JOHN KARL (JK) BOHLKE, Ph.D. prepared May 30, 2016
Research Hydrologist (Senior Scientist)
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GENERAL RESEARCH INTERESTS

Hydrogeology; biogeochemistry; water-rock interaction; stable and radiogenic isotope geochemistry; geochronology; isotopic tracers; sources, history, and fate of nutrients and reactive inorganic contaminants in the hydrologic cycle.

EDUCATION

B.S.	(Geology)	U Michigan, Ann Arbor, MI
M.S.	(Marine Geology)	Rosenstiel School of Marine and Atmospheric Sciences, U Miami, FL
Ph.D.	(Geology)	U California, Berkeley, CA

PROFESSIONAL EXPERIENCE

Geologist, U.S. Geological Survey, Menlo Park, CA (1978-1988, intermittent)
Post-doctoral appointee in Geoscience, Argonne National Laboratory, Argonne, IL (1986-1988)
Geologist, U.S. Geological Survey, Reston, VA (1988-1990)
Research Hydrologist, U.S. Geological Survey, Reston, Va (1991-present)
Adjunct Faculty, U. Maryland, College Park, MD (1992-present)

PROFESSIONAL SOCIETY MEMBERSHIPS AND ACTIVITIES

American Geophysical Union (Member, 1986-present)
Geochemical Society (Member, 1983-present)
- Nominating Committee, 2004-2007

Geological Society of America (Member, 1987-present)
- Associate Editor, GSA Bulletin, 1995-1997
- GSA Fellow (2013-present)

Geological Society of Washington, DC (Member, 1992-present)
- Program Chair, 1992; Councillor, 1995-1996; 2nd Vice President, 1997; Program Committee, 1999

International Association of Hydrologic Sciences
- U.S. Representative, Committee on Tracers, 1992-1996

International Union of Pure and Applied Chemistry, Commission on Atomic Weights and Isotopic Abundances (Associate Member, 1994-1997; Titular Member, 1998-2005)
- Chair of Subcommittee on Isotope Abundance Measurements, 2002-2003
- U.S. National Representative, 2006-2011

PROFESSIONAL AWARDS

USGS, Quality Awards (1991, 1992, 1994, 1996) for development of isotopic methods in hydrogeology
USGS, Star Awards (2000, 2000, 2001, 2002) for isotopic methods and applications
USGS, Superior Service Award (2003) for contributions to groundwater hydrology and nitrogen studies including Chesapeake Bay watershed
USGS, Star Award (2008) for contributions to the NAWQA Agricultural Chemicals Topical Team
US DOD ESTCP, Project of the Year Award (2008) for perchlorate isotope research
US DOI Senior-Level Scientist designation (2010)
Geological Society of America, Elected Fellow for contributions to geochemistry and contaminant hydrogeology (2013)
USGS, Meritorious Service Award (2014) for contributions to research in hydrology and biogeochemistry
USGS, Water Science Strategy Planning Team Award (2014) for contributions to the Water Mission Area strategic plan

SELECTED SYNERGISTIC ACTIVITIES

Co-organizer and Instructor for training classes for IAEA and USGS on Stable Isotope Hydrology, Groundwater Recharge, and Principles of Groundwater Dating

Invited speaker for USGS district-office lecture tour on groundwater nitrogen research

Keynote speaker on groundwater and surface water nitrogen studies for USGS regional management conferences

Invited participant and speaker for NSF-sponsored Research Coordination Network workshops on global denitrification and hyporheic-zone processes

Plenary lecturer for ASAE "rap session" on agricultural contaminant "lag times"

Invited speaker for NGWA Theis Conference on groundwater dating

Invited presenter at Chesapeake Bay science workshops and participant in "lag-time" workshop of Chesapeake Bay Science and Technology Advisory Committee

Technical advisor for IAEA and NIST isotope reference materials programs

Member of USGS Water Science Strategy Planning team and coauthor of strategic plan reports

Research Advisor for USGS Surface-Water Chemistry discipline

Committe member and coauthor of reports on USGS Research Grade Evaluation and National Research Program research directions, staffing, and project organization

Member of USGS Technical Review Committees for service laboratories providing isotopic and geochronologic data

Technical reviewer for ~30 journals in geology, hydrology, chemistry, etc.

