

Publications
RONALD F. BROADHEAD
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Publications Listed by Basin or Other Topic

NEW MEXICO (GENERAL) PUBLICATIONS:

Broadhead, R.F., 2017, Petroleum geology of New Mexico: New Mexico Bureau of Geology and Mineral Resources Memoir 50A and New Mexico Geological Society Special publication 13A, 90 p., <https://doi.org/10.58799/M-50A>

PERMIAN BASIN PUBLICATIONS:

- Scholle, P.A., **Broadhead, R.**, and McLemore, V., 2020, The Permian Basin, *in* The geology of southern New Mexico's parks, monuments, and public lands, p. 276-287, ISBN: 978-1-883905-48-4.
- Broadhead, R.F., 2012, The Woodford Shale in southeastern New Mexico: Distribution and source rock characteristics, *in* Bowden, C.E., ed., Hidden treasures in our own backyard: West Texas Geological Society, Publication No. 11-124, pages not consecutively numbered.
- Broadhead, R.F., 2011, The Woodford Shale in southeastern New Mexico: Distribution and source rock characteristics: American Association of Petroleum Geologists, [Search and Discovery Article 80163](#).
- Broadhead, R.F., 2010, The Woodford Shale in southeastern New Mexico: distribution and source rock characteristics: New Mexico Geology, v 32 no 3, p. 79-90.
https://geoinfo.nmt.edu/publications/periodicals/nmg/32/n3/nmg_v32_n3_p79.pdf
- Justman, H., and Broadhead, R., 2010, Petroleum source rock data for the Brushy Canyon Formation, Delaware Basin, southeastern New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open file report 528, CD-ROM, <https://doi.org/10.58799/OFR-528>.
- Justman, H., and Broadhead, R., 2010, Petroleum source rock data for the Bone Spring Formation, Delaware Basin, southeastern New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open file report 529, CD-ROM, <https://doi.org/10.58799/OFR-529>.
- Broadhead, R.F., 2009, Mississippian strata of southeastern New Mexico: distribution, structure, and hydrocarbon plays: New Mexico Geology, v 31 no 3, p. 65-76.
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- Broadhead, R.F., and Gillard, L., 2007, The Barnett Shale in southeastern New Mexico: Distribution, thickness, and source rock characterization: New Mexico Bureau of Geology and Mineral Resources, Open file report 502, CD-ROM.. <https://doi.org/10.58799/OFR-502>
- Broadhead, R.F., 2006, Mississippian strata of southeastern New Mexico: Distribution, structure and hydrocarbon plays, *in* Raines, M.A., ed., Resource plays in the Permian Basin: Resources to reserves: West Texas Geological Society, Publication 06-117, p. 12-28.
- Broadhead, R.F., 2006, Mississippian strata in southeastern New Mexico, including the Barnett Shale: Thickness, structure and hydrocarbon plays: New Mexico Bureau of Geology and Mineral Resources, Open file report 497, CD-ROM. <https://doi.org/10.58799/OFR-497>
- Broadhead, R.F., 2006, Underdeveloped oil fields in Upper Pennsylvanian and Lower Permian carbonate reservoirs of southeastern New Mexico: Initial development missed major reserves (abstract): American Association of Petroleum Geologists, 2006 Annual Convention Abstracts, CD-ROM.
- Dutton, S.P., Kim, E.M., Ruppel, S.C., Kerans, C., **Broadhead, R.F.**, Raatz, W.D., and Breton, C.L., 2006, Oil-play analysis of the Permian Basin: A tool for increasing recovery from a mature oil-producing province (abstract): American Association of Petroleum Geologists, 2006 Annual Convention Abstracts, CD-ROM.

