

Robert C. Reedy

Professional Summary

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Professional Preparation

Academic Background

M.S. Hydrology, New Mexico Institute of Mining and Technology, 1996

B.S. Geology, New Mexico Institute of Mining and Technology, 1982

Professional Appointments

Present Position: Research Associate, Bureau of Economic Geology, The University of Texas at Austin (January 1997 - Present). Hydrologic research focusing on unsaturated zone processes, land-atmosphere interactions, and water quality and quantity issues. Designing, installing, and maintaining monitoring and data acquisition systems. Coordinating and conducting field activities, including soil coring and geophysical surveys and laboratory characterization of environmental sample physical and chemical properties. Designing and maintaining digital databases and analyzing data. Writing peer-reviewed articles and contract reports. Presenting research results at regional and national conferences..

Research Hydrologist, New Mexico Institute of Mining and Technology, Socorro, New Mexico (September 1996 - January 1997). Design, specify, purchase, and construct physical experimental apparatus to characterize solute mixing behavior in saturated fracture junctions over a range of flow regimes.

Consultant, Socorro, New Mexico (June 1994 - January 1997). Electromagnetic induction surveys for Federal, State, and private clients to determine the reclamation suitability of riparian lands. Produce and interpret geostatistical and graphical analyses.

Research/Teaching Assistant, New Mexico Institute of Mining and Technology, Socorro, New Mexico (January 1994 - January 1996). Research to evaluate the impact of common agricultural fertilizers and pesticides on shallow ground-water quality. Design, install, and calibrate instrumentation systems. Perform monitoring well slug tests, instantaneous profile experiments, tension and ponded infiltrometer experiments, water quality and soil sampling, electromagnetic induction surveys, and ground-water computer modeling. Instruct and grade students in the basic concepts of ground-water flow in a laboratory setting. Prepare short lectures and demonstrations. Repair and construct laboratory teaching aids and equipment.

Senior Computer Graphics Specialist, Bohannon-Huston, Inc., Albuquerque, New Mexico (October 1984 - January 1994). Supervisor of production of a wide range of topographic and engineering design maps and digital data-base products. Experience with CAD and GIS software packages, including DigiMap, Intergraph, AutoCAD and ARCInfo on various computer platforms including VAX, PC, and UNIX. Extensive use of digital terrain modeling techniques to generate surface contours and to perform volumetric analyses for landfills and open pit mines. Specify and test proprietary software utilities and enhancements. Perform occasional computer system and network management tasks. Provide in-house and client software training and technical support. Attend national trade shows and demonstrate proprietary software.

Staff Geologist/Mud Logger, Profile, Inc., Carlsbad, New Mexico (November 1982 - December 1983). Real-time analysis of hydrocarbon gases and formation cuttings in circulating oil and gas well drilling fluids using flame ionization GC methods. Monitor drilling rate and drilling fluid parameters and lag times. Generate well logs and daily progress reports.

Geological Assistant, Atlas Minerals Company, Naturita, Colorado (Summer 1979 - Summer 1980). Uranium deposit exploration field work. Radon soil gas surveys using scintillometer and track-etch methods. Surface gamma radiation surveys. Borehole stratigraphic correlation and geological mapping. Specify exploratory borehole locations. Log borehole lithology and geophysical characteristics, including gamma activity, spontaneous potential, and electrical resistivity.

Professional Registrations and Certificates

State of Texas Board of Professional Geoscientists, License No. 4038

Theses

Groundwater Flow to an Agricultural Tile-Drain Under Flood Irrigation: Socorro, New Mexico, New Mexico Institute of Mining and Technology, M.S. thesis, 133 pages, 1996

Areas of Expertise

Areas of Expertise

Instrumentation systems, geographic information systems (GIS)

Vadose zone hydrology

Teaching and Advising

University Courses Taught

Land-use controls on groundwater recharge: presented at Bureau of Economic Geology seminar, Austin, Texas, 2003.

Evaluation of performance and monitoring issues related to engineered covers for waste containment: presented at Bureau of Economic Geology Technical Seminar Series, Austin, Texas, 2000.

Presentations

Presentations

Characterization of Coal Resources in the U.S. Gulf Coast and Rare Earth Element Potential: presented to Geological Society of America, Denver, Colo., October 18, 2022.