Technical reviewer for ~10 funding agencies

PI or co-PI on proposals funded by NSF, DOD, EPA, USDA, IUPAC, USGS, etc.

Author or co-author of ~50 invited presentations at technical meetings including AGU, GSA, Goldschmidt, Battelle, DOD, GSW, etc.

Author or co-author of ~200 contributed presentations at technical meetings

Presented ~50 other invited lectures and seminars at universities, agencies, and private companies

Author or co-author of ~15 invited book chapters and review articles on nitrogen cycling, water quality, isotope hydrology, biogeochemistry, and hydrothermal geochemistry

Recognition for publications, including: Editors Choice (in Science, for GCA paper by Michalski et al 2004); Feature Article (Limnology and Oceanography, for Böhlke et al 2004); 200 most-cited papers (Water Resources Research, in 2007 for Böhlke and Denver, 1995); Environmental News (Environmental Science and Technology, for Sturchio et al 2007; Böhlke et al, 2009); Making and Impact (Chemistry International, for deLaeter et al 2003; Brand et al 2009); Research Spotlight (AGU, for Water Resources Research paper by Green et al 2010); Editors Choice (Hydrogeology Journal, for McMahon et al, 2011)

ADVISEES (partial list):

Averill, M. (M.S., Indiana U, 1991-1993); O'Connell, M.E. (Ph.D., U Maryland, 1992-1998); Angier, J. (Ph.D., U Maryland, 1998-2001); Li, J. (M.S., U Maryland, 1999-2001); Brown, E.S. (TJ High School, 1999-2000); Liu, A. (TJ High School, 2004-2005); Tobias, C.R. (post-doc, USGS, 2005-2006); Casciotti, K. (Ph.D., Princeton, post-doc, USGS, 2005-2006); Rao, B. (Ph.D., Texas Tech U, 2009-2011); Pellerin, B. (USGS Mentorship Program, 2010-2011); Bellucci, F. (U Illinois Chicago, 2010-2011); Poghosyan, A. (Ph.D., U Illinois Chicago, 2011-2013); Robertson, W.D. (Ph.D., U Texas, 2011-2014); Estrada, N. (Ph.D., Texas Tech U, 2011-2015); Messer, T. (Ph.D., North Carolina State U, 2013-2015)

SELECTED RELEVANT PUBLICATIONS (REVERSE ORDER)
(for complete publist, see below or http://profile.usgs.gov/jkbohlke)

Hyer, K., Denver, J., Langland, M., Webber, J., Böhlke, J.K., Hively, W.D. and Clune, J.W. (in revision) Spatial and temporal variation of stream chemistry associated with contrasting geology and land use patterns in the Chesapeake Bay watershed: Summary of results from Smith Creek, VA, Upper Chester River, MD, Conewago Creek, PA, and Difficult Run, VA, 2010-2013. U.S. Geological Survey Scientific Investigations Report

Smith, R.L., Böhlke, J.K., Song, B., and Tobias, C.R., 2015, Role of anaerobic ammonium oxidation (anammox) in nitrogen removal from a freshwater aquifer. Environmental Science and Technology, v. 49, p. 12169-12177.

Böhlke, J.K., Jurgens, B.C., Uselmann, D.J., and Eberts, S.M., 2014, Educational webtool illustrating groundwater age effects on contaminant trends in wells. Groundwater, v. 52 (S1), p. 8-9 (plus 19p Appendix). USGS online interactive webtool, available at http://ca.water.usgs.gov/projects/gamactt/.

Harvey, J.W., Böhlke, J.K., Voytek, M.A., Scott, D.T., Tobias, C.R., 2013. Hyporheic zone denitrification: Controls on effective reaction depth and contribution to whole-stream mass balance. Water Resources Research, v. 49, p. 6298-6316.

