Katie M.. Smye

Professional Summary

November 6, 2025

Business address:	The University of Texas at Austin Bureau of Economic Geology 10100 Burnet Rd., Bldg. 130 Austin, TX 78758
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Professional Preparation

Academic Background

Ph.D. Earth Sciences, University of Cambridge, Cambridge, United Kingdom, 2012

B.S. Chemistry, University of Oklahoma, Norman, Oklahoma, 2008

B.S. Geology, University of Oklahoma, Norman, Oklahoma, 2008

Professional Appointments

Research Associate, Bureau of Economic Geology, University of Texas at Austin (July 2014-Present)

Present Position: Postdoctoral Fellow, Bureau of Economic Geology, The University of Texas at Austin (January 2013 - Present). Subsurface team member, Sloan Project, Quantifying U.S. shale gas reserves.

Research Assistant, Nyanza Project, Lake Tankanyika, Tanzania (summer 2006 -). Dr. Michael Soreghan--Lake Tanganyika paleoclimate and modern deforestation impacts inferred from sediment cores.

Research Assistant, University of Notre Dame, Environmental Molecular Sciences Institute (summer 2005 -). Dr. Peter Burns--Uranyl peroxide nanoclusters in the environment.

Ph.D. Candidate, University of Cambridge, Department of Earth Sciences (October 2008 - October 2012). Dr. Ian Farnan and Prof. Simon Redfern--Radiation damage in phosphates and silicates for nuclear waste disposal
Dr. Joseph Somers, Institute for Transuranium Elements, Forschungzentrum Karlsruhe--Plutonium solid solubility in xenotime.

Research intern, Postbaccalaureate research assistant, Pacific Northwest National Laboratory, U.S. Department of Energy (summer 2007 - summer 2008). Dr. Dawn Wellman--Sorption of uranium on calcite; Dissolution of apatite and autunite.

Research Assistant, University of Oklahoma, School of Geology and Geophysics (2005 - 2008). Dr. David London--Al-Si Ordering in K-feldspar synthesized from hydrous borosilicate melt.

Continuing Education Courses Taken

Basic Well Log Analysis School: American Association of Petroleum Geologists, Austin, Tex., April 2013

Radiation Damage Workshop: Nuclear Decommissioning Authority, Sheffield, U.K., 2012

F-Bridge School on Synergy between Modeling and Experiments for the Investigation of Nuclear Fuels and Nuclear Materials Under Irradiation: Cambridge University, Cambridge, U.K.,

September 2011

Introduction to Radiation Damage Effects: Kurt Sickafus, MRS, San Francisco, California, April 2010

Cambridge Environmental Initiatives Seminar: Cambridge University, Cambridge, U.K., November 2009

Radiation Training: Institute for Transuranium Elements, Karlsruhe, Germany, July 2009

Sense about Science: Peer Review Workshop: Elsevier, London, U.K., December 2008

Actinet Summer School on Plutonium Science: European Commission, France, August 2008

Geochemists' Workbench Training: Pacific Northwest National Laboratory, Richland, Washington, August 2008

Stanford-Berkely Summer School on Synchrotron Radiation: Palo Alto, California, August 2008

Field geology course: University of Oklahoma, Colorado, May-June 2008

Radiological Worker II: U.S. Department of Energy, Washington, D.C., June 2007

Areas of Expertise

Areas of Expertise

Petrophysical log analysis

Radiation damage

Stratigraphy

Unconventional gas plays

Awards

Awards and Honorary Societies

Gates Cambridge Scholar, 2008 - 2011

Best Poster, Materials Research Society Scientific Basis for Nuclear Waste Management, 2009

Best Presentation, Jesus College Graduate Conference, 2009

Honorable Mention, Best Presentation, Universities Nuclear Technology Forum, 2009

Funding Recipient, Honors Undergraduate Research, 2007 - 2008

Goldwater Scholar, 2007 - 2008

Morris K. Udall Scholar, 2007 - 2008

Recipient, Questar Corporation Geology & Geophysics Scholarship, 2004 - 2008

Member, Phi Beta Kappa Honor Society, 2008

Energy Cup Scholarship, 2006 - 2007

Recipient, Harry J. Brown Memorial Scholarship, 2005 - 2006

Member, Dean's Honor Roll for the College of Earth, 2006

Member, President's Honor Roll, University of Oklahoma, 2006

National Merit Scholar, 2004

Service

External Committees Participation

Representative, Graduate Affairs Committee, Cambridge University, 2009 - 2012

Proposal Review Panels Participation

Journal of Nuclear Materials (Article), 2012

American Mineralogist (Article), 2011

Teaching and Advising

Continuing Education Courses Taught

AAPG Basic Well-Log Analysis School: Austin, Texas, August 2013.

Presentations

Invited Presentations

Understanding Causal Factors of Induced Seismicity: Integrated Geologic Modeling of the Delaware Basin (seminar): presented to American Association of Petroleum Geologists (AAPG) Women's Network, presented at AAPG Annual Convention & Exhibition, virtual, October 1, 2020.