Agroecosystem impacts on water quality: poster presented at GSA Annual Meeting, Denver, Colorado, October 31-November 3 2010.

Groundwater arsenic contamination in Texas: presented at Texas Groundwater Association Annual Conference, Galveston, Texas, 2009.

Arsenic stratification: presented at Texas Commission on Environmental Quality Public Drinking Water Conference, Austin, Texas, 2006.

Potential mobilization of arsenic and other solutes in the vadose zone through land use change in the Southern High Plains, USA: presented at American Geophysical Union Annual Meeting, San Francisco, California, 2006.

Monitoring of restrictive and conductive engineered barriers at a site in the Chihuahuan Desert, Texas: presented at Pantex AIP meeting, Amarillo, Texas, 2005.

Evaluating climate, vegetation, and soil controls on groundwater recharge using unsaturated flow modeling: presented with B. R. Scanlon and K. E. Keese at TWDB Conference on Aquifers of West Texas, San Angelo, Texas, 2004.

Monitoring soil moisture in saline soils using neutron probe, time domain reflectometry, and heat dissipation sensor measurements: presented at American Geophysical Union Annual Meeting, San Francisco, California, 2004.

Water balance monitoring and vegetation dynamics of engineered barriers at a site in the Chihuahuan Desert, Texas: presented at Idaho National Engineering Laboratory, Idaho Falls, Idaho, 2004.

Water content monitoring in the vadose zone: presented to GEO391 (Hydrogeophysics) class, The University of Texas at Austin, Austin, Texas, 2004.

Assessing the impact of land use on groundwater recharge in the Southern High Plains: presented at American Geophysical Union Annual Meeting, San Francisco, California, 2003.

Comparison of different methods for estimating recharge in the Southern High Plains aquifer, Texas, poster presentation: presented to American Geophysical Union Annual Meeting, San Francisco, California, 2002.

Long-term water balance monitoring of engineered covers for waste containment: poster presentation, International Containment and Remediation Technology Conference, Orlando, Florida, 2001.

Design, installation, and monitoring of restrictive and capillary barriers at a site in the Chihuahuan Desert, Texas: poster presentation, American Geophysical Union Annual Meeting, San Francisco, California, 1998.

Monitoring unsaturated flow processes related to the Texas low-level radioactive waste-disposal site: poster presentation, American Geophysical Union Annual Meeting, San Francisco, California, 1998.

Preferential flow of nitrate and pesticides in a tile-drained field: poster presentation, Soil Science Society of America Annual Meeting, St. Louis, 1995.

Nitrate and pesticide transport in a tile-drained field--Las Nutrias, New Mexico: poster presentation, Soil Science Society of America Annual Meeting, Seattle, 1994.

Publications

Peer Reviewed Journal Articles

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>.

Hower, J. C., Warwick, P. D., Scanlon, B. R., Reedy, R. C., and Childress, T. M., 2023, Distribution of rare earth and other critical elements in lignites from the Eocene Jackson Group, Texas: *International Journal of Coal Geology*, v. 275, no. 104302, 21 p., <http://doi.org/10.1016/j.coal.2023.104302>.

Scanlon, B. R., Fakhreddine, S., Rateb, A., de Graaf, I., Famiglietti, J., Gleeson, T., Grafton, R. Q., Jobbagy, E., Kebede, S., Kolusu, S. R., Konikow, L. F., Long, D., Mekonnen, M., Schmied, H. M., Mukherjee, A., MacDonald, A., Reedy, R. C., Shamsudduha, M., Simmons, C. T., Sun, A., Taylor, R. G., Villholth, K. G., Vörösmarty, C. J., and Zheng, C., 2023, Global water resources and the role of groundwater in a resilient water future: *Nature Reviews: Earth & Environment*, v. 4, p. 87-101, <http://doi.org/10.1038/s43017-022-00378-6>.

Scanlon, B. R., Reedy, R. C., Fakhreddine, S., Yang, Q., and Pierce, G., 2023, Drinking water quality and social vulnerability linkages at the system level in the United States: *Environmental Research Letters*, v. 18, no. 094039, 12 p., <http://doi.org/10.1088/1748-9326/ace2d9>.