STAC [Chesapeake Bay Program], contributing authors: E. Yagow, R.H., M. Ribaudo, K.G. Sellner, J.K. Böhlke, K. Staver, K. Boomer], 2013. Incorporating lag-times into the Chesapeake Bay Program. STAC Publ. #13-004, Edgewater, MD, 66 pp.

Evenson, E.J., Orndorff, R.C., Blome, C.D., Böhlke, J.K., Hershberger, P.K., Langenheim, V.E., McCabe, G.J., Morlock, S.E., Reeves, H.W., Verdin, J.P., Weyers, H.S., and Wood, T.M., 2013, U.S. Geological Survey water science strategy—Observing, understanding, predicting, and delivering water science to the nation. *U.S. Geological Survey Circular 1383-G*, Reston, 49 p.

Liao, L., Green, C.T., Bekins, B.A., Böhlke, J.K., 2012. Factors controlling nitrate fluxes in groundwater in agricultural areas. *Water Resources Research*, 48, W00L09, doi:10.1029/2011WR011008: 1-18.

Eberts, S.M., Böhlke, J.K., Kauffman, L.J., Jurgens, B.C., 2012. Comparison of particle-tracking and lumped-parameter age-distribution models for evaluating vulnerability of production wells to contamination. *Hydrogeology Journal*, 20: 263-282.

McMahon, P.B., Plummer, L.N., Böhlke, J.K., Shapiro, S.D., Hinkle, S.R., 2011. A comparison of recharge rates in aquifers of the United States based on groundwater-age data. *Hydrogeology Journal*, 19: 779-800.

Böhlke, J.K., Michel, R.L., 2009. Contrasting residence times and fluxes of water and sulfate in two small forested watersheds in Virginia, USA. *Science of the Total Environment*, 407: 4363-4377.

Böhlke, J.K., Antweiler, R.C., Harvey, J.W., Laursen, A.E., Smith, L.K., Smith, R.L., Voytek, M.A., 2009. Multi-scale measurements and modeling of denitrification in streams with varying flow and nitrate concentration in the upper Mississippi River basin, USA. *Biogeochemistry*, 93: 117-141.

McMahon, P.B., Böhlke, J.K., Kauffman, L.J., Kipp, K.L., Landon, M.K., Crandall, C.A., Burow, K.R., Brown, C.J., 2008. Source and transport controls on the movement of nitrate to public supply wells in selected principal aquifers of the United States. *Water Resources Research*, 44, W04401, doi:10.1029/2007WR006252: 1-17.

Tobias, C.R., Böhlke, J.K., Harvey, J.W., 2007. The oxygen-18 isotope approach for measuring aquatic metabolism in high-productivity waters. *Limnology and Oceanography*, 52: 1439-1453.

Böhlke, J.K., O'Connell, M.E., Prestegaard, K.L., 2007. Ground-water stratification and delivery of nitrate to an incised stream in varying flow conditions. *Journal of Environmental Quality*, 36: 664-680.

Seitzinger, S.P., Harrison, J., Böhlke, J.K., Bouwman, A.F., Lowrance, R.R., Peterson, B.J., Tobias, C.R., van Drecht, G., 2006. Denitrification across landscapes and waterscapes: a synthesis. *Ecological Applications*, 16: 2064-2090.

Groffman, P.M., Altabet, M.A., Böhlke, J.K., Butterbach-Bahl, K., David, M.B., Giblin, A.E., Kana, T.M., Nielsen, L.P., Firestone, M.K., Voytek, M.A., 2006. Methods for measuring denitrification: diverse approaches to a difficult problem. *Ecological Applications*, 16: 2091-2122.

Bratton, J.F., Böhlke, J.K., Manheim, F.T., Krantz, D.E., 2004. Ground water beneath coastal bays of the Delmarva Peninsula: ages and nutrients. *Ground Water*, 42: 1021-1034.

Böhlke, J.K., 2003. Sources, transport, and reaction of nitrate in ground water. In: Lindsey, B.D., others (Eds.), *Residence times and nitrate transport in ground water discharging to streams in the Chesapeake Bay Watershed*. U.S. Geological Survey Water Resources Investigations Report 03-4035, p. 25-39.