Understanding Causal Factors of Induced Seismicity: Integrated Geological Modeling of the Delaware Basin, TX and NM: presented to American Association of Petroleum Geologists Women's Network, presented at American Association of Petroleum Geologists Annual Convention & Exhibition, Houston, Tex., virtual, October 1, 2020.

Bottom-Up Integrated Shale Gas Reserve and Production Forecasting: Comparison of the Barnett, Fayetteville, and Haynesville Shales (panel): presented at Society of Petroleum Engineers/American Association of Petroleum Geologists/Society of Exploration of Geophysicists Unconventional Resources Technology Conference, 2013.

Presentations

Estimation of Formation Permeability Anisotropy in Delaware Mountain Group Using Injection Data in Water Disposal Project: presented to Industry technical session, presented at 2024 American Geophysical Union, Washington, D.C., December 9-13, 2024.

Investigation of Inter-well Connectivity of the Ellenburger Formation in Central Midland Basin using a Rapid CRM Method: presented to Industry technical session, presented at American Geophysical Union 2023, San Francisco, December 11-15, 2023.

A Physics-Based Method for Forecasting Interwell Connectivity Using Injection Data: presented to Industry technical session, presented at The International Meeting for Applied Geoscience & Energy, Houston, August 28-September 1, 2023.

Poster: An integrated approach to basin-scale resource assessment of unconventional reservoirs: presented to Society of Exploration Geophysicists (SEG) / American Association of Petroleum Geologists (AAPG), presented at Image'23, Houston, Tex., August 25-September 1, 2023.

Paleozoic stratigraphic record and reservoir potential for saltwater disposal in the Midland Basin, West Texas: presented at Society of Exploration Geophysicists and American Association of Petroleum Geologists Third International Meeting for Applied Geoscience & Energy, Houston, TX, August 31, 2023.

Structural characterization kinematic analysis, and rupture hazard assessment of faults in the Permian Basin, Texas and New Mexico: presented at Society of Exploration Geophysicists and American Association of Petroleum Geologists Third International Meeting for Applied Geoscience & Energy, Houston, TX, August 28-31, 2023.

Mapping Drilling Intensity across the United States: presented at International Meeting for Applied Geoscience and Energy (IMAGE) 2023, Houston, Tex., August 30, 2023.

Hydrogeological modeling and pore pressure characterization of deep formations in the northern

Delaware Basin Texas and New Mexico: presented at American Geophysical Union Fall Meeting, Chicago, IL, December 12-16, 2022.

Structural characterization and rupture hazard assessment of faults in the Midland Basin, West Texas: presented at Society of Exploration Geophysicists, American Association of Petroleum Geologists and Society for Sedimentary Geology Second International Meeting for Applied Geoscience & Energy, Houston, TX, August 28-September 2, 2022.

Initial Reservoir Pressure and Fluid PVT Properties Evaluation to be used for Fluid in Place Estimation - Midland Basin: presented to Bureau of Economic Geology, The University of Texas at Austin, presented at TORA Spring Sponsors Meeting, Bureau of Economic Geology, Austin, Tex., June 15, 2022.

Preliminary Hydrogeological Modeling of Deep Injection in the Delaware Basin for Pore Pressure Characterization with Application to Induced Seismicity: presented at American Geophysical Union, Fall Meeting, online everywhere, December 2020.

Geologic Characterization of the Delaware Mountain Group in the Delaware Basin for Regional Assessment of Saltwater Disposal Capacity and Induced Seismicity: presented at Geological Society of America Annual Meeting, virtual, October 28, 2020.

The Geologic Basement in Texas: Results of a New State-Wide Synthesis: presented at Geological Society of America (GSA) 2020 Annual Meeting, Montréal, Québec, Canada (virtual), October 25-28, 2020.

Delaware Mountain Group Geological Model and Saltwater Disposal Storage Capacity Assessment: presented to Chevron, July 23, 2020.

Geologic Variability and Well Productivity in U.S. Oil Plays: The Efficiency of Completion Intensity and New Designs in Various Geologic Contexts: presented at Society of Petroleum Engineers/American Association of Petroleum Geologists/Society of Exploration of Geophysicists Unconventional Resources Technology Conference, virtual, July 2020.

New Engineering and Geologic Parameters to Predict Infill Well Performance in the Wolfcamp of the Delaware Basin: presented at Society of Petroleum Engineers/American Association of Petroleum Geologists/Society of Exploration of Geophysicists Unconventional Resources Technology Conference, online, July 2020.

Variability of Geologic Properties in Shale Gas and Tight Oil Plays: presented at Gulf Coast Association of Geological Societies, Houston, Tex., October 2019.