Permian Basin publications (continued):

- Dutton, S.P., Kim, E.M., **Broadhead, R.F.**, Raatz, W.D., Breton, C.L., Ruppel, S.C., and Kerans, C., 2005, Play analysis and leading-edge oil-reservoir development methods in the Permian Basin; increased recovery through advanced technologies: American Association of Petroleum Geologists, Bulletin, v. 89, p. 553-576. <https://doi.org/10.1306/12070404093>
- Dutton, S.P., Kim, E.M., **Broadhead, R.F.**, Breton, C.L., Raatz, W.D., Ruppel, S.C., and Kerans, C., 2005, Play analysis and digital portfolio of major oil reservoirs in the Permian Basin: Bureau of Economic Geology, The University of Texas at Austin, Report of Investigations No. 271, CD-ROM. ISBN 78-1-970007-15-2
- Broadhead, R.F., 2005, Regional aspects of the Wristen petroleum system, southeastern New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file report 485, CD-ROM. <https://doi.org/10.58799/OFR-485>
- Broadhead, R.F., Gillard, L., and Engin, N., 2005, Structure contours on Abo Formation (Lower Permian), Northwest Shelf of Permian Basin: New Mexico Bureau of Geology and Mineral Resources, Open-file report 487, CD-ROM. <https://doi.org/10.58799/OFR-487>
- Broadhead, R.F., and Gillard, L., 2005, Structure contours on Bone Spring Formation (Lower Permian), Delaware Basin: New Mexico Bureau of Geology and Mineral Resources, Open-file report 488, CD-ROM. <https://doi.org/10.58799/OFR-488>
- Broadhead, R.F., and Gillard, L., 2005, Structure contours on Tubb sandstone member of Yeso Formation (Lower Permian), Central Basin Platform, southeastern New Mexico: New Mexico Bureau of Geology and Mineral Resources, Open-file report 489, CD-ROM. <https://doi.org/10.58799/OFR-489>
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- Lennane, J., and **Broadhead, R.F.**, 2002, The hydrocarbon producing rocks of the lower Brushy Canyon (abstract), *in* Transactions Southwest Section AAPG Convention: Roswell Geological Society, p. 91.
- Balch, R.S., Hart, D.M., Weiss, W.W., and **Broadhead, R.F.**, 2002, Using artificial intelligence to predict drilling success using regional data, Brushy Canyon Formation, Delaware Basin, New Mexico, *in* Transactions Southwest Section AAPG Convention: Roswell Geological Society, pp. 244-254.
- Broadhead, R.F., and Justman, H.A., 2002, Regional controls on oil accumulations and regional sand trends, lower Brushy Canyon Formation (abstract): talk presented to Roswell Geological Society, Roswell New Mexico, February 12, 2002.
- Balch, R.S., Hart, D.M., Weiss, W.W., and **Broadhead, R.F.**, 2002, Using artificial intelligence to predict drilling success using regional data, Brushy Canyon Formation, Delaware Basin, New Mexico, *in* Transactions Southwest Section AAPG Convention: Roswell Geological Society, pp. 244-254.
- Broadhead, R.F., 2001, Redevelopment of old fields in the Upper Pennsylvanian and Lower Permian of southeast New Mexico: Rejuvenation of underdeveloped fields yields major reserves; *in* Johnson, K.S., ed., Pennsylvanian and Permian geology and petroleum in the southern midcontinent, 1998 symposium: Oklahoma Geological Survey, Circular 104, pp. 119-122. ISSN 0078-4397.