Böhlke, J.K., Harvey, J.W., Voytek, M.A., 2004. Reach-scale isotope tracer experiment to quantify denitrification and related processes in a nitrate-rich stream, midcontinent United States. *Limnology and Oceanography*, 49: 821-838.

Cook, P.G., Böhlke, J.K., 2000. Determining timescales for groundwater flow and solute transport. In: Cook, P.G., Herczeg, A.L. (Eds.), *Environmental Tracers in Subsurface Hydrology*. Kluwer Academic Publishers, Boston, pp. 1-30.

Böhlke, J.K., 2002. Groundwater recharge and agricultural contamination. *Hydrogeology Journal*, 10: 153-179.

Böhlke, J.K., Wanty, R., Tuttle, M., Delin, G., Landon, M., 2002. Denitrification in the recharge area and discharge area of a transient agricultural nitrate plume in a glacial outwash sand aquifer, Minnesota. *Water Resources Research*, 38(10), doi:10.1029/2001WR000663: 1-26.

McMahon, P.B., Böhlke, J.K., 1996. Denitrification and mixing in a stream-aquifer system: Effects on nitrate loading to surface water. *Journal of Hydrology*, 186: 105-128.

Böhlke, J.K., Denver, J.M., 1995. Combined use of groundwater dating, chemical, and isotopic analyses to resolve the history and fate of nitrate contamination in two agricultural watersheds, Atlantic coastal plain, Maryland. *Water Resources Research*, 31: 2319-2339.

PUBLICATIONS (REVERSE ORDER)

Hyer, K., Denver, J., Langland, M., Webber, J., Böhlke, J.K., Hively, W.D. and Clune, J.W. (in revision) Spatial and temporal variation of stream chemistry associated with contrasting geology and land use patterns in the Chesapeake Bay watershed: Summary of results from Smith Creek, VA, Upper Chester River, MD, Conewago Creek, PA, and Difficult Run, VA, 2010-2013. U.S. Geological Survey Scientific Investigations Report

Jurgens, B.C., Böhlke, J.K., Kauffman, L.J., Belitz, K., Esser, B.K., 2016. A partial exponential lumped parameter model to evaluate groundwater age distributions and nitrate trends in long-screened wells. Journal of Hydrology (in press, preprint available online).

Degnan, J.R., Böhlke, J.K., Pelham, K., Langlais, D.M., and Walsh, G.J., 2016, Identification of groundwater nitrate contamination from explosives used in road construction: Isotopic, chemical, and hydrologic evidence. Environmental Science and Technology, v. 50, p. 593-603.

Jackson, W.A., Davila, A.F., Sears, D., Coates, J.D., McKay, C.P., Brundrett, M., Estrada, N., Böhlke, J.K., 2016, Corrigendum to "Widespread occurrence of (per)chlorate in the Solar System" [Earth Planet. Sci. Lett. 430 (2015) 470–476]. Earth and Planetary Science Letters, v. 436, p. 142-143.

Fuller, M.E., Heraty, L.B., Condee, C.W., Vainberg, S., Sturchio, N.C., Böhlke, J.K., Hatzinger, P.B., 2016. Relating carbon and nitrogen isotope effects to reaction mechanisms during aerobic and anaerobic degradation of hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) by pure bacterial cultures. Applied and Environmental Microbiology, v. 82, p. 3297-3309.

Jackson, W.A., Davila, A.F., Böhlke, J.K., Sturchio, N.C., Sevanthi, R., Estrada, N., Brundrette, M., Lacelle, D., McKay, C.P., Poghosyan, A., Pollard, W., Zacny, K., 2016, Deposition, accumulation, and alteration of Cl-, NO3-, ClO4- and ClO3- salts in a hyper-arid polar environment: mass balance and isotopic constraints. Geochimica et Cosmochimica Acta, v. 182, p. 197-215.

Izbicki, J.A., Teague, N.F., Hatzinger, P.B., Böhlke, J.K., and Sturchio, N.C., 2015, Groundwater movement, recharge, and perchlorate occurrence in a faulted alluvial aquifer in California (USA). Hydrogeology Journal, v. 23, p. 467-491.

