seismic and Area Stability Considerations at the _____ Facility (Hazardous liquids fuel usage facility), _____, Mississippi, 1993, Russell, E.E. and Schmitz, D.W., Consulting Report.

OTHER DOCUMENTS CONTINUED

- Geologic Report for the Proposed _____ County Solid Waste Landfill,
_____ County, Mississippi (A proposed solid waste landfill), 1993,
Schmitz, D.W. and Russell, E.E., Consulting Report.
- McNair Spring Water Valuation (Valuation of a commercial groundwater supply), 1994,
Consulting Report.
- Hammill Spring Conceptual Plan (Spring restoration), 1998, Consulting Document.
- Assessment of Land-Use Conditions at the Kilmichael "Feature", Montgomery County,
Mississippi, 2002, (A proposed natural landmark site), 2002, Consulting Report.
- Report of Investigation into Material from Jr. Johnnie Wilson's Property in Kemper County,
Mississippi, 2004, Schmitz, D.W., 6 p.

PRESENTATIONS - Volunteered unless noted otherwise

- Mississippi Lignite Development – to civic organizations, environmental groups, and High school ecology classes, 1983 and 1995. **Some by Invitation**
- Economic Minerals Map of Mississippi – to the Mississippi Academy of Sciences, 1984.
- Water Resources of Newton County, Mississippi – to the Mississippi Academy of Sciences (for J. Sims, Jr.), 1985.
- Electric Logs of Water Wells and Test Holes on File at the Mississippi Bureau of Geology – to the Mississippi Academy of Sciences, 1987.
- The Smackover in Mississippi – to the Mississippi Academy of Sciences, 1988.
- Tishomingo County, Mississippi Water Resources – to the Texas Section of the Association of Engineering Geologists, 1989.
- The Urban Geology of Jackson, Mississippi – to the Texas A & M University College of Geosciences Student Symposium, 1990; to Mississippi State University, Department of Geology and Geography Seminar, 1990; and to the Mississippi Academy of Sciences, 1993.
- Delineation of Fluvial Sand Bodies Using Geologically Based Calculations – to the Mississippi Academy of Sciences, 1992.
- Predicting Data Point Locations Needed to Characterize Fluvial Sand Bodies – to the Mississippi Geological Society, 1992.
- A Predictive Model for Delineation of Fluvial Sand Bodies Using Geologically Based Calculations – to the Association of Engineering Geologists Annual Meeting, 1993; to the Natchez Geological Society, 1995; and to the University of Mississippi Department of Geology and Geological Engineering Seminar, 1996. **All Invited**
- Large-Scale Field Experimentation Investigating Groundwater Transport Processes at a Heterogeneous Site – to the Association of Engineering Geologists Annual Meeting, 1993.
- Structure in the Middle Demopolis Chalk: Lowndes County, Mississippi – to the Mississippi Academy of Sciences, 1994; and to the Mississippi Geological Society, 1997. **Invited**
- Large-Scale Field Experimentation Investigating Groundwater Transport Processes at The Columbus (Mississippi) Groundwater Research Test Site – to the Texas Section of the Association of Engineering Geologists, 1994; to the Mississippi Academy of Sciences, 1995; and to the University of Mississippi Department Of Geology and Geological Engineering Seminar, 1995 - **Invited**.
- Lignite: Mississippi Coal – to the Mississippi Academy of Sciences, 1996.
- Mississippi Lignite Coal Reserves – to the Mississippi Department of Economic and Community Development Third Energy Forum “Energy and Natural Resources, Utilization for Economic Development”, 1998. **Invited**
- Geomorphology of the Youngest Terrace of the Tombigbee River North of Columbus, Mississippi – to the Mississippi Academy of Sciences, 1998.
- Lithofacies of the Tupelo Tongue of the Coffee Sand – to the Mississippi Academy of Sciences, 1999.
- Current Status on Research at Kilmichael Dome – to the Mississippi Academy of Sciences, 1999.
- Ground-Water Conditions of the East Coast of The United Arab Emirates – to the Association of Engineering Geologists Annual Meeting, 1999.