Development of a Three-Dimensional Vertical Stress Model for the Greater Permian Basin Region: presented at American Association of Petroleum Geologists Annual Convention & Exhibition, San Antonio, Tex., May 2019.

Stratigraphic and Facies Architecture of the Delaware Mountain Group, Delaware Basin: Implications for Disposal of Hydraulic Fracturing Wastewater: presented at American Association of Petroleum Geologists Annual Convention & Exhibition, San Antonio, Tex., May 2019.

The Geology of Active Earthquake Sequences in Texas: presented at The American Association of Petroleum Geologists 2019 Annual Convention and Exhibition, San Antonio, Tex., May 2019.

Texas Basement Synthesis Project: Characterizing Geological Risk Factors of Basement-Involved Seismicity: presented at Geological Society of America (GSA) South-Central/North-Central/Rocky Mountain Section Meeting, Manhattan, Kans., March 2019.

Analysis of Seismogenic Pore Pressure Thresholds in the Fort Worth Basin from Comprehensive Hydrogeologic Modeling: presented at Society of Petroleum Engineers/Society of Exploration Geophysicists Workshop: Injection Induced Seismicity - The Next Chapter, Dallas, Tex., 2019.

Evaluating the Sustainability of US Shale Gas Reservoirs: presented to U.S. Department of Energy National Energy Technology Laboratory, Pittsburgh, Pa., October 2018.

Variability of Shale Properties in Unconventional Oil and Gas Plays, and Their Effects on Resource-in-Place and Productivity Assessments: presented at Shale Insight, Pittsburgh, Pa., October 2018.

The Categorization and Assessment of Hydrocarbon Resource Potential in Clay-Rich Unconventional Shales and Analysis of the Effect of Ductility on Shale Productivity: presented to ExxonMobil, Houston, Tex., 2018.

What Changed in U.S. Shale in Five Years: Geology, Technology, and Economics, Invited Presentation: presented to U.S. Energy Information Administration Energy Forecasting Forum, Washington, D.C., 2018.

Solid solubility and radiation damage in Pu-doped xenotime: presented at Plutonium Futures, Cambridge, U.K., July 2012.

Quantification of alpha-particle radiation damage in phosphates and silicates: presented to American Chemical Society, Denver, Colorado, September 2011.

Plutonium solid solubility and radiation damage in xenotime: presented at Nuclear Materials, Karlsruhe, Germany, October 2010.

Comparison of alpha-particle and heavy recoil radiation damage in xenotime (YPO4): poster presented at Nuclear Waste Management Meeting: Research Challenges for the Future, Cambridge, U.K., September 2010.

Quantification of alpha-type radiation damage in zircon: presented to Materials Research Society, San Francisco, California, April 2010.

Radiation damage in isostrucutral phosphates and silicates: presented at Atomic Weapons Establishment Seminar, Warwick, U.K., Spring 2010.

Polyphosphate remediation of subsurface uranium: presented at IUPAC Congress, Glasgow, Scotland, August 2009.

Investigation of cerium as a surrogate for plutonium in mineral-based phosphate waste forms: poster presented at Materials Research Society Meeting: Scientific Basis for Nuclear Waste Management, St. Petersburg, Russia, May 2009.

Phosphate-based nuclear waste forms: presented at Universities Nuclear Technology Forum, Cambridge, U.K., March 2009.

Phosphate-based remediation of uranium: formation and stability of autunite group minerals in calcareous environments: poster presented at Goldschmidt Geochemical Meeting, Vancouver, British Columbia, July 2008.

Al-Si ordering in K-feldspar synthesized from hydrous borosilicate melt: presented at Geological Society of America National Conference, Philadelphia, Pennsylvania, October 2006.

Activities of a Professional Nature

Professional Societies

American Association of Petroleum Geoscientists

Materials Research Society

Royal Society of Chemistry, Radiochemistry Group

Activities of a Professional Nature

Course demonstrator for Geology (University of Cambridge, October 2009-January 2012)

Course demonstrator for Materials and Mineral Sciences (University of Cambridge, 2008-2010)

Demonstrator for field trip to Arran, Scotland (Easter 2009, 2011)

Graduate seminar organizer (2009-2010)

Supervisor for undergraduate project student (Summer 2010)

Funding

Research Support

Co-PI: The Categorization and Assessment of Hydrocarbon Resource Potential in Clay-Rich Unconventional Shales and Analysis of the Effects of Ductility on Shale Productivity: A Haynesville Shale Case Study, ExxonMobil (February 2017-January 2018; $100,481).

Co-PI: Marcellus Shale Play Resource Assessment and Production Outlook, Sloan Foundation (November 2014-April 2015; $75,000).

Principal Investigator: Solid-state NMR of Pu-doped xenotime, Euract-NMR Project RP01/04 (2011).

Principal Investigator: Plutonium alpha recoil damage in YPO4, ITU Actinide User Laboratory Project AUL-P10-114 (January 2009).