Smith, R.L., Böhlke, J.K., Song, B., and Tobias, C.R., 2015, Role of anaerobic ammonium oxidation (anammox) in nitrogen removal from a freshwater aquifer. Environmental Science and Technology, v. 49, p. 12169-12177.

Hatzinger, P.B., Böhlke, J.K., Sturchio, N.C., Izbicki, J.A., and Teague, N., 2015, Evaluation of perchlorate sources in the Rialto-Colton and Chino California subbasins using chlorine and oxygen isotope ratio analysis. U.S. Department of Defense, Environmental Science and Technology Certification Program, ER-200942 Final Report (published online).

Jackson, W.A., Böhlke, J.K., Andraski, B.J., Fahlquist, L., Bexfield, L., Eckardt, F.D., Gates, J.B., Davila, A.F., McKay, C.P., Rao, B., Sevanthi, R., Rajagopalan, S., Estrada, N., Sturchio, N.C., Hatzinger, P.B., Anderson, T.A., Orris, G., Betancourt, J., Stonestrom, D., Latorre, C., Li, Y., and Harvey, G.J., 2015, Global patterns and environmental controls of perchlorate and nitrate co-occurrence in arid and semi-arid environments. Geochimica et Cosmochimica Acta, v. 164, p. 502-522.

McMahon, P.B., Böhlke, J.K., Dahm, K., Parkhurst, D.L., Anning, D.A., and Stanton, J.S., 2015, Chemical considerations for an updated national assessment of brackish groundwater resources. Groundwater (published online).

Jackson, W.A., Davila, A.F., Sears, D., Coates, J.D., McKay, C.P., Brundrette, M., Estrada, N., and Böhlke, J.K., 2015, Widespread occurrence of (per)chlorate in the solar system. Earth and Planetary Science Letters, v. 430, p. 470-476.

Smith, R.W., Vlahos, P., Böhlke, J.K., Ariyarathna, T., Ballentine, M., Cooper, C., Fallis, S., Groshens, T.J., and Tobias, C., 2015, Tracing the cycling and fate of the explosive 2,4,6-trinitrotoluene in coastal marine systems with a stable isotopic tracer, 15N – [TNT]. Environmental Science and Technology, v. 49, p. 12223-12231.

Böhlke, J.K., 2014, Variation in the terrestrial isotopic composition and atomic weight of argon. Pure and Applied Chemistry, v. 86, p. 1421-1432.

Böhlke, J.K., Jurgens, B.C., Uselmann, D.J., and Eberts, S.M., 2014, Educational webtool illustrating groundwater age effects on contaminant trends in wells. Groundwater, v. 52 (S1), p. 8-9 (plus 19p Appendix).

Andraski, B.J., Jackson, W.A., Welborn, T.L., Böhlke, J.K., and Stonestrom, D.A., 2014, Soil, plant, and terrain effects on natural perchlorate distribution in a desert landscape. Journal of Environmental Quality, v. 43, p. 980-994.

Böhlke, J.K., Jurgens, B.C., Uselmann, D.J., and Eberts, S.M., 2014, GAMACTT: Groundwater age mixtures and contaminant trends tool. USGS online interactive webtool, available at http://ca.water.usgs.gov/projects/gamactt/.

Harvey, J.W., Böhlke, J.K., Voytek, M.A., Scott, D.T., Tobias, C.R., 2013. Hyporheic zone denitrification: Controls on effective reaction depth and contribution to whole-stream mass balance. Water Resources Research, v. 49, p. 6298-6316.

Evenson, E.J., Orndorff, R.C., Blome, C.D., Böhlke, J.K., Hershberger, P.K., Langenheim, V.E., McCabe, G.J., Morlock, S.E., Reeves, H.W., Verdin, J.P., Weyers, H.S., and Wood, T.M., 2013, U.S. Geological Survey water science strategy—Observing, understanding, predicting, and delivering water science to the nation. *U.S. Geological Survey Circular 1383-G*, Reston, 49 p.