PRESENTATIONS CONTINUED

- Plate Tectonics and Sea Level Rise – to Sunday at the Bluff, 2000. **Invited**
- Development of Soil-Based Controlled Low-Strength Materials – to the Association of Engineering Geologists Annual Meeting, 2000.
- Preliminary Earthquake Analysis of Mississippi State University – to the Mississippi Academy of Sciences, 2001.
- Explosively Induced Landslides – to the Association of Engineering Geologists Annual Meeting, 2001.
- The Role of the National Association of State Boards of Geology (ASBOG) in the Registration of Geologists – to the Association of Engineering Geologists Annual Meeting, 2002. **Invited**
- Implications of Comparisons of Tennessee with Tombigbee River Depositional Systems- To the 52nd Annual Meeting of the Southeastern Section of the Geological Society of America, 2003.
- New Geology Graduates: What They Need vs. What They are Getting – to the Association of Engineering Geologists Annual Meeting, 2003. **Invited**
- Maben Gas Field: What's Down There and Why – to the Eupora Rotary Club, 2003. **Invited**
- Hamill Spring Restoration Project, Tombigbee National Forest, Mississippi - to the Association of Engineering Geologists Annual Meeting, 2004; and to the Department of Geology, University of Pretoria, Pretoria, South Africa, 2013. **Invited**
- Professional Licensure & National Academic Accreditation: Opportunities and Constraints for Geology Practice in the Millenium – to the 54th Annual Meeting of the Southeastern Section of the Geological Society of America, 2005. **Invited**
- AEG considerations of accreditation and the need for geology degree program quality evaluation – to the Association of Engineering Geologists Annual Meeting, 2005. **Invited**
- Katrina: Geologic, Disaster, and Personal Perspectives - to 25 AEG Section meetings, 2005 and 2006 including joint meetings with the AIPG Georgia Section and the Pittsburgh Geological Society; to the Professional Engineers and Geoscientists of British Columbia Sea to Sky Branch; to the University of Utah Distinguished Lecture Series; to the University of Nevada Las Vegas department of Geosciences Spring Seminar **All Invited**; and to the South African Institute of Engineering & Environmental Geology Annual Meeting, 2013, **Invited Keynote**
- Hydrogeology of the Red Hills Lignite Mine – to the Lower Mississippi Valley Section of AEG, 2006. **Invited**
- Improvement of Carbon Dioxide Sweep Efficiency Using in Situ Microbes to Modify Reservoir Permeability. Poster – to GSA 2006 Annual Meeting.
- Use of Geographic Information System and Remote Sensing Along the Mississippi Gulf Coast in the Aftermath of Hurricane Katrina – to the AEG 2006 Annual Meeting. **Invited**
- Report on Meetings of Leaders of the Allied Geology Societies and AEG Board Considerations (on Geology Degree Program Accreditation) – to the AEG 2006 Annual Meeting. **Invited**
- Licensure and Accreditation to the 56th Annual Meeting of the Southeastern Section of the Geological Society of America, 2007 **Invited**
- Licensure and the Case for Accreditation– to the AEG 2007 Annual Meeting. **Invited**

PRESENTATIONS CONTINUED

Importance of Geological Assessment for Siting and/or Construction of Reservoirs in the Gulf Coastal Plain Sediments: Three Examples from Mississippi – to the 2008 Southeastern Section GSA Annual Meeting.

Use of the National Association of State Boards of Geology's Fundamentals of Geology Examination as a Geology Program Assessment Tool to the 57th Annual Meeting of the Southeastern Section of the Geological Society of America, 2009; and to the University of Arkansas, Department of Geosciences and Arkansas Tech University, Department of Geology, 2010 – both **Invited**

The Need for Accreditation of Geology Programs in the United States - to the 11th Congress of the IAEG, 2010. **Invited**

Geology Program Accreditation - to the AEG 2010 Annual Meeting. **Invited BP**

Gulf Oil Spill 2010 – to Creek Run, LLC Corporate retreat, 2010. **Invited**

Reinvestigation of a Hydrogeologic Feasibility Study for a Proposed Surface Water Reservoir in Smith County, Mississippi – to the AEG 2011 Annual Meeting.

The Importance of Geological Assessment for Siting and/or Construction of Reservoirs in Coastal Plain Sediments and BP Oil Spill: A Year Later – to Creek Run, LLC Corporate retreat, 2011. **Invited**

Improvement of CO₂ Sweep Efficiency Using Microbial Permeability Profile Modification, 2012, Schmitz, D., Keynote Forum, Third Annual World Congress of Well Stimulation and EOR, Xi'an, China. **Invited Keynote**.

Ship Island, – to Creek Run, LLC Environmental Geology Symposium, Biloxi, Mississippi, 2012. **Invited**

Identification of Geologic Conditions of Concern During Site Assessment for Siting and/or Construction of Reservoirs in Coastal Plain Sediments: Case History Examples from the Northern Gulf of Mexico Basin - to SAIEG/AEG Shlemon Specialty Technical Conference, Sandton, Gauteng, South Africa, 2013. **Invited Keynote**

Seismic Characterization Assessment in a Lime Rock Mine - to SAIEG/AEG Shlemon Specialty Technical Conference, Sandton, Gauteng, South Africa, 2013 and to the Department of Geology, University of Pretoria, Pretoria, South Africa, 2013. **Both Invited**

Hydrogeological Assessment for the Selection of a Suitable Location for a Reservoir Lake in George County, Mississippi - to the AEG 2013 Annual Meeting

What Goes Into a Roadside Geology Book – to Creek Run, LLC Environmental Geology Symposium, French Lick, IN, 2013. **Invited**

Geologic and Hydrologic Evaluation of a Proposed Reservoir in Smith County Mississippi for Karst – to the 2013 Annual Meeting of the Geological Society of America (GSA). **Invited**

Identification of Geologic Conditions of Concern During Site Assessment for Proposed Reservoirs in Coastal Plain Sediments of the Northern Gulf of Mexico Basin to 1) the AEG 2014 Annual Meeting **AND 2)** Mississippi Water Well Contractors Association Winter Meeting. **Invited**

Hydraulic Fracturing: The Good, The Bad, and The Ugly to the 2014 Creek Run LLC Environmental Geology Symposium. **Invited**

WORKSHOPS & SEMINARS

- Fresh Water Electric Log – to Southwest Mississippi Junior College Drilling Program, 1984. **Invited**
- Monitor Well Construction – to the Mississippi Water Well Contractors Association, 1986. **Invited**
- Resources and the Environment – To K-12 teachers, 1998, 1999, 2000, 2001, 2002, 2003, 2004, & 2005. Sponsored by the Mississippi Lignite Mining Co.
- Hydric Soils and Hydrology: What to Look for in Determining a Wetland – to Wetlands Short Course: Wetlands: Their Ecology, Value, and Management, 2002. **Invited**
- Geohydrology Applications to Petroleum and Environmental Geology and Engineering- To Petroleum Technology Transfer Council and Mississippi State Board of Registered Professional Geologists technology workshop, 2002. Co-presenter With David Patrick, Department of Geology, University of Southern Mississippi.
- Geohydrology Applications to Petroleum and Environmental Geology and Engineering – To Petroleum Technology Transfer Council and Mississippi State Board of Registered Professional Geologists technology workshop, 2003. Co-presenter With David Patrick, Department of Geology, University of Southern Mississippi And James Stephens, Hughes Eastern Corp.
- Distance Learning – to the Mississippi State University Dave C. Swalm School of Chemical Engineering Faculty Retreat, 2007. **Invited**