Publications

Peer Reviewed Journal Articles

Smart, K. J., Smye, K. M., Cawood, A. J., Ferrill, D. A., Hennings, P. H., and Horne, E. A., 2025, Geomechanical modeling of reservoir dynamics associated with shallow injection and production in the Delaware Basin: Interpretation, v. 13, no. 1, p. T33-T47, http://doi.org/10.1190/INT-2024-0009.1.

Calle, A. Z., Smye, K. M., Horne, E. A., Eastwood, R. L., Reedy, R. C., and Hennings, P., 2024, Lithofacies and porosity heterogeneity of Ordovician-Pennsylvanian successions of the Midland Basin: implications for wastewater disposal reservoir potential: AAPG Bulletin, v. 108, no. 12, p. 2241-2286, http://doi.org/10.1306/05212424005.

Ge, J., Nicot, J.-P., Smye, K. M., Calle, A. Z., Hennings, P., Horne, E. A., and Leng, J., 2024, Modeling the evolution of pore pressure from deep wastewater injection in the Midland Basin, Texas: AAPG Bulletin, v. 108, no. 12, p. 2287-2312, http://doi.org/10.1306/09102424008.

Hennings, P., and Smye, K. M., 2024, Knowns, questions, and implications of induced seismicity in the Permian Basin, USA: AAPG Bulletin, v. 108, no. 12, p. 2201-2214, http://doi.org/10.1306/08292424051.

Hennings, P., Ge, J., Horne, E. A., Smye, K. M., and Nicot, J.-P., 2024, Pore pressure thresholds associated with seismogenic fault slip in the Midland Basin, west Texas, United States: AAPG Bulletin, v. 108, no. 12, p. 2347-2375, http://doi.org/10.1306/07232424014.

Horne, E. A., Hennings, P., Smye, K. M., Calle, A. Z., Morris, A. P., and Huang, G.-C. D., 2024, Interpretation, characterization and slip hazard assessment of faults in the Midland Basin, west Texas, USA: AAPG Bulletin, v. 108, no. 12, p. 2313-2346, http://doi.org/10.1306/01242423080.

Morris, A., Smye, K., and Hennings, P., 2024, Hydraulic fracturing, fault system architecture, and the details of anthropogenic earthquakes in the post-Pennsylvanian Delaware Basin of West Texas: Lithosphere, v. 2024, no. Special 15, article no. lithosphere_2024_116, 20 p., http://doi.org/10.2113/2024/lithosphere_2024_116.

Smye, K. M., Ge, J., Calle, A., Morris, A., Horne, E. A., Eastwood, R. L., Darvari, R., Nicot, J. P., and Hennings, P., 2024, Role of deep fluid injection in induced seismicity in the Delaware Basin, West Texas and southeast New Mexico: Geochemistry, Geophysics, Geosystems, v. 25, no. 6, article no. e2023GC011260, 33 p., http://doi.org/10.1029/2023GC011260.

Smye, K. M., Yut, K., Reedy, R. C., Scanlon, B. R., Nicot, J.-P., and Hennings, P., 2024,

Challenges with managing unconventional water production and disposal in the Permian Basin: AAPG Bulletin, v. 108, no. 12, p. 2215-2240, http://doi.org/10.1306/08082424025.

Bolton, D. C., Affinito, R., Smye, K., Marone, C., and Hennings, P., 2023, Frictional and poromechanical properties of the Delaware Mountain Group: insights into induced seismicity in the Delaware Basin: Earth and Planetary Science Letters, v. 623, no. 118436, 14 p., http://doi.org/10.1016/j.epsl.2023.118436.

Hennings, P., Staniewicz, S., Smye, K., Chen, J., Horne, E., Nicot, J.-P., Ge, J., Reedy, R., and Scanlon, B., 2023, Development of complex patterns of anthropogenic uplift and subsidence in the Delaware Basin of West Texas and southeast New Mexico, USA: Science of The Total Environment, v. 903, no. 166367, 16 p., http://doi.org/10.1016/j.scitotenv.2023.166367.

Nicot, J.-P., Darvari, R., Smye, K. M., and Goodman, E., 2023, Geochemical insights from formation waters produced from Wolfcampian and Leonardian intervals of the Midland Basin, Texas, USA: Applied Geochemistry, v. 150, no. 6, 33 p., http://doi.org/10.1016/j.apgeochem.2023.105585.

Eastwood, R. L., and Smye, K. M., 2022, Effects of overpressure on mechanical properties of unconventional shale reservoirs through novel use of a sonic overpressure indicator: Society of Petroleum Engineers Reservoir Evaluation & Engineering, v. 25, no. 1, paper no. SPE-208571-PA, p. 52-60, http://doi.org/10.2118/208571-PA.