Scanlon, B. R., Fakhreddine, S., Reedy, R. C., Yang, Q., and Malito, J. G., 2022, Drivers of spatiotemporal variability in drinking water quality in the United States: *Environmental Science &*

Technology, v. 56, no. 18, p. 12965-12974, <http://doi.org/10.1021/acs.est.1c08697>.

Scanlon, B. R., Reedy, R. C., and Wolaver, B. D., 2022, Assessing cumulative water impacts from shale oil and gas production: Permian Basin case study: *Science of The Total Environment*, v. 811, no. 152306, 11 p., <http://doi.org/10.1016/j.scitotenv.2021.152306>.

Scanlon, B. R., Ikonnikova, S., Yang, Q., and Reedy, R. C., 2020, Will water issues constrain oil and gas production in the United States?: *Environmental Science and Technology*, v. 54, no. 6, p. 3510-3519, <http://doi.org/10.1021/acs.est.9b06390>.

Scanlon, B. R., Reedy, R. C., Xu, P., Engle, M., Nicot, J. P., Yoxtheimer, D., Yang, Q., and Ikonnikova, S., 2020, Can we beneficially reuse produced water from oil and gas extraction in the U.S.?: *Science of the Total Environment*, v. 717, no. 137085, 12 p., <http://doi.org/10.1016/j.scitotenv.2020.137085>.

Staniewicz, S., Chen, J., Lee, H., Olson, J., Savvaidis, A., Reedy, R., Breton, C., Rathje, E., and Hennings, P., 2020, InSAR reveals complex surface deformation patterns over an 80,000 km² oil-producing region in the Permian Basin: *Geophysical Research Letters*, v. 47, no. e2020GL090151, 10 p., <http://doi.org/10.1029/2020GL090151>.

Scanlon, B. R., Weingarten, M. B., Murray, K. E., and Reedy, R. C., 2019, Managing basin-scale fluid budgets to reduce injection-induced seismicity from the recent U.S. shale oil revolution: *Seismological Research Letters*, v. 90, no. 1, p. 171-182, <http://doi.org/10.1785/0220180223>.

Scanlon, B. R., Zhang, Z., Rateb, A., Sun, A. Y., Wiese, D., Save, H., Beaudoin, H., Lo, M. H., Muller-Schmied, H., Doll, P., van Beek, R., Swenson, S., Lawrence, D., Croteau, M., and Reedy, R. C., 2019, Tracking seasonal fluctuations in land water storage using global models and GRACE satellites: *Geophysical Research Letters*, v. 46, p. 5254-5264, <http://doi.org/10.1029/2018GL081836>.

Chowdhury, A. H., Scanlon, B. R., Reedy, R. C., and Young, S., 2018, Fingerprinting groundwater salinity sources in the Gulf Coast Aquifer System, USA: *Hydrogeology Journal*, v. 26, no. 1, p. 197-213, <http://doi.org/10.1007/s10040-017-1619-8>.

Scanlon, B. R., Zhang, Z., Save, H., Sun, A. Y., Mueller Schmied, H., van Beek, L. P. H., Wiese, D. N., Wada, Y., Long, D., Reedy, R. C., Longuevergne, L., Doell, P., and Bierkens, M. F. P., 2018, Global models underestimate large decadal declining and rising water storage trends relative to GRACE satellite data: *Proceedings of the National Academy of Sciences*, v. 115, no. 6, p. E1080-E1089, <http://doi.org/10.1073/pnas.1704665115>.

Baumhardt, R. L., Schwartz, R. C., Jones, O. R., Scanlon, B. R., Reedy, R. C., and Marek, G. W., 2017, Long-term conventional and no-tillage effects on field hydrology and yields of a dryland crop rotation: *Soil Science Society of America Journal*, v. 81, no. 1, p. 200-209, <http://doi.org/10.2136/sssaj2016.08.0255>.

Ikonnikova, S., Male, F., Scanlon, B. R., Reedy, R. C., and McDaid, G., 2017, Projecting the water footprint associated with shale resource production: Eagle Ford Shale case study: *Environmental Science and Technology*, v. 51, no. 24, p. 14453-14461, <http://doi.org/10.1021/acs.est.7b03150>.