AWARDS

- September 1980 – Winner of Accuracy and Detail category of Lithology Log Contest by North American Exploration, Inc. in association with Phillips Coal Company.
- 1985 – Biography selected for inclusion in the Who's Who in Frontiers of Sciences and Technology.
- Fall 1989 – Received Berg/Parker Scholarship from the Department of Geology at Texas A & M University.
- 1998 – Honorary Award Winner from the Eastern Federation of Mineralogical and Lapidary Societies for the American Federation of Mineralogical Societies Scholarship Foundation.
- 1998 – Association of Engineering Geologists Special Award.
- 1999 – Association of Engineering Geologists Presidential Citation.
- 2001 – Association of Engineering Geologists Presidential Award.
- 2003 – Association of Engineering Geologists Presidential Citation.
- 2004 - Association of Engineering Geologists Presidential Citation.
- 2005 - Association of Engineering Geologists Presidential Citation.
- 2007 - Association of Engineering Geologists Presidential Citation.
- 2008 - Association of Engineering Geologists Presidential Citation.
- 2009 – Designated Geological Society of America Fellow
- 2010 - Association of Engineering Geologists Presidential Citation.
- 2011 – National Association of State Boards of Geology Charles R. Sherman Award.
- 2014 – Creek Run LLC Distinguished Service Award

LICENSES & REGISTRATIONS

Registered Professional Geologist #0007 by the Mississippi Board of Registered Professional Geologists.

COURSES TAUGHT

Mississippi State University: Survey of Earth Sciences I; Physical Science Survey; Introduction to Environmental Geology; Geomorphology; Engineering Geology; Physical Hydrogeology; Chemical Hydrogeology; Subsurface Methods; Gulf Coast Stratigraphy; Resources and the Environment; Development of Fossil Fuel Resources; Earth Sciences I; Field Methods in Geoscience; and Special Topics in Geology – Field Methods in Hydrogeology

University of Mississippi: Hazardous Waste Management; Ground Water Hydrology; And Special Topics in Engineering Science – Hydrogeochemistry

Texas A & M University: Geology for Engineers

ACTIVITIES

Association of Environmental and Engineering Geologists: President: 2005-2006, Vice-President/President-Elect: 2004-2005, Treasurer: 2003-2004, Secretary: 2002-2003. Member of the Executive Council: 2006-2007. Annual Spring Meeting Chairman, Texas Section: 1990; Annual Meeting Co-Chair: 2008; Ground Water Committee Member: 1993 to 1995; Ground Water Committee Manger: 1997 to 2001, Marlaive Scholarship Selection committee: 2001-2005; Lower Mississippi Valley Section Chairperson: 1999 to 2002; Awards Committee Member: 2010-Present & Strategic Focus Area #1 – Governance Ad-Hoc Committee.

AEG Foundation: Endowed Chair/Professor Program Ad-Hoc Committee 2011- present & Beardsley-Kuper Scholarship Selection Committee 2012 - present

National Association of State Boards of Geology: President: 2002, President-Elect: 2001, Treasurer: 2000, and Secretary: 1999. Member of the Executive Committee: 1999-2003, Task Analysis Survey Committee Co-Chair: 2003 & 2005, Committee on Education and Outreach: 2012 – Present, Governance Review Ad-Hoc Committee: 2013; and the Council of Examiners: 1998, 2004, & 2007 - present.

National Association of State Boards of Geology Foundation: Director 2008 to present Treasurer 2012 – present, President 2010 – 2012, and Secretary: 2008 – 2010.

Member of the Association of Ground Water Scientists and Engineers: Judge and presenter of awards at the International Science and Engineering Fair, 1993 and 1994.

ACTIVITIES CONTINUED

Member of the Geological Society of America: Member of Ad-hoc Committee on Accreditation, 2006 – 2008; Member of Ad-hoc Associated and Allied Societies Committee 2006 - 2007, Convener and Moderator of Licensure and Accreditation Town Meeting at the GSA Southeastern Section Meeting, 2007; Co-Chair and Convener of GSA Geology & Public Policy Committee-sponsored discussion panels on Licensure and Accreditation at 2005 GSA Section meetings; 1996 Southeastern Section Meeting General Co-Chair and Technical Sessions Chair; & Mississippi State University Campus Representative, 1994.

Member of American Geosciences Institute Critical Issues Program Task Force, 2013 - present
Member of American Geosciences Institute Geoscience Classification Committee, 2012 – present

Member of the Mississippi Academy of Science – Division of Geology and Geography Chairman, 1986-1987.

Member of the Mississippi Gem and Mineral Society.

Member of the Mississippi Geological Society.

Member of the Mississippi Mineral Resources Research Institute Advisory Committee, 2002 – present. Co-Chair 2007- 2011.

Member of the Honor Society of Phi Kappa Phi.

Member of the Society of Sigma Gamma Epsilon.

Member of SAIEG/AEG AEG Foundation Shlemon Specialty Technical Conference *Life After Mining – “Enviro-Geotechnical” Answers to Development, Surface Stability, Seismicity, Water and Air Pollution*, 2012-2013.