Ge, J., Nicot, J.-P., Hennings, P. H., Smye, K. M., Hosseini, S. A., Gao, R. S., and Breton, C. L., 2022, Recent water disposal and pore pressure evolution in the Delaware Mountain Group, Delaware Basin, Southeast New Mexico and West Texas, USA: Journal of Hydrology: Regional Studies, v. 40, no. 101041, 17 p., http://doi.org/10.1016/j.ejrh.2022.101041.

Horne, E. A., Hennings, P. H., Smye, K. M., Staniewicz, S., Chen, J., and Savvaidis, A., 2022, Structural characteristics of shallow faults in the Delaware Basin: Interpretation, v. 10, no. 4, p. T807-T835, http://doi.org/10.1190/INT-2022-0005.1.

Gao, S., Nicot, J.-P., Hennings, P. H., La Pointe, P., Smye, K. M., Horne, E. A., and Dommisse, R., 2021, Low pressure buildup with large disposal volumes of oil field water: a flow model of the Ellenburger Group, Fort Worth Basin, northcentral Texas: AAPG Bulletin, v. 105, no. 12, p. 2575-2593, http://doi.org/10.1306/03252120159.

Morris, A. P., Hennings, P. H., Horne, E. A., and Smye, K. M., 2021, Stability of basement-rooted faults in the Delaware Basin of Texas and New Mexico, USA: Journal of Structural Geology, v. 149, no. 104360, 18 p., http://doi.org/10.1016/j.jsg.2021.104360.

Smye, K. M., Hennings, P. H., and Horne, E. A., 2021, Variations in vertical stress in the Permian Basin region: AAPG Bulletin, v. 105, no. 10, p. 1893-1907, http://doi.org/10.1306/10092019189.

Smye, K., Banerji, D. A., Eastwood, R., McDaid, G., and Hennings, P., 2021, Lithology and reservoir properties of the Delaware Mountain Group of the Delaware Basin and implications for saltwater disposal and induced seismicity: Journal of Sedimentary Research, v. 91, no. 11, p. 1113-1132, http://doi.org/10.2110/jsr.2020.134.

Gherabati, S. A., Hamlin, H. S., Smye, K. M., Eastwood, R. L., Male, F. R., and McDaid, G., 2019, Evaluating hydrocarbon-in-place and recovery factor in a hybrid petroleum system: case of Bakken and Three Forks in North Dakota: Interpretation, v. 7, no. 3, p. T607-T624, http://doi.org/10.1190/INT-2018-0213.1.

Lemons, C. R., McDaid, G., Smye, K. G., Acevedo, J. P., Hennings, P. H., Banerji, D. A., and Scanlon, B. R., 2019, Spatiotemporal and stratigraphic trends in salt-water disposal practices of the Permian Basin, Texas and New Mexico, United States: Environmental Geosciences, v. 26, no. 4, p. 107-124, http://doi.org/10.1306/eg.06201919002.

Smye, K. M., Hamlin, H. S., Eastwood, R., and McDaid, G., 2019, Variability of geologic

properties in shale gas and tight oil plays: GCAGS Journal, v. 8, p. 191-209.

Smye, K. M., Lemons, C. R., Eastwood, R., McDaid, G., and Hennings, P. H., 2019, Stratigraphic architecture and petrophysical characterization of formations for deep disposal in the Fort Worth Basin, Texas: Interpretation, v. 7, no. 4, p. SL1-SL17, http://doi.org/10.1190/INT-2018-0195.1.

Gherabati, A., Hammes, U., Male, F., Smye, K. G., and Browning, J., 2018, Assessment of hydrocarbon in place and recovery factors in the Eagle Ford Shale play: SPE Reservoir Evaluation & Engineering, v. 21, no. 2, p. 291-306, http://doi.org/10.2118/189982-PA.

Hammes, U., Eastwood, R., McDaid, G., Vankov, E., Gherabati, A., Smye, K. G., Shultz, J., Potter, E., Ikonnikova, S., and Tinker, S. W., 2016, Regional assessment of the Eagle Ford Group of South Texas, USA: insights from lithology, pore volume, water saturation, organic richness, and productivity correlations: Interpretation, v. 4, no. 1, p. SC125-SC150, http://doi.org/10.1190/INT-2015-0099.1.

Gülen, G., Ikonnikova, S., Smye, K. G., Browning, J., and Tinker, S. W., 2015, Production scenarios for the Haynesville shale play: SPE Economics & Management, v. 7, no. 4, p. 138-147, http://doi.org/10.2118/176022-PA.

Ikonnikova, S., Browning, J., Gülen, G., Smye, K. G., and Tinker, S. W., 2015, Factors influencing shale gas production forecasting: empirical studies of Barnett, Fayetteville, Haynesville, and Marcellus Shale plays: Economics of Energy & Environmental Policy, v. 4, no. 1, p. 19-35, http://doi.org/10.5547/2160-5890.4.1.siko.

Ikonnikova, S., Gülen, G., Browning, J., Tinker, S. W., and Smye, K. G., 2015, Profitability of shale gas drilling: a case study of the Fayetteville shale play: Energy, v. 81, p. 382-393, http://doi.org/10.1016/j.energy.2014.12.051.