Wieser, M.E., Holden, N., Coplen, T.B., Böhlke, J.K., Berglund, M. , Brand, W.A., De Bièvre, P., Gröning, M., Loss, R.D., Meija, J., Hirata, T., Prohaska, T., Schönberg, R., Singleton, G., Walczyk, T., Yoneda, S., and Zhu, X., 2013, Atomic weights of the elements 2011 (IUPAC Technical Report). *Pure and Applied Chemistry*, v. 85(5), p. 1047-1078.

Coupe, R.H., Goolsby, D.A., Battaglin, W.A., Böhlke, J.K., McMahon, P.B., and Kendall, C., 2013, Transport of nitrate in the Mississippi River in July-August 1999. *Annals of Environmental Science*, v. 7, p. 31-46.

Hatzinger, P.B., Böhlke, J.K., and Sturchio, N.C., 2013, Application of stable isotope ratio analysis for biodegradation monitoring in groundwater. *Current Opinion in Biotechnology*, v. 24(3), p. 542–549.
Harte, P.T., Ayotte, J.D., Hoffman, A., Révész, K.M., Belaval, M., Lamb, S., Böhlke, J.K., 2012. Heterogeneous redox conditions, arsenic mobility, and groundwater flow in a fractured-rock aquifer near a waste repository site in New Hampshire, USA. *Hydrogeology Journal*, 20: 1189–1201.
STAC [Chesapeake Bay Program Scientific and Technical Advisory Committee, S., contributing authors: E. Yagow, R.H., M. Ribaudo, K.G. Sellner, J.K. Böhlke, K. Staver, K. Boomer], 2013. Incorporating lag-times into the Chesapeake Bay Program. STAC Publ. #13-004, Edgewater, MD, 66 pp.
Jurgens, B.C., Böhlke, J.K., Eberts, S.M., 2012. TracerLPM (Version 1): An Excel® workbook for interpreting groundwater age distributions from environmental tracer data. *U.S. Geological Survey Techniques and Methods Report 4-F3*, 60 pp.
Evenson, E.J., Orndorff, R.C., Blome, C.D., Böhlke, J.K., Hershberger, P.K., Langenheim, V.E., McCabe, G.J., Morlock, S.E., Reeves, H.W., Verdin, J.P., Weyers, H.S., Wood, T.M., 2012. Strategic directions for U.S. Geological Survey water science, 2012–2022—Observing, understanding, predicting, and delivering water science to the Nation. *U.S. Geological Survey Open-File Report 2012-1066*, 42 pp.
Liao, L., Green, C.T., Bekins, B.A., Böhlke, J.K., 2012. Factors controlling nitrate fluxes in groundwater in agricultural areas. *Water Resources Research*, 48, W00L09, doi:10.1029/2011WR011008: 1-18.
Eberts, S.M., Böhlke, J.K., Kauffman, L.J., Jurgens, B.C., 2012. Comparison of particle-tracking and lumped-parameter age-distribution models for evaluating vulnerability of production wells to contamination. *Hydrogeology Journal*, 20: 263-282.
Hatzinger, P.B., Böhlke, J.K., Sturchio, N.C., Gu, B., 2011. Guidance manual for forensic analysis of perchlorate in groundwater using chlorine and oxygen isotopic analyses. *U.S. Department of Defense, Environmental Security Technology Certification Program (ESTCP Project ER-200509)*, 99 pp.
Sturchio, N.C., Böhlke, J.K., Gu, B., Hatzinger, P.B., Jackson, W.A., 2011. Isotopic tracing of perchlorate in the environment. Chapter 22. In: Baskaran, M. (Ed.), *Handbook of environmental isotope geochemistry*. Springer-Verlag, pp. 437-452.
Cozzarelli, I.M., Böhlke, J.K., Masoner, J., Breit, G.N., Lorah, M.M., Tuttle, M.L.W., Jaeschke, J.B., 2011. Biogeochemical evolution of a landfill leachate plume: Long-term process studies. *Ground Water*, 49: 663-687.
Holloway, J.M., Nordstrom, D.K., Böhlke, J.K., McCleskey, R.B., Ball, J.W., 2011. Ammonium in thermal waters of Yellowstone National Park: Processes affecting speciation and isotope fractionation. *Geochimica et Cosmochimica Acta*, 75: 4611-4636.