Member of First North American Landslide Conference Organizing Committee, 2005-2007.

Member of the Mississippi Geographic Alliance Advisory Council, 2007- present.

Member of the University of Memphis Ground Water Institute Advisory Board, 2011-present.

Member of Mississippi State University Energy Institute Advisory Group, 2011- present.

Past Member of the American Institute of Professional Geologists – Mississippi Chapter: Vice-President, 1988, 1991, and 1997; President, 1989, 1991, 1998, and 1999; Screening Board Chairman, 1990, 1998, and 1999; Membership Chairman, 1998 and 1999; Program Chairman, 1991, 1998, and 1999; and Delegate, 1992, 1994, and 1998.

Past Member of the Mississippi State Board of Registered Professional Geologists – Appointed by Governor to four year terms from 2009 – 2013, 2005-2009, & from 1997–2001.

Board Vice-President, 1999–2000 & 2007-2008. Board President 2000-2001 & 2010 - 2012.

Past Member of U.S.E.P.A. Region IV Integrated Ground Water Data Management Committee, 1985 – 1986.

Past Member of the Mississippi Automated Resource Information System Task Force, 1983 – 1986.

Past Member and Chairman of the Mississippi Ground Water Advisory Task Force, 1985 – 1986.

Past Member of the Mississippi Committee for Registration of Geologists, 1995 – 1997

Past Member of the Mississippi Department of Environmental Quality Source Water Assessment Program Delineation Work Group, 1998.

Past Member of the Mississippi Department of Environmental Quality Basinwide Approach to Water Quality Management Group I Basin Team, 1998-1999

ACTIVITIES CONTINUED

- Past Member of the Mississippi State Board of Registered Professional Geologists Advisory Committee, 2002 – 2005.
- Past Member of the Mississippi Department of Education Science Framework Revision Team, 2005 – 2007.
- Past Member of the Mississippi Energy Policy Institute, 2010 – 2012.
- Past Member of the Mississippi State University Community College Day Committee, 1990-1991
- Past Member of the Mississippi Water Recourses Research Institute Director Search Committee, 1992 & 2000.
- Past Member of the Mississippi State University Environmental Quality Council, 1992 – 1993
- Past Member of the Mississippi State University Lignite Research Group, 1995-1996
- Past Member of the Mississippi State University Undergraduate Energy Task Force, 2004-2005.
- Past Member of the Mississippi State University Undergraduate Energy Initiative Committee, 2005-2006.
- Past Member of the Mississippi State University Disaster Resistant University Advisory Committee, 2008- 2010.
- Past Member of the Mississippi State University Distance Education Task Force, 2010-2011.
- Past Member of the Mississippi State University Undergraduate Admissions Policy Committee, 2004- 2010.
- Past Member of the Mississippi State University Distance Learning Advisory Board 2008-2012.
- Past Member of the Mississippi State University College of Arts and Sciences Faculty Senate, 1994 – 1998
- Past Member of the Mississippi State University College of Arts and Sciences Natural History Museum Group, 1994-1995
- Past Member of the Mississippi State University College of Arts and Sciences Associate Dean Search Committee, 1995
- Past Member of the Mississippi State University College of Arts and Sciences Homecoming Committee, 1997
- Past Member of the Mississippi State University College of Arts and Sciences Scholarship Committee, 1997 – 2000
- Past Member of the Mississippi State University College of Arts and Sciences Promotion and Tenure Committee, 2000 – 2002
- Past Member of the Mississippi State University College of Arts & Sciences Ad Hoc Committee on Overhead Distribution, 2006.
- Past Member of the Mississippi State University College of Arts and Sciences Alternative Instructional Methods Committee 2007- 2009.

FUNDED PROJECTS (as lone or co-Principal Investigator)

- Intergovernmental Personnel Assignment to the U.S. Army Waterways Experiment Station, Vicksburg, Mississippi for assistance in conducting research on using geologic principals, probability and kriging techniques to reduce geologic uncertainty associated with groundwater investigations at Military installations. Award Period: July 1, 1991 through August 15, 1991. Total project cost: \$7,870.
- “Paleozoic Rock Areas with Potential for Hydraulic Fracture Permeability Enhancement” by the Mississippi Mineral Resources Institute to compile a data base identifying areas in Mississippi where Paleozoic age rocks have a potential for hydraulic fracturing, which will enhance groundwater withdrawal. Award Period: July 1, 1991 through June 30, 1992. Total project cost: \$10,461.
- “Contributions to Geotechnical Problems in Groundwater Modeling at Military Installations” by the U.S. Army Engineers Waterways Experiment Station to perform engineering geologic investigations pertaining to the investigations, assessment, and remediation efforts of groundwater of military installations; and to the acquisition, analysis, and formatting of hydrologic data in support of the WES water detection response team. Award Period: June 15, 1992 through December 15, 1992. Total project cost: \$24,975.
- “Continued Contributions to Geotechnical Problems in Groundwater Modeling at Military Installations” (and subsequent extension) by the U.S. Army Engineers Waterways Experiment Station to continue perform engineering geologic investigations pertaining to the investigations, assessment, and remediation efforts of groundwater of military installations; and to the acquiring, analyzing, and formatting of hydrologic data in support of the WES water detection team. Award Period: May 20, 1993 through December 21, 1993. Total project cost: \$36,410.
- “Contributions to Geotechnical Problems in Site Characterization and in Groundwater Modeling at Military Installations” by the U.S. Army Engineers Waterways Experiment Station to perform engineering geologic investigations pertaining to investigations and assessments of site characterization: of remediation efforts of groundwater at military installations; and to the acquiring, analyzing and formatting of hydrologic data in support of the WES water detection team. Award Period: February 14, 1994 through June 30, 1994. Total project cost: \$20,103.
- “Contributions to Geotechnical Problems in Geomorphic Studies, Site Characterization, and Groundwater Modeling” by the U.S. Army Engineers Waterways Experiment Station to perform engineering geologic investigations pertaining to visualization in conducting geomorphic studies; investigations and assessments of site characterization; of remediation efforts of groundwater at military installations; and to the acquiring, analyzing and formatting of hydrologic data in support of the WES water detection team. Award Period: June 27, 1994 through December 31, 1994. Total project cost: \$24,884.