Smye, K. M., Brigden, C., Vance, E. R., and Farnan, I., 2014, Quantification of alpha-particle radiation damage in zircon: American Mineralogist, v. 99, p. 2095-2104, http://doi.org/10.2138/am-2014-4664.

Wellman, D. M., Smye, K., Icenhower, J. P., and Forrester, S. W., 2007, Dissolution kinetics of synthetic and natural meta-autunite minerals, X3-n(n)+ [(UO2)(PO4)]2 o xH2O, under acidic conditions: Geochemistry, Geophysics, Geosystems, v. 8, Q11001, doi:10.1029/2007GC001695.

Kubatko, K. A., Gunderson, K. M., Antonio, M., Burns, P. C., and Soderholm, L., 2005, Presence and persistence of uranyl peroxide nanoclusters in contact with geologic media: Materials Research Society Symposium Proceedings, v. 893, p. 906-907.

Peer Reviewed Book Chapters

Horne, E. A., Smye, K. M., and Hennings, P. H., 2022, Structure and characteristics of the basement in the Fort Worth Basin, in Callahan, O. A., and Eichhubl, P., eds., The geologic basement of Texas: a volume in honor of Peter T. Flawn: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations, v. 286, 30 p., http://doi.org/10.23867/RI0286C7.

Wellman, D. M., Pierce, E. M., Bovaird, C. C., Griswold, K. M., Smye, K., Webb, S. M., and Bargar, J. R., 2009, Laboratory development of polyphosphate remediation technology for in situ treatment of uranium contamination in the vadose zone and capillary fringe, in in Wolfe, G. H., ed., Uranium: compounds, isotopes, and applications: p. 473-555.

Non Peer Reviewed Journal Articles

Leng, J., Nicot, J.-P., Smye, K. G., and Hennings, P., 2023, A Physics-Based Method for Forecasting Interwell Connectivity Using Injection Data: The International Meeting for Applied Geoscience & Energy, http://doi.org/10.1190/image2023-390998.

Gherabati, S. A., Smye, K. M., McDaid, G., and Hamlin, S., 2020, New engineering and geologic parameters to predict infill well performance in the Wolfcamp of the Delaware Basin: Society of Petroleum Engineers/American Association of Petroleum Geologists/Society of Exploration Geophysicists, Proceedings, Unconventional Resources Technology Conference, Austin, Tex., July 20-22, no. 3077, 13 p., http://doi.org/10.15530/urtec-2020-3077.

Ikonnikova, S., Yang, Q., Smye, K., and McDaid, G., 2020, Revisiting production outlooks of the Eagle Ford and Bakken plays: analysis of the well productivity and play economics changes over the last 5 years: Society of Petroleum Engineers/American Association of Petroleum Geologists/Society of Exploration Geophysicists, Proceedings, Unconventional Resources Technology Conference, Austin, Tex., July 20-22, no. 3029, 9 p., http://doi.org/10.15530/urtec-2020-3029.

Smye, K. M., Ikonnikova, S., Yang, Q., McDaid, G., and Goodman, E., 2020, Geologic variability and well productivity in U.S. oil plays: the efficiency of completion intensity and new designs in various geologic contexts: Society of Petroleum Engineers/American Association of Petroleum Geologists/Society of Exploration Geophysicists, Proceedings, Unconventional Resources Technology Conference, Austin, Tex., July 20-22, no. 3317, 10 p., http://doi.org/10.15530/urtec-2020-3317.

Browning, J., Ikonnikova, S., Male, F., Gülen, G., Smye, K. G., Horvath, S., Patzek, T., Potter, E., and Tinker, S. W., 2015, Study forecasts gradual Haynesville production recovery before final decline: Oil & Gas Journal, 7 p.

Browning, J., Tinker, S. W., Ikonnikova, S., Gülen, G., Potter, E., Fu, Q., Smye, K. G., Horvath, S., Patzek, T., Male, F., Roberts, F., and Grote, C., 2014, Study develops Fayetteville Shale reserves, production forecast: Oil & Gas Journal, v. 112, no. 1, p. 64-73.

Conference Proceedings

Horne, L., Hennings, P., Smye, K. G., Calle, A., Huang, D., and Savvaidis, A., 2022, Structural characterization and rupture hazard assessment of faults in the Midland Basin, west Texas, Society of Exploration Geophysicists (SEG) Annual Meeting technical program expanded abstracts, Houston, Tex., 3 p.

Callahan, O. A., Eichhubl, P., Hennings, P. H., Smye, K., Horne, E. A., Savvaidis, A., Huang, G.-C. D., Li, P., Lemons, C., Breton, C., and Dommisse, R., 2019, Texas Basement Synthesis Project: characterizing geological risk factors of basement-involved seismicity, 2019 Geological Society of America South-Central/North-Central/Rocky Mountain Section Meeting, Manhattan, Kans.