Holden, N.E., Coplen, T.B., Böhlke, J.K., Wieser, M.E., Singleton, G., Walczyk, T.R., Yoneda, S., Mahaffy, P.G., Tarbox, L.V., 2011. IUPAC Periodic Table of the Isotopes. *Chemistry International*, 33 (4): 20-21 and Supplement.
McMahon, P.B., Plummer, L.N., Böhlke, J.K., Shapiro, S.D., Hinkle, S.R., 2011. A comparison of recharge rates in aquifers of the United States based on groundwater-age data. *Hydrogeology Journal*, 19: 779-800.
Tobias, C.R., Böhlke, J.K., 2011. Biological and geochemical controls on diel dissolved inorganic carbon cycling in a low-order agricultural stream: implications for reach scales and beyond. *Chemical Geology*, 283: 18-30.
Gu, B., Böhlke, J.K., Sturchio, N.C., Hatzinger, P.B., Jackson, W.A., Beloso, A.D., Heraty, L.J., Bian, Y., Jiang, X., Brown, G.M., 2011. Applications of selective ion exchange for perchlorate removal, recovery, and environmental forensics. In: SenGupta, A.K. (Ed.), *Ion Exchange and Solvent Extraction: A Series of Advances*. Taylor & Francis, pp. 117-144.
Peters, N.E., Böhlke, J.K., Brooks, P.D., Burt, T.P., Gooseff, M.N., Hamilton, D.P., Mulholland, P.J., Roulet, N.T., Turner, J.V., 2011. Hydrology and biogeochemistry linkages. In: Wilderer, P. (Ed.), *International Water Association Treatise on water science, Volume 2 (Hydrology)*. Academic Press, Oxford, pp. 271-304.
Rao, B., Hatzinger, P.B., Böhlke, J.K., Sturchio, N.C., Andraski, B., Jackson, W.A., 2010. Natural chlorate in the environment: Application of a new IC-ESI/MS/MS method with a $Cl^{18}O_3^-$ internal standard. *Environmental Science & Technology*, 44: 8429-8434.
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Smith, R.L., Böhlke, J.K., Repert, D.A., Hart, C.P., 2009. Nitrification and denitrification in a midwestern stream containing high nitrate: In situ assessment using tracers in dome-shaped incubation chambers. *Biogeochemistry*, 96: 189-208.
Sturchio, N.C., Caffee, M.W., Beloso, A.D., Jr., Heraty, L.J., Böhlke, J.K., Hatzinger, P.B., Jackson, W.A., Gu, B., Heikoop, J.M., Dale, M., 2009. Chlorine-36 as a tracer of perchlorate origin. *Environmental Science and Technology*, 43: 6934-6938.
Miller, M.F., Gibson, J.M., Böhlke, J.K., 2009. Thermochemical generation of anomalous (mass-independent) oxygen isotope distributions – is carbonate pyrolysis the only example?, *Proceedings of the 4th International Symposium on Isotopomers (ISI2008)*, Tokyo, October 2008, Paper #ISI2008-4, p. 6-9 (on compact disk).
Böhlke, J.K., Hatzinger, P., Sturchio, N.C., Gu, B., Abbene, I.J., Mroczkowski, S.J., 2009. Atacama perchlorate as an agricultural contaminant in groundwater: Chemical and isotopic evidence from Long Island, New York, USA. *Environmental Science and Technology*, 43: 5619–5625.
de Laeter, J.R., Böhlke, J.K., De Bievre, P., Hidaka, H., Peiser, H.S., Rosman, K.J.R., Taylor, P.D.P., 2009. Errata to Atomic weights of the elements: Review 2000 (IUPAC Technical Report). (de Laeter, J.R., Böhlke, J.K., De

Bievre, P., Hidaka, H., Peiser, H.S., Rosman, K.J.R., and Taylor, P.D.P., Pure and Applied Chemistry, v. 75, p. 683-800). *Pure and Applied Chemistry*, 81: 1535-1536.
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