FUNDED PROJECTS (as lone or co-Principal Investigator) CONTINUED

- “Contributions to Engineering Geologic Problems for Site Characterization and Groundwater Modeling at the MADE, LAAP, and RMA Sites” by the U. S. Army Engineers Waterways Experiment Station to supply approaches to the analyses and solutions of engineering geologic problems involving assessment of methods and data for site characterization; assessment of input data for groundwater modeling; and in support of groundwater detection. Award Period: June 1995 through September 1995. Total project cost: \$24,826.
- “Specified Support in Surface Water and Ground Water Baseline Data-Gathering Efforts for the Proposed Lignite Mine in Choctaw County, Mississippi” (and subsequent addendum) by Phillips Coal Co. to provide specified support to the surface water and groundwater baseline data-gathering effort for the area in and near a proposed lignite mine in Choctaw County, Mississippi including: the characterization of surface water stream flow; surface water quality sampling; and the field inventory of surface water bodies, water wells, and springs. Award Period: November 1996 through November 1997. Total project (including addendum) cost: \$183,855.
- “Surface Water and Ground Water Monitoring at the Proposed Lignite Mine in Choctaw County, Mississippi” (and subsequent addendum) by Mississippi Lignite Mining Co. to provide surface water and ground water monitoring for the area in and near the proposed lignite mine in Choctaw County, Mississippi including continuation of an instrumented continuous data site; stream flow measurements; surface water sampling and analyses; and ground water sampling and analyses. Award Period: November 1997 through December 1998. Total project (including addendum) cost: \$102,176.
- “Surface Water and Ground Water Monitoring at the Red Hills Mine in Choctaw County, Mississippi” by Mississippi Lignite Mining Co. to provide surface water and ground water monitoring for the area in and near the Red Hills lignite mine in Choctaw County, Mississippi including continuation of an instrumented continuous data site; stream flow measurements; surface water sampling and analyses; and ground water sampling and analyses. Award Period: January 1999 through December 1999. Total project cost: \$88,620.
- “Tombigbee National Forest Spring Inventory” by the U.S.D.A. Forest Service and the MSU Department of Geosciences to locate with GPS technology and inventory physical and chemical properties of springs within the Tombigbee National Forest in order to document spring water resources. Award Period: May 1999 through December 1999. Total project cost: \$12,990.
- “Environmental Monitoring Support for the Red Hills Mine, Choctaw County, Mississippi” by Mississippi Lignite Mining Co. to provide environmental monitoring support for the area in and near the Red Hills Mine in Choctaw County, Mississippi including surface water monitoring, ground water monitoring, and air monitoring. Award Period: January 2000 through December 2000. Total project cost: \$27,954.

FUNDED PROJECTS (as lone or co-Principal Investigator) CONTINUED

“Tombigbee National Forest Spring Inventory – Trace Unit” by the U.S.D.A. Forest Service and the MSU Department of Geosciences to locate with GPS technology and inventory physical and chemical properties of springs within the Tombigbee National Forest – Trace Unit in order to document spring water resources. Award Period: May 2000 through December 2000. Total project cost: \$19,810.

“Environmental Monitoring at the Red Hills Mine, Choctaw County, Mississippi” by Mississippi Lignite Mining Co. to provide environmental monitoring in the area in and near the Red Hills Mine in Choctaw County, Mississippi including surface water monitoring, ground water monitoring, support for air monitoring, and on-site support for the overall environmental management of the Red Hills Mine. Award Period: January 2001 through December 2001. Total project cost: \$79,951.

“Regional Youth Leadership for Career and Research Exploration for Students and Teachers (CREST)” by the Appalachian Regional Commission, Mississippi State University, Holmes Community College, Apple Computers, Choctaw Generation, and Mississippi Lignite to introduce middle school students and teachers to interdisciplinary environmental research and to scientific career opportunities that can enhance economic development in Mississippi. Award period: April 2001 through March 31, 2002. Total project cost: \$291,235. (Co-PI with Harpole – Center for Math, Science and Technology & Thibaudeau – Biological Sciences)

“MSU/Tombigbee Stream and Spring Monitoring Project” by the U.S.D.A. Forest Service and the MSU Department of Geosciences to establish a baseline for Monitoring of streams and springs within both the Ackerman and Trace Unit of The Tombigbee National Forest. Award Period: January 2002 through December 2002. Total project cost: \$20,529.

Preliminary Feasibility Study for Potential Multi-Use/Multi-Purpose Impoundment in Choctaw County, Mississippi – Task 3 by Engineering Associates, Inc. and Pickering Environmental Consultants, Inc. to review and provide comments on site selection criteria for a proposed impoundment in Choctaw County, Mississippi. Award Period: June 2002 through September 2002. Total project Cost: \$1,500.