Callahan, O., Eichhubl, P., Hennings, P., Smye, K. G., Horne, L., Breton, C., Dommisse, R., Savvaidis, A., and Lemons, C., 2019, Texas Basement Synthesis Project: Understanding Geological Risk Factors of Basement-Involved Seismicity, 2019 AAPG Annual Convention and Exhibition.

Hennings, P., Savvaidis, A., Nicot, J.-P., Eichhubl, P., Lemons, C., Smye, K. G., Dommisse, R., and Callahan, O., 2019, The Geology of Active Earthquake Sequences in Texas, AAPG Annual Convention and Exhibition.

Hennings, P., Savvaidis, A., Nicot, J.-P., Eichhubl, P., Lemons, C., Smye, K., Horne, E., Dommisse, R., and Callahan, O., 2019, The geology of active earthquake sequences in Texas, 2019 American Association of Petroleum Geologists Annual Convention and Exhibition, San Antonio, Tex.

Smye, K., Horne, E., and Hennings, P., 2019, Development of a three-dimensional vertical stress model for the greater Permian Basin region, 2019 American Association of Petroleum Geologists Annual Convention and Exhibition, San Antonio, Tex.

Gherabati, A., Male, F., Hamlin, H. S., Smye, K. G., Walsh, M., Ikonnikova, S., McDaid, G., and Lemons, C., 2017, Evaluating hydrocarbon-in-place and recovery factor in a hybrid petroleum

system: case of Bakken and Three Forks in North Dakota, Unconventional Resources Technology (URTeC) Conference, Austin, Tex., 24-26 July, 15 p.

Hamlin, H. S., Smye, K. G., Dommisse, R., Lemons, C., McDaid, G., and Eastwood, R., 2017, Geology and petrophysics of the Bakken Unconventional Petroleum System, Unconventional Resources Technology (URTeC) Conference, Austin, Tex., 24-26 July, 14 p.

Lemons, C., Hennings, P., Dommisse, R., Nicot, J.-P., and Smye, K. G., 2017, Protocols and common pitfalls in disposal data handling for induced seismicity geomodels, Unconventional Resources Technology Conference (URTeC), Austin, Tex., 24-26 July, SEG-AAPG-SPE Paper #2667788.

Contract Reports

Wellman, D. M., Pierce, E. M., Bacon, D., Oostrom, M., Cordova, E. A., Bovaird, C. C., Gunderson, K. M., Webb, S. M., Ermi, R. M., Parker, K. E., Clayton, E. T., Baum, S. R., Wietsma, T. W., Bargar, J. R., Vermeul, V. R., and Fruchter, J. S., 2008, Area treatability test: laboratory development of polyphosphate remediation technology for in situ treatment of uranium contamination in the vadose zone and capillary fringe: Pacific Northwest National Laboratory, technical report prepared for PNNL, under contract number PNNL-17818.

Published Reports

Ambrose, W. A., Rogers, H., Smith, D. C., Scanlon, B. R., Paine, J. G., Nicot, J.-P., Young, M. H., Loucks, R. G., Hentz, T. F., Reed, R. M., Ogiesoba, O. C., Olariu, M. I., Fu, Q., Flaig, P. P., Zhang, J., Hattori, K., Roberts, A., Zeng, H., DeJarnett, B. B., Radjef, E., Periwal, P., Peng, S., Duncan, I. J., Ren, B., Jensen, J., Male, F., Dommisse, R., Eastwood, R., Carr, D. L., Zhang, T., Ko, L., Larson, T., Lawton, T., Covault, J., Sylvester, Z., Goodman, E., Calle, A., Smye, K. G., Pelletier, I., Dunlap, D. B., Lambert, J., and Sivil, J. E., 2021, State of Texas Advanced Resource Recovery (STARR) 2018-2020 biennium report: The University of Texas at Austin, Bureau of Economic Geology44 p.

Published Abstracts

Leng, J., Nicot, J.-P., Ge, J., Wang, H., and Smye, K. G., 2024, Estimation of Formation Permeability Anisotropy in Delaware Mountain Group Using Injection Data in Water Disposal Project (abs.): American Geophysical Union (AGU2024), v. 852, no. H43A-0852, https://agu.confex.com/agu/agu24/meetingapp.cgi/Paper/1655640.

Leng, J., Nicot, J.-P., Ge, J., Hennings, P., and Smye, K. G., 2023, Investigation of Inter-well Connectivity of the Ellenburger Formation in Central Midland Basin using a Rapid CRM Method (abs.): American Geophysical Union (AGU2023), no. Abstract ID 1392927, Paper No. S51A-07 p., https://ui.adsabs.harvard.edu/abs/2023AGUFM.S51A..07L/abstract.