Scanlon, B. R., Reedy, R. C., Male, F., and Walsh, M., 2017, Water issues related to transitioning from conventional to unconventional oil production in the Permian Basin: *Environmental Science & Technology*, v. 51, no. 18, p. 10903-10912, <http://doi.org/10.1021/acs.est.7b02185>.

Yang, C., Romanak, K. D., Reedy, R. C., Hovorka, S. D., and Treviño, R. H., 2017, Soil gas dynamics monitoring at a CO₂-EOR site for leakage detection: *Geomechanics and Geophysics for Geo-Energy and Geo-Resources*, v. 3, p. 351-364, <http://doi.org/10.1007/s40948-017-0053-7>.

Yeh, S., Ghandi, A., Scanlon, B. R., Brandt, A. R., Cai, H., Wang, M. Q., Vafi, K., and Reedy, R.

C., 2017, Energy intensity and greenhouse gas emissions from oil production in the Eagle Ford Shale: *Energy & Fuels*, v. 31, no. 2, p. 1440-1449, <http://doi.org/10.1021/acs.energyfuels.6b02916>.

Scanlon, B. R., Reedy, R. C., Faunt, C. C., Pool, D., and Uhlman, K., 2016, Enhancing drought resilience with conjunctive use and managed aquifer recharge in California and Arizona: *Environmental Research Letters*, v. 11, no. 3, 15 p., <http://doi.org/10.1088/1748-9326/11/3/035013>.

Scanlon, B. R., Reedy, R. C., Male, F., and Hove, M., 2016, Managing the increasing water footprint of hydraulic fracturing in the Bakken Play, United States: *Environmental Science & Technology*, v. 50, no. 18, p. 10273-10281, <http://doi.org/10.1021/acs.est.6b01375>.

Pei, H., Scanlon, B. R., Shen, Y., Reedy, R. C., Long, D., and Liu, C., 2015, Impacts of varying agricultural intensification on crop yield and groundwater resources: comparison of the North China Plain and U.S. High Plains: *Environmental Research Letters*, v. 10, no. 4, 14 p., <http://doi.org/10.1088/1748-9326/10/4/044013>, paper 044013.

Scanlon, B. R., Zhang, Z., Reedy, R. C., Pool, D. R., Save, H., Long, D., Chen, J., Wolock, D. M., Conway, B. D., and Winester, D., 2015, Hydrologic implications of GRACE satellite data in the Colorado River Basin: *Water Resources Research*, v. 51, p. 9891-9903, <http://doi.org/10.1002/2015WR018090>.

Schwartz, R. C., Baumhardt, R. L., Scanlon, B. R., Bell, J. M., Davis, R. G., Ibragimov, N., Jones, O. R., and Reedy, R. C., 2015, Long-term changes in soil organic carbon and nitrogen under semiarid tillage and cropping practices: *Soil Science Society of America Journal*, v. 79, no. 6, p. 1771-1781, <http://doi.org/10.2136/sssaj2015.06.0241>.

Nicot, J. -P., Scanlon, B. R., Reedy, R. C., and Costley, R., 2014, Source and fate of hydraulic fracturing water in the Barnett Shale: a historical perspective: *Environmental Science & Technology*, v. 48, no. 4, p. 2464-2471, <http://doi.org/10.1021/es404050r>.

Scanlon, B. R., Reedy, R. C., and Nicot, J.-P., 2014, Comparison of water use for hydraulic fracturing for unconventional oil and gas versus conventional oil: *Environmental Science & Technology*, v. 48, no. 20, p. 12386-12393, <http://doi.org/10.1021/es502506v>.

Scanlon, B. R., Reedy, R. C., and Nicot, J.-P., 2014, Will water scarcity in semiarid regions limit hydraulic fracturing of shale plays?: *Environmental Research Letters*, v. 9, 14 p., <http://doi.org/10.1088/1748-9326/9/12/124011>.

Wolaver, B. D., Cook, C. E., Sunding, D. L., Hamilton, S. F., Scanlon, B. R., Young, M. H., Xu, X., and Reedy, R. C., 2014, Potential economic impacts of environmental flows following a possible listing of endangered Texas freshwater mussels: *JAWRA: Journal of the American Water Resources Association*, v. 50, no. 5, p. 1081-1101.