“Functional Assessment of Moist-soil Habitat Management Impact on Wetland Impoundments Created as Part of an Agricultural Lands Reclamation Plan” by The Water Resources Research Institute to evaluate potential impacts of moist-Soil habitat management on water quality and biological communities in Impoundments on the Strawberry Plains Audubon Center in Holly Springs, Mississippi. Award Period: March 2002 through February 2003. Total project Cost: \$75,344. (Co-PI with Ervin – Biological Sciences)

FUNDED PROJECTS (as lone or co-Principal Investigator) CONTINUED

- “Career & Research Exploration for Students and Teachers (CREST) by the National Science Foundation (NSF) to provide a model for integrating research and Education to enhance teacher content knowledge in the geosciences while providing students with exposure to geosciences and environmental research and related careers. Award Period: January 2003 through December 2004. Total Project cost: \$164,891. (Co-PI with Harpole – Center for Science, Math and Technology and Thibaudeau-Munn – Biological Sciences)
- “MSU/Tombigbee Stream and Spring Monitoring Project” by the U.S.D.A. Forest Service and the MSU Department of Geosciences to establish a baseline for Monitoring of streams and springs within both the Ackerman and Trace Unit of the Tombigbee National Forest. Award Period: January 2003 through December 2003. Total project cost: \$20,645. PI
- Yazoo Clay Research by the Mississippi Department of Transportation to define the variability in the mineral composition of the Yazoo Clay in order to better understand the physical properties, especially swelling, of the rock. Award Period: March 2003 through May 2004. Total project cost: \$50,000. (Co-PI with Lynch-Geosciences)
- Phase 2 Feasibility Study for Potential Multi-Use/Multi-Purpose Impoundment in Choctaw County, Mississippi by Pickering, Inc. Award Period: May 26, 2003 Through May 25, 2004. Total project cost: \$25,831. PI
- MSU/Tombigbee Stream and Spring Monitoring by the U.S.D.A. Forest Service and the MSU Department of Geosciences to establish a baseline for monitoring of streams and springs within both the Ackerman and Trace Unit of the Tombigbee National Forest. Award Period: January 2004 through December 2004. Total project cost: \$20,645. PI
- Site Evaluation and Selection for a Potential Multi-User/Multi-Purpose Impoundment in Smith County, MS. Task 2 Geohydrologic Evaluations by USDA Forest Service. Award Period: May 3, 2004 through June 30, 2006. Total project cost: \$11,986. PI
- Phase 3 Feasibility Study for Potential Multi-Use/Multi-Purpose Impoundment in Choctaw County, Mississippi by Pickering, Inc. Award Period: May 2004 through April 2005. Total project cost \$27,713. PI
- Southeastern Regional Carbon Sequestration Partnership by the Southern States Energy Board to review data concerning geologic sequestration of carbon dioxide in the Southeast. Award Period: October 1, 2003 through September 30, 2005. Total Award: \$2,394. PI
- MSU/Tombigbee Stream and Spring Monitoring by the U.S.D.A. Forest Service and the MSU Department of Geosciences to establish a baseline for monitoring of streams and springs within both the Ackerman and Trace Unit of the Tombigbee National Forest. Award Period: January 2005 through December 2005. Total project cost: \$24,976. PI

FUNDED PROJECTS (as lone or co-Principal Investigator) CONTINUED

- Project S.M.A.R.T. – Science, Mathematics Advancement and Reform Utilizing Technology by the Appalachian Regional Commission to provide for an intensive weeklong training camp for teachers at the Red Hills Lignite Mine in Choctaw County, Mississippi. Technology training focuses on mine operations and development of selected areas of the mining process and its impact. Participants are exposed to issues of mining and environmental impact of the Red Hills Power Project by working with scientists and participating in on-going research projects at the mine and in the local area. Award Period: September 1, 2004 through December 31, 2005. Total project cost: \$197,600. (Co-PI with Harpole – Center for Science, Math and Technology, Thibaudeau-Munn – Biological Sciences, and Dill – Learning Center)
- Smith County Lake Assessment by the U.S.D.A. Forest Service Award Period: September 1, 2005 through August 31, 2007 for Geohydrologic Assessment of proposed impoundment site. Total project cost: \$55,000. PI
- Improvement of Carbon Dioxide Sweep Efficiency by Utilization of Microbial Permeability Profile Modification to Reduce the Amount of Oil Bypassed During Carbon Dioxide Flood by the U.S. Department of Energy to improve the sweep efficiency of gas flood by coupling it to permeability profile modification. This project encompasses both laboratory studies and a field demonstration of a procedure designed to increase the sweep efficiency of carbon dioxide flooding by coupling it with a proven microbial permeability profile modification technique. Award Period: October 1, 2005 through September 30, 2008. Total project cost: \$1,500,000. (Co-PI with Brown – Biological Sciences, Kirkland – Geosciences, and Lynch – Geosciences)
- MSU/Tombigbee Stream and Spring Monitoring Extension by the U.S.D.A. Forest Service and The MSU Department of Geosciences to establish a baseline for monitoring of streams and springs within both the Ackerman and Trace Unit of the Tombigbee National Forest. Extension Award Period: January 2006 through December 2007. Total project cost: \$24,758. PI
- Leasing Analysis and NEPA Minerals Availability Decision for Leasing on the National Forest in Mississippi by the U.S.D.A. Forest Service and The MSU Department of Geosciences to complete a leasing analysis and NEPA minerals availability decision for leasing on National Forest lands in Mississippi. Award Period: October 1, 2006 through December 31, 2007, with no-cost extension through December, 2009. Total project cost: \$205,185. PI
- Choctaw County Lake Project by Pickering, Inc. to conduct a preliminary hydrogeological evaluation of a proposed impoundment site. Award Period September 2006 through July 2007. Total project cost: \$40,005. PI
- MSU/Tombigbee Stream and Spring Monitoring Extension by the U.S.D.A. Forest Service and The MSU Department of Geosciences to establish a baseline for monitoring of streams and springs within both the Ackerman and Trace Unit of the Tombigbee National Forest. Extension Award Period: January 2008 through December 2008. Total project cost: \$25,190. PI
- Improvement of Carbon Dioxide Sweep Efficiency by Utilization of Microbial Permeability Profile Modification to Reduce the Amount of Oil Bypassed During Carbon Dioxide Flood by the U.S. Department of Energy. 2008 Extension Award Period: July 2007 through December 2010. Total project cost: \$135,000. Co-PI with Brown – Biological Sciences, Kirkland – Geosciences, and Lynch – Geosciences