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- Broadhead, R.F., 2000, Petroleum systems in Pennsylvanian elevator basins of New Mexico (abstract): American Association of Petroleum Geologists, Bulletin, v. 84, p. 1236.
- Broadhead, R.F., 2001, Pecos Slope Abo gas pool, Chaves County, New Mexico, *in* Proceedings for low permeability and underdeveloped natural reservoirs of New Mexico conference and field trip: New Mexico Bureau of Mines and Mineral Resources, pages not consecutively numbered.
- Justman, H.A., and **Broadhead, R.**, 2000, An evaluation of the source rock, reservoir rock, and sequence stratigraphy for the Brushy Canyon Formation's hydrocarbon accumulations of the Delaware Basin, southeastern New Mexico (abstract): American Association of Petroleum Geologists, Bulletin, v. 84, p. 1241.
- Weiss, W.W., **Broadhead, R.**, and Sung, A., 2000, Risk reduction with a fuzzy expert exploration tool (abstract): American Association of Petroleum Geologists, Bulletin, v. 84, p. 1246.
- Broadhead, R.F., 1999, Underdeveloped oil fields in Upper Pennsylvanian and Lower Permian carbonates of southeast New Mexico: initial development missed major reserves: The Leading Edge, September 1999, pp. 1012-1017. <https://doi.org/10.1190/1.1438426>
- Broadhead, R.F., 1999, Underdeveloped oil fields – Upper Pennsylvanian and Lower Wolfcampian carbonate reservoirs of southeast New Mexico: Carbonates and Evaporites, v. 14, no. 1, pp. 84-105. <https://doi.org/10.1007/BF03176150>
- New Mexico Tech, Geology 460 Class (N. Derrick, D. Hart, H. Justman, D. Leiphart, D. Medford, R. Robinson, T. Sande, A. Trivitt, **R. Broadhead**), 1999, Kenmnitz Morrow, *in* Worthington, R.E., and Brown, M., eds., A symposium of the oil and gas fields of southeastern New Mexico, 1999 supplement, Pennsylvanian gas fields: Roswell Geological Society, pp. 204-207.
- Broadhead, R.F., 1999, Upper Pennsylvanian and Lower Permian of southeastern New Mexico – rejuvenation of underdeveloped fields yields major reserves (abstract), *in* D.F. Merriam, ed., Transactions of the 1999 AAPG Midcontinent Section Meeting: Kansas Geological Survey, Open-file report 99-28, p. 9.
- Broadhead, R.F., 1999, Underdeveloped oil fields – Upper Pennsylvanian and lower Wolfcampian carbonates of southeast New Mexico (abstract): Transactions and abstracts of 1999 Southwest Section AAPG Convention, p. 90.
- Broadhead, R.F., Luo, F., and Speer, S.W., 1998, Oil and gas resources at the Waste Isolation Pilot Plant (WIPP) site, Eddy County, New Mexico, *in* Hydrocarbon resources at WIPP site, New Mexico: New Mexico Bureau of Mines and Mineral Resources, Circular 206, pp. 3-72. <https://doi.org/10.58799/C-206>
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- Broadhead, R., 1998, Upper Pennsylvanian and Lower Permian carbonate reservoirs of southeast New Mexico: examples of underdeveloped oil fields, *in* Proceedings volume for Frontier and underexplored basins of New Mexico: Petroleum Technology Transfer Council, pages not consecutively numbered.
- Broadhead, R., 1998, Redevelopment of old fields – Upper Pennsylvanian and Lower Permian of southeast New Mexico: Rejuvenation of underdeveloped fields yields major reserves (abstract): *in* abstract volume for Pennsylvanian and Permian Geology and Petroleum in the Southern Midcontinent – a workshop: Oklahoma Geological Survey and U.S. Department of Energy, p. 19.

Permian Basin publications (continued):