Crosbie, R. S., Scanlon, B. R., Mpelasoka, F. S., Reedy, R. C., Gates, John, and Zhang, L., 2013, Potential climate change effects on groundwater recharge in the High Plains Aquifer, USA: *Water Resources Research*, v. 49, p. 1-16, doi:10.1002/wrcr.20292.

Mickler, P., Yang, Changbing, Scanlon, B. R., Reedy, R. C., and Lu, Jiemin, 2013, Potential impacts of CO₂ leakage on groundwater chemistry from laboratory batch experiments and field push-pull tests: *Environmental Science & Technology*, v. 47, p. 10694-10702, doi: 10.1021/es401455j.

Scanlon, B. R., Reedy, R. C., Duncan, I. J., Mullican, W. F., III, and Young, M. H., 2013, Controls on water use for thermoelectric generation: Case study Texas, U.S.: *Environmental Science & Technology*, v. 47, no. 19, p. 11326-11334, <http://doi.org/10.1021/es4029183>.

Yang, Changbing, Mickler, P., Reedy, R. C., Scanlon, B. R., Romanak, Katherine, Nicot, J. -P., Hovorka, S. D., Treviño, R. H., and Larson, T., 2013, Single-well push-pull test for assessing potential impacts of CO₂ leakage on groundwater quality in a shallow Gulf Coast aquifer in

- Cranfield, Mississippi: *International Journal of Greenhouse Gas Control*, v. 18, p. 375-387.
- Huang, Y., Scanlon, B. R., Nicot, J. -P., Reedy, R. C., Dutton, A. R., Kelley, V. A., and Deeds, Neil, 2012, Sources of groundwater pumpage in a layered aquifer system in the Upper Gulf Coastal Plain, USA: *Hydrology Journal*, v. 20, p. 783-796.
- Scanlon, B. R., Faunt, C. C., Longuevergne, Laurent, Reedy, R. C., Alley, W. M., McGuire, V. L., and McMahon, P. B., 2012, Groundwater depletion and sustainability of irrigation in the U.S. High Plains and Central Valley: *Proceedings of the National Academy of Sciences of the United States of America*, v. 109, no. 24, p. 9320-9325.
- Gates, J. B., Nicot, J. -P., Scanlon, B. R., and Reedy, R. C., 2011, Arsenic enrichment in unconfined sections of the southern Gulf Coast aquifer system, Texas: *Applied Geochemistry*, v. 26, p. 421-431.
- Scanlon, B. R., Gates, John, Reedy, R. C., Jackson, W. A., and Bordovsky, J. P., 2010, Effects of irrigated agroecosystems: 2. Quality of soil water and groundwater in the southern High Plains, Texas: *Water Resources Research*, v. 46, W09538, doi:10.1029/2009WR008428.
- Scanlon, B. R., Mukherjee, A., Gates, John, Reedy, R. C., and Sinha, A. K., 2010, Groundwater recharge in natural dune systems and agricultural ecosystems in the Thar Desert Region, Rajasthan, India: *Hydrogeology Journal*, v. 18, no. 1, 959-972. DOI 10.1007/s10040-009-0555-7.
- Scanlon, B. R., Reedy, R. C., and Gates, J. B., 2010, Effects of irrigated agroecosystems: 1. Quantity of soil water and groundwater in the southern High Plains, Texas: *Water Resources Research*, v. 46, W09537, doi:10/1029/2009WR008427.
- Scanlon, B. R., Reedy, R. C., Gates, J. B., Gowda, P., and Marek, T. H., 2010, Impact of agroecosystems on groundwater resources in the central High Plains, USA: *Agriculture, Ecosystems, & Environment*, v. 139, p. 700-713.
- Scanlon, B. R., Nicot, J. -P., Reedy, R. C., Kurtzman, D., Mukherjee, A., and Nordstrom, D. K., 2009, Elevated naturally occurring arsenic in a semiarid oxidizing system: Southern High Plains aquifer, Texas, USA: *Applied Geochemistry*, v. 24, no. 11 p. 2061-2071.
- Scanlon, B. R., Stonestrom, D. A., Reedy, R. C., Leaney, F. W., Gates, J., and Cresswell, R. G., 2009, Inventories and mobilization of unsaturated zone sulfate, fluoride, and chloride related to land use change in semiarid regions, southwestern United States and Australia: *Water Resources Research*, v. 45, no. W00a18, <http://doi.org/10.1029/2008wr006963>.
- Scanlon, B. R., Reedy, R. C., and Bronson, K. F., 2008, Impacts of land use change on nitrogen cycling archived in semiarid unsaturated zone nitrate profiles, southern High Plains, Texas: *Environmental Science & Technology* v. 42, no. 20, p. 7566-7572.
- Scanlon, B. R., Reedy, R. C., Baumhardt, R. L., and Strassberg, Gil, 2008, Impact of deep plowing on groundwater recharge in a semiarid region: case study, High Plains, Texas: *Water Resources Research*, v. 44, W00A10, doi:10.1029/2008WR006991.
- Scanlon, B. R., Reedy, R. C., Jackson, W. A., and Rao, B., 2008, Mobilization of naturally occurring perchlorate related to land-use change in the Southern High Plains: *Environmental Science & Technology*, v. 42, no. 23, p. 8648-8653.
- Gurdak, J. J., Hanson, R. T., McMahon, P. B., Bruce, B. W., McCray, J. E., Thyne, G. D., and Reedy, R. C., 2007, Climate variability controls on unsaturated water and chemical movement, High Plains aquifer, USA: *Vadose Zone Journal*, v. 6, no. 2, p. 533-547.
- Reedy, R. C., Scanlon, B. R., Nicot, J. -P., and Tachovsky, J. A., 2007, Unsaturated zone arsenic distribution and implications for groundwater contamination: *Environmental Science & Technology*, v. 41, no. 20, p. 6914-6919.
- Scanlon, B. R., Reedy, R. C., and Tachovsky, J. A., 2007, Semiarid unsaturated zone chloride