FUNDED PROJECTS (as lone or co-Principal Investigator) CONTINUED

- Specified Support in Water Resources Data Collection for the Kemper County, Mississippi Lignite Project by North American Coal Corp. to field inventory surface water bodies, water wells, springs, and public water supplies; characterize streams within the project area, including stream flow conditions and water quality determination; and determination of groundwater quality. Award Period: May 2008 through July 2010. Total project cost: \$572,482. PI
- MSU/Tombigbee Stream and Spring Monitoring Extension by the U.S.D.A. Forest Service and The MSU Department of Geosciences to establish a baseline for monitoring of streams and springs within both the Ackerman and Trace Unit of the Tombigbee National Forest. Extension Award Period: January 2009 through December 2009. Total project cost: \$27,636. PI
- Specified Support in Water Resources Data Collection for the Kemper County, Mississippi Lignite Project by North American Coal Corp. to field inventory surface water bodies, water wells, springs, and public water supplies; characterize streams within the project area, including stream flow conditions and water quality determination; and determination of groundwater quality Extension. Award Period: May 2008 through July 2010. Total 2009 extension project cost: \$232,324. PI
- Supporting Data to Enhance the LeFleur Lakes Planning Effort by Mississippi State University, Mississippi Agricultural and Forestry Experiment Station to provide supporting data for the LeFleur Lakes planning project, to include but not be limited to geological data for the Jackson, Mississippi area. Award Period: July 2009 through August 2009. Total project cost: \$20,000. PI
- MSU/Tombigbee Stream and Spring Monitoring Extension by the U.S.D.A. Forest Service and The MSU Department of Geosciences to establish a baseline for monitoring of streams and springs within both the Ackerman and Trace Unit of the Tombigbee National Forest. Extension Award Period: January 2010 through December 2010. Total project cost: \$26,613. PI
- New GK 12: Initiating New Science Partnerships in Rural Education (INSPIRE) by the National Science Foundation (NSF) to focus on technology-supported, inquiry learning in the Earth and Space sciences for 7th – 12th grade classrooms to create future STEM leaders. Award Period: May 2010 through April 2015. Total project cost: \$2,881,898. Co-PI with McNeal – Geosciences; Pierce – Physics and Astronomy; Bruce – Bagley College of Engineering; and Harpole – Center for Science, Mathematics, and Technology.
- Smith County Lake Project by the U.S. Forest Service to determine geo-hydrologic feasibility of the preferred site for a recreational lake in the Homochitto National Forest in Smith County, Mississippi. Award Period: May 2010 through February 2012. Total project cost including modification: \$716,251. Co-PI with Myroie – Geosciences.
- Microbial Permeability Profile Modification in Little Creek Field, Mississippi by Denbury Onshore, LLC to determine if permeability in the Little Creek oil Field has been modified by microbial modification. Award Period: July 2010 through June 2011. Total project cost: \$11,957. Co-PI with Brown – Biosciences and Kirkland – Geosciences.

FUNDED PROJECTS (as lone or co-Principal Investigator) CONTINUED

George County Lake Project by Pickering Engineering to identify a preferred and an alternate approximately 3800 acre reservoir site capable of providing an industrial water supply as well as recreation. Award Period: July 2011 through September 2012. Total project cost: \$345,500. PI.

Kemper County IGCC Carbon Sequestration Research by Mississippi Power Company, to identify potential sequestration reservoirs. Award Period: March 2011 through September, 2011 with no cost extension through December, 2011. Total project cost: \$30,000. Co-PI with Kirkland – Geosciences.

MSU/Tombigbee Stream and Spring Monitoring Extension by the U.S.D.A. Forest Service and The MSU Department of Geosciences to establish a baseline for monitoring of streams and springs within both the Ackerman and Trace Unit of the Tombigbee National Forest. Award Period: September 2011 through October 2012. Total project cost: \$32,687. PI

George County Lake Phase II by Pickering Firm, Inc. to continue Geo-hydrologic analysis of Cedar Creek watershed; develop lake footprint; and develop predictive model of water release from reservoirs. Award Period: March 2014 through December 2014. Total project cost: \$113,000. Co-PI with Pote – Agricultural and Biological Engineering.

Geologic Mapping in Vicksburg National Military Park and Natchez Trace Parkway and National Scenic Trail by the U.S. Department of the Interior, National Park Service to conduct geologic mapping in the national parks in Mississippi. Award Period: June 2014 through September 2016. Total project cost: \$52,499. Sole PI.