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- Broadhead, R.F., Luo, F., and Speer, S.W., 1996, Oil and gas resources at the WIPP site, Eddy County, New Mexico (abstract): American Association of Petroleum Geologists, Proceedings of Southwest Section Annual Meeting, El Paso, Texas, p. 18.
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- Broadhead, R.F., 1993, PB-3, San Andres and Grayburg platform, *in* Atlas of major Rocky Mountain gas reservoirs: New Mexico Bureau of Mines and Mineral Resources, p. 142-143. ISBN: 9781883905002
- Broadhead, R.F., 1993, PB-4, Glorieta and upper Yeso platform, *in* Atlas of major Rocky Mountain gas reservoirs: New Mexico Bureau of Mines and Mineral resources, p. 144. ISBN: 9781883905002
- Broadhead, R.F., 1993, PB-5, Bone Spring basinal sediments, *in* Atlas of major Rocky Mountain gas reservoirs: New Mexico Bureau of Mines and Mineral Resources, p. 145. ISBN: 9781883905002
- Broadhead, R.F., 1993, PB-6, Yeso platform, *in* Atlas of major Rocky Mountain gas reservoirs: New Mexico Bureau of Mines and Mineral Resources, 146-148 . ISBN: 9781883905002
- Broadhead, R.F., 1993, PB-7, Abo platform carbonate, *in* Atlas of major Rocky Mountain gas reservoirs: New Mexico Bureau of Mines and Mineral resources, p. 149. ISBN: 9781883905002
- Broadhead, R.F., 1993, PB-8, Abo fluvial/deltaic sandstone, *in* Atlas of major Rocky Mountain gas reservoirs: New Mexico Bureau of Mines and Mineral Resources, p. 150-151. ISBN: 9781883905002
- Broadhead, R.F., 1993, PB-9, Wolfcamp carbonate, *in* Atlas of major Rocky Mountain gas reservoirs: New Mexico Bureau of Mines and Mineral Resources, p. 152. ISBN: 9781883905002
- Broadhead, R.F., and Speer, S.W., 1993, Oil and gas in the New Mexico part of the Permian Basin: New Mexico Geological Society, Guidebook to 44th field conference, pp. 293-300.
- Broadhead, R.F., 1984, Stratigraphically controlled gas production from Abo red beds (Permian), east-central New Mexico: New Mexico Bureau of Mines and Mineral Resources, Circular 183, 36 pp. <https://doi.org/10.58799/C-183>
- Broadhead, R.F., 1984, Geology of gas production from "tight" Abo redbeds, east-central New Mexico: Oil and Gas Journal, v. 82, no. 24, pp. 147-150, 154-158.

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- Broadhead, R.F., 1983, "Tight" Abo gas sands, east-central New Mexico (abstract): American Association of Petroleum Geologists, Bulletin, v. 67, pp. 430.

SAN JUAN BASIN PUBLICATIONS:

- Broadhead, R.F., 2021, The offshore Mancos play in the San Juan Basin as a component of the Mancos total petroleum system: American Association of Petroleum Geologists, Bulletin, v. 105, no. 9, p. 1765-1777. <https://doi.org/10.1306/01152120038>.
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- Broadhead, R.F., 1997, Oil, natural gas, and groundwater in the San Juan Basin, a summary, *in* Proceedings of the 41st annual New Mexico water conference: New Mexico Water Resources Research Institute, pp. 79-88.
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ELEVATOR BASINS PUBLICATIONS (also see publications on Tucumcari Basin)

- Broadhead, R.F., 2001a, New Mexico Elevator Basins 1, Petroleum systems studies in southern Ancestral Rocky Mountains: Oil and Gas Journal, v. 99.2, p. 32-32-34, 36-38.
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- Broadhead, R.F., 1999, Petroleum source rocks in Pennsylvanian elevator basins of New Mexico (abstract): Transactions and abstracts of 1999 Southwest Section AAPG Convention, p. 89.
- Broadhead, R.F., and Chapin, C.E., 1999, Petroleum systems in late Paleozoic elevator basins, southern ancestral Rocky Mountains (abstract): American Association of Petroleum Geologists, 1999 annual convention, program, p. A16 .
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- Broadhead, R.F., 2002, Geologic structure and petroleum source rocks of the Tucumcari Basin, east-central New Mexico (abstract) , *in* Transactions Southwest Section AAPG Convention: Roswell Geological Society, p. 76.
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RATON AND LAS VEGAS BASINS PUBLICATIONS:

- Broadhead, R.F., 2015, Petroleum geology of the Las Vegas Basin: an overview, *in* Lindline, J., Petronis, M., and Zebrowski, J., eds., Geology of the Las Vegas region: New Mexico Geological Society, Guidebook 66, p. 253-260. <https://doi.org/10.56577/FFC-66>
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OTHER FRONTIER BASINS IN NEW MEXICO PUBLICATIONS (including Estancia Basin, Chupadera Mesa, Tularosa Basin and Otero Platform, Pedregosa Basin, Albuquerque Basin and west-central New Mexico)

- Broadhead, R.F., and Rinehart, A.J., in editing, The oil and natural gas potential of Sandoval County, New Mexico and its relationship to groundwater: New Mexico Bureau of Geology and Mineral Resources, Open-file report.
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