profiles: archives of past land-use change impacts on water resources in the southern High Plains, United States, *Water Resources Research*, v. 43, W06423, doi:10.1029/2006WR005769.

Keese, K. E., Scanlon, B. R., and Reedy, R. C., 2005, Assessing controls on diffuse groundwater recharge using unsaturated flow modeling: *Water Resources Research*, v. 41, no. W06010, 12 p., <http://doi.org/10.1029/2004WR003841>, Refereed publication.

Scanlon, B. R., Levitt, D. G., Reedy, R. C., Keese, K. E., and Sully, M. J., 2005, Ecological controls on water-cycle response to climate variability in deserts: *Proceedings of the National Academy of Sciences*, v. 102, no. 17, p. 6033-6038.

Scanlon, B. R., Reedy, R. C., Keese, K. E., and Dwyer, S. F., 2005, Evaluation of evapotranspirative covers for waste containment in arid and semiarid regions in the southwestern USA: *Vadose Zone Journal*, v. 4, p. 55-71.

Scanlon, B. R., Reedy, R. C., Stonestrom, D. A., and Prudic, D. E., 2005, Impact of land use and land cover change on groundwater recharge and quantity in the southwestern USA: *Global Change Biology*, v. 11, p. 1577-1593.

Reedy, R. C., and Scanlon, B. R., 2003, Soil water content monitoring using electromagnetic induction: *Journal of Geotechnical and Geoenvironmental Engineering*, November, p. 1028-1039, Refereed publication.

Scanlon, B. R., Keese, Kelley, Reedy, R. C., Simunek, Jirka, and Andraski, B. J., 2003, Variations in flow and transport in thick desert vadose zones in response to paleoclimatic forcing (0-90 kyr): field measurements, modeling, and uncertainties: *Water Resources Research*, v. 39, no. 7, 18 p.

Scanlon, B. R., Christman, Marty, Reedy, R. C., Porro, Indrek, Simunek, Jirka, and Flerchinger, G. N., 2002, Intercode comparisons for simulating water balance of surficial sediments in semiarid regions: *Water Resources Research*, v. 38, no. 12, 16 p.