THESES DIRECTED

- Amy, John Philip, 1993, The Type and Distribution of Authigenic Clay Minerals in the Smackover Formation of the Manila Embayment of Southwest Alabama (Wilcox, Clarke, and Monroe Counties), 152p.
- Dardeau, Jr., Elba Anthony, 1996, Hydrogeomorphic Assessment of Selected Mississippi Riverine Wetlands, 167p.
- Alhay, Salim, 1997, Ground-Water Conditions of the East Coast of the United Arab Emirates, 186p.
- Cook, John Cleveland, 1998, Geomorphology of the Youngest Terrace of the Tombigbee River North of Columbus, Mississippi, 115p. Plus map.
- Snodgrass, David Harold, 1998, Earthquake Site Analysis of Mississippi State University, 119p.
- Akins, III, Frank Terrell, 1999, Explosively Induced Landslides, 86p.
- Charlton, John, 1999, Shallow Groundwater Resources of the Proposed Red Hills Facility and Mine, Choctaw County, Mississippi, 96p. Plus computer database.
- Green, Brian Hugh, 1999, Development of Soil-Based Controlled Low-Strength Materials, 75p.
- Neihaus, Jr., Ronald W., 2000, Evaluating the Usefulness of a Total Fluid Recovery (TFR) System in Remediating Trichloroethylene (TCE) Contaminated Groundwater, 64p.
- Abbott, Cynthia L., 2000, Spring Inventory of Tombigbee National Forest, Ackerman Unit, Mississippi, 57p.
- Crowe, Christopher R., 2001, A Systematic Approach to Determine the Existence or Non-Existence of Atrazine and Its Major Degradation Products in Mississippi Groundwater, 78p.
- Welch, Wilfred M., 2003, Clay Identification and Diagenesis in the Updip Section of the Norphlet Formation in Alabama, 88p.
- Barnhart, Laura B., 2003, Mineralogic Study of Sediments from Nearshore Cat Island, Mississippi, 65p.
- Defibaugh-Chavez, Jason, 2004, Computer Modeling of Geology in the Sparta and Montpelier Quadrangles of Clay and Chickasaw Counties, Mississippi: A Tantalizing Near Miss, 61p.
- Lockhart, Darren, 2004, Preliminary Geochemical Modeling of Iron Concentrations in Groundwater in Middle and Lower Wilcox Aquifers in Choctaw County, Mississippi, 198 p.
- Rawlings, Jr., Leonard D., 2005, The Geology and Hydrology of the Proposed Upper McCurtain creek Watershed Impoundment Choctaw County, Mississippi, 138 p.
- Dykes, R. Scott, 2006, Water Supply Potential of the Meridian-Upper Wilcox Aquifer Grenada, Mississippi, 166 p.
- Santucci, Jay N., 2006, Hydrogeologic Conditions Controlling Contaminant Migration from Storage Tanks Overlying Mississippi River Alluvium: A Case Study, 117 p.
- McIlwain, Jason A., 2007, Hydrogeologic Assessment of a Proposed Reservoir Site, Smith County, Mississippi, 140p.

THESES DIRECTED CONTINUED

- McMillin, Jonathan R., 2007, The Geology and Hydrology of a Proposed Impoundment of the Upper Sand Creek, Choctaw County, Mississippi, 119p.
- Villanueva, Evelyn, 2007, Risk Assessment of Rock Surface Spillway Erosion Using Parametric Studies, 71p.
- Buell, N. Rebecca, 2008, Derivatives of Petroleum Hydrocarbons upon Reaction with Hydrogen Peroxide in a Laboratory Environment, 174p.
- Johns, Joshua M., 2010, Comparison and Analysis of a Lignite Seam in the Wilcox Group, Choctaw and Kemper Counties, Mississippi.
- Peiris, Inoka, 2010, Earthquake Risk Assessment of Mississippi State University.
- Sellers, Cale, 2010, A Baseline Water Resource Assessment for a Proposed Lignite Mine Kemper/Lauderdale Counties, Mississippi.
- McBryde, William, 2011, Reinvestigation of a Hydrogeologic Feasibility Study for a Proposed Surface Water Reservoir in Smith County, Mississippi.
- Cherry, William E., III, 2012, The Effects of Land Use and Contaminant Transport at a Proposed Reservoir Site in Smith County, Mississippi.
- Jover, M. Laila, 2012, Slope Stability Analysis of Spoil Dragline Bench in Lignite Coal Mine, Choctaw County, Mississippi.
- Adam D. Lenz, 2013, A Basin-specific Characterization of the Subsurface Geology of Potential Reservoir Locations in George County, Mississippi
- Cory T. Ladner, 2013, Hydrogeological Assessment for the Selection of a Suitable Location for a Reservoir Lake in George County, Mississippi.
- Calhoun, Kayla J., 2013, Investigation of Parent Source Material of Calcium Bentonite in Smith County, Mississippi.
- Banks, John V., 2014, Water Supply Potential of the Wilcox Aquifers in Lafayette County, Mississippi.
- Breland, Benjamin, 2014, The Updip Limit of the Smackover Formation in Clark County, Mississippi.
- Geroux, Jonathan M., 2014, Diffusive Gradients in Thin Film (DGT): A Proposed Method to Find Geochemical Predictors of Sediment Oxygen Demand.
- Martin, Seth, 2014, Geologic Controls of Sand Boil Formation at Buck Chute, Mississippi.
- Strange, Ryan, 2014, The Influences of Geologic Depositional Environments on Sand Boil Development at Tara Wildfire Lodge in Mississippi.
- Thompson, David L., 2015, Stratigraphy, Environments of Deposition, and Mineralogical Characterization of Heavy Minerals from Selected Cretaceous Formations of the Northern Mississippi Embayment.

DISSERTATIONS DIRECTED

Lenz, Richard J., 2014, Petroleum Releases from Underground Storage Tanks in Northwest Indiana: Successful Remediation Techniques and Implications of Cost Effectiveness.