Leng, J., Nicot, J.-P., Smye, K. G., and Hennings, P., 2023, A Physics-Based Method for Forecasting Interwell Connectivity Using Injection Data (ext. abs.): The International Meeting for Applied Geoscience & Energy, no. ID 3909986, http://doi.org/10.1190/image2023-390998.

Horne, E., Hennings, P., Smye, K., Calle, A., Huang, D., and Savvaidis, A., 2022, Structural characterization and rupture hazard assessment of faults in the Midland Basin, West Texas (ext. abs.): Society of Exploration Geophysicists (SEG) and American Association of Petroleum Geologists (AAPG) Second International Meeting for Applied Geoscience & Energy technical program expanded abstracts, p. 3170-3173, http://doi.org/10.1190/image2022-3745325.1.

Gao, R., Nicot, J.-P., Hennings, P., Smye, K. G., Pelletier, I., and Horne, L., 2020, Preliminary hydrogeological modeling of deep injection in the Delaware Basin for pore pressure characterization with application to induced seismicity (abs.): 2020 American Geophysical Union Fall Meeting, Dec. 1-17, no. MR019-0008.

Ge, J., Hosseini, S. A., Smye, K. G., Banerji, D., Nicot, J.-P., and Hennings, P., 2019, Hydrogeological modeling and pore pressure characterization of Delaware Mountain Group in

the Delaware Basin, Texas and New Mexico (abs.): Abstract H51L-1640, presented at AGU 2019 Fall Meeting, San Francisco, Calif., December 9-13.

Smye, K. G., Banerji, D., Hamlin, H. S., Eastwood, R. L., Lemons, C., McDaid, G., and Hennings, P., 2019, Stratigraphic and facies architecture of the Delaware Mountain Group, Delaware Basin: implications for disposal of hydraulic fracturing wastewater (abs.): AAPG Annual Convention & Exhibition, San Antonio, Tex., 19-22 May.

Hammes, U., Eastwood, R., Shultz, J., McDaid, G., and Smye, K. G., 2015, Regional assessment of the Eagle Ford Formation: insights from lithology, water saturation, organic richness, and productivity correlations (abs.): American Association of Petroleum Geologists Annual Convention and Exhibition, Denver, CO, CD-ROM.

Gunderson, K. M., Farnan, I., Martel, L., and Somers, J., 2013, Radiation damage in Pu-doped xenotime, Euract NMR Workshop, Karlsruhe, Germany.

Smye, K., Potter, E., Fu, Qilong, Horvath, S. C., Roberts, F., and Tinker, S. W., 2013, Geological Analysis for "Bottom Up" Shale Gas Production Forecasting, Unconventional Resources Technology Conference Panel, Denver, Colorado.

Gunderson, K. M., Walter, M., Somers, J., Eloiridi, R., Vance, E. R., and Farnam, I., 2012, Solid solubility and radiation damage in Pu-doped xenotime (abs.), in Plutonium Futures, Cambridge, U.K., July.

Gunderson, K. M., Brigden, C., Selvaratnam, P., Vance, E. R., and Farnam, I., 2011, Quantification of alpha-particle radiation damage in phosphates and silicates (abs.), in American Chemical Society, Denver, September.

Gunderson, K. M., Brigden, C., Vance, E. R., Walter, M., and Farnam, I., 2010, Comparison of alpha-particle and heavy recoil radiation damage in xenotime (YPO4) (abs.), in Nuclear Waste Management Meeting: Research Challenges for the Future, Cambridge, UK, September.

Gunderson, K. M., Brigden, C., Vance, E. R., Walter, M., and Farnam, I., 2010, Plutonium solid solubility and radiation damage in xenotime (abs.), in Nuclear Materials, Karlsruhe, Germany, October.

Gunderson, K. M., and Farnam, I., 2009, Phosphate-based nuclear waste forms (abs.), in Universitites Nuclear Technology Forum, University of Cambridge, March.

Gunderson, K. M., Farnam, I., and Vance, E. R., 2009, Investigation of cerium as a surrogate for plutonium in mineral-based phosphate waste forms (abs.), in Materials Research Society Meeting: Scientific Basis for Nuclear Waste Management, St. Petersburg, Russia, May.

Gunderson, K. M., Wellman, D. M., Pierce, E. M., Griswold, K. M., Webb, S. M., Bargar, J. R., Vermeul, V. R., Vance, E. R., and Fruchter, J. S., 2009, Polyphosphate remediation of subsurface uranium contamination (abs.), in IUPAC Congress, Glasgow, Scotland, August.

Gunderson, K. M., and Wellman, D. M., 2008, Phosphate-based remediation of uranium: formation and stability of autunite group minerals in calcareous environments (abs.), in Goldschmidt Geochemical Meeting, Vancouver, British Columbia, July.

Gunderson, K. M., London, D., and Morgan, G. B., VI, 2006, Al-Si ordering in K-feldspar synthesized from hydrous borosilicate melt (abs.), in Geological Society of America National Conference, Philadelphia, October.