Non Peer Reviewed Journal Articles

Scanlon, B. R., Reedy, R. C., and Nicot, J.-P., 2015, Response to comment on "Comparison of water use for hydraulic fracturing for unconventional oil and gas versus conventional oil": *Environmental Science & Technology*, v. 49, no. 10, p. 6360-6361, <http://doi.org/10.1021/acs.est.5b01497>.

Reedy, R. C., Nicot, J. -P., Scanlon, B. R., Deeds, N. E., Kelley, V. A., and Mace, R. E., 2009, Chapter 11. Groundwater recharge in the Carrizo-Wilcox aquifer, in *Aquifers of the upper coastal plains of Texas*: Texas Water Development Board Report 374, p. 185-203.

Reedy, R. C., Scanlon, B. R., and Dutton, A. R., 2003, Collection and analysis of environmental tracers for estimation of recharge rates in the GAM model of the central Carrizo-Wilcox aquifer, in Dutton, A. R., Harden, B., Nicot, J. P., and O'Rourke, D., eds., *Groundwater availability model for the central part of the Carrizo-Wilcox aquifer in Texas*: The University of Texas at Austin, Bureau of Economic Geology, final technical report prepared for Texas Water Development Board, under contract no. 2001-483-378, CD-ROM.

Reedy, R. C., Scanlon, B. R., Bruce, B. W., McMahon, P. B., Dennehy, K. F., and Ellett, K. M., 2003, Groundwater recharge in the Southern High Plains, in Blandford, N. T., Blazer, D. J., Calhoun, K. C., Dutton, A. R., Naing, T., Reedy, R. C., and Scanlon, B. R., eds., *Groundwater availability of the southern Ogallala Aquifer in Texas and New Mexico: numerical simulations through 2050*: Daniel B. Stephens and Associates, final report prepared for Texas Water Development Board, variously paginated.

Dutton, A. R., Mace, R. E., and Reedy, R. C., 2001, Quantification of spatially varying hydrogeologic properties for a predictive model of groundwater flow in the Ogallala aquifer, northern Texas Panhandle, in *New Mexico Geological Society Guidebook*, 52nd Field

Conference, Geology of the Llano Estacado, p. 297-308.

Scanlon, B. R., Mullican, W. F., III, Reedy, R. C., and Angle, E. S., 1997, Prototype engineered barrier designs for low-level radioactive waste disposal in Texas, in Reynolds, T. D., and Morris, R. C., eds., Proceedings, Landfill Capping in the Semi-Arid West: Problems, Perspectives, and Solutions: Environmental Science and Research Foundation, p. 231-242.

Non Peer Reviewed Book Chapters

Keese, K. E., Scanlon, B. R., and Reedy, R. C., 2004, Controls on groundwater recharge using unsaturated flow modeling, in Mace, R. E., Angle, E. S., and Mullican, W. F., III, eds., Aquifers of West Texas: San Angelo, Texas, Texas Water Development Board, Report 360, p. 269-291.

Contract Reports

Reedy, R. C., and Scanlon, B. R., 2018, Assessing cumulative water risks from shale oil production: Permian Basin Case Study: Contract Report prepared for Texas Commission on Environmental Quality, 94 p.

Reedy, R. C., and Scanlon, B. R., 2018, Assessment of arsenic in groundwater and water supply systems in Texas: Final Contract Report prepared for Texas Commission on Environmental Quality, 49 p.

Scanlon, B. R., Reedy, R. C., Mirabolghasemi, M., Engle, M. A., and Ikonnikova, S., 2018, Assessing potential for reuse of produced water from energy extraction: Contract Report prepared for Exxon-Mobil, 92 p.

Hamlin, H. S., Scanlon, B. R., Reedy, R. C., Banerji, D., Young, S. C., Jigmond, M., and Harding, J. H., 2017, Fresh, Brackish, and Saline Groundwater Resources in the Carrizo-Wilcox, Queen City and Sparta Aquifers in Groundwater Management Area 13--Location, Quantification, Producibility, and Impacts: Bureau of Economic Geology, Contract Report prepared for Texas Water Development Board, 388 p.

Reedy, R. C., and Scanlon, B. R., 2017, Evaluation of Groundwater Nitrate Contamination in Aquifers in Texas: Bureau of Economic Geology, Contract Report prepared for Texas Commission on Environmental Quality, 41 p.

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