

DECEMBER 9, 2014



DR. JAMES G. MUELLER, PH.D. – PRESIDENT
PROVECTUS ENVIRONMENTAL PRODUCTS, INC.
2871 W. FOREST RD., STE 2 | FREEPORT, IL 61032 USA
PH: (815) 650-6650 | FAX: (815) 650-2232
MOB: (630) 309-1175
EMAIL: JIM.MUELLER@PROVTECTUSENV.COM

Dr. Mueller received a Bachelor of Science Degree in Plant & Soil Science, and a Master of Science Degree in Agronomy/Soil Microbiology from Southern Illinois University-Carbondale, in 1983 and 1985, respectively. He received his Doctor of Philosophy Degree in Soil Microbiology & Biochemistry with a minor in Microbial Genetics from Clemson University in 1988. His Post-Doctoral training (1988-1990) in the Microbial Ecology & Biotechnology Branch at the U.S. EPA Environmental Research Laboratory in Gulf Breeze, Florida focused on the biodegradation of chlorinated hydrocarbons (CHCs) and organic wood preservatives (PAHs and PCP), and the subsequent bioremediation of similarly impacted environments. In February 1990, Dr. Mueller formed SBP Technologies, Inc. (SBP) and joined the Research Staff as a Sr. Environmental Microbiologist and Chief Scientist to develop, field test and commercialize advanced bioremediation technologies and strategies focused on PAHs and CHCs. SBP was sold to The EICON Group, Inc. / Roy F. Weston, Inc. and in June 1997 Dr. Mueller joined the staff of URS Corporation (formerly DAMES & MOORE) as a Sr. Environmental Scientist and Coordinator of the international Advanced Remediation Technologies Program which he created. He joined the staff of Malcolm Pirnie, Inc. in 2002 for a one-year assignment to enhance their Industrial Remediation Services Program and help establish the newly formed office in Chicago, IL. In 2003, he created Adventus Americas Inc. in collaboration with the Canadian parent (Adventus Remediation Technologies, Inc., formerly W.R. Grace & Co) and established offices in the USA and Europe to facilitate the implementation of various environmental biotechnologies. Adventus was sold to FMC in November 2011 and Dr. Mueller became the Senior Technology Applications Manager for their newly formed Environmental Solutions Division. FMC combined their Environmental Services Division along with other assets and sold the businesses as PeroxyChem, LLC to One Equity Partners / JP Morgan Chase in March 2014. In April 2014 Dr. Mueller resigned from PeroxyChem to become President of Provectus Environmental Products, Inc. and commercialize genuine advances in ISCO and ISCR technologies with a focus on environmental applications of antimethanogenic compounds.

EDUCATION:

Northern Illinois University (1979-1980) - General Studies

Southern Illinois University (1980-1983)

Degree: B.S., Plant and Soil Science

Responsibilities: course work; student worker in soil microbiology laboratory.

Southern Illinois University (1983-1985)

Degree: M.Sc., Soil Microbiology & Biochemistry

Responsibilities: course work and independent research; teaching assistant, 1) introductory soils, 2) soil microbiology lecture, 3) soil microbiology laboratory.

Clemson University (1985-1988)

Degree: Ph.D., Soil Microbiology & Biochemistry (Agronomy & Soils)

Responsibilities: course work and independent research; instructor advanced soil microbiology lecture and laboratory.

Postdoctoral Studies:

U. S. Environmental Protection Agency (1988-1990)

Position: U.S. EPA Postdoctoral Research Microbiologist, Microbial Ecology and Biotechnology Branch.

Responsibilities: define creosote and PAH biodegradation processes occurring *in situ*; assess the feasibility of various bioremediation technologies for effective site restoration.

PROFESSIONAL EXPERIENCE:

Provectus Environmental Products, Inc. (April 17, 2014 – present)

Position: President

Responsibilities: Develop and commercialize internationally an acquired portfolio of environmental biotechnologies. Manage private equity investment of new start-up company; Direct strategic initiatives for growth, expansion and development. Coordinate remedial designs and implementation internationally; Coordinate and manage all element of new business operations; Direct corporate R&D; Responsible for P&L.

PeroxyChem, LLC - Environmental Solutions Division (March 1, 2014 – April 30, 2014)

Position: Senior Technology Applications Manager

Responsibilities: Establish business operations in Latin America with an initial focus on Brazil and Colombia. Direct strategic account initiatives focused on industrial clients. Coordinate remedial designs and implementation internationally.

FMC Corporation (November 2011 – March 1, 2014 = Sold to PeroxyChem, LLC)

Position: Senior Technology Applications Manager

Responsibilities: Establish business operations in Latin America with an initial focus on Brazil and Colombia. Direct strategic account initiatives focused on industrial clients. Coordinate remedial designs and implementation internationally.

ADVENTUS AMERICAS INC. (July, 2003 – November 11, 2011 = Sold to FMC)

Position: President / Director of Remedial Solutions and Strategies.

Responsibilities: Established business operations in the USA, South America and Europe for Adventus Remediation Technologies, Inc. (ART), a venture capital-based, Canadian company representing the former environmental biotechnology unit of W.R. Grace & Co. (GRA: NYSE). Direct new technology development, focused research and development, strategic alliances and international mergers / acquisitions. Adventus was sold to FMC Corporation in November, 2011.

MALCOLM PIRNIE, INC. (July 2002 – July 2003)

Position: Senior Consultant.

Responsibilities: One year special assignment to establish Midwest (Chicago) business operations for a 105-year old environmental wastewater firm headquartered in the NE USA. Successfully established profitable business operations and helped develop an office with 7 staff focused on environmental consulting and hazardous waste remediation - industrial applications.

URS/DAMES & MOORE (July 1997 – 2002)

Position: Senior Environmental Scientist and Coordinator of Advanced Remediation Technologies (ART) Program and Tier One Consultants Group

Responsibilities: Coordinate application of environmental biotechnology services for the Central and Eastern Divisions (including Latin America); develop new business based on application of advanced remedial technologies; implement by providing technical guidance, marketing support, and engineering and design assistance for the Company worldwide.

Labroides Dimidiatus, Inc. (LDD) - Israel (1999-present)

Position: Scientific Advisory Board

Responsibilities: Development of an environmental engineering and remediation company in Israel; focus on bioremediation operations.

Phytotech, Inc. (September, 1996 -1999)

Position: Scientific Advisory Board

Responsibilities: assist in the continued development, demonstration and commercialization of proprietary phytoremediation technologies by providing technical guidance, marketing support, and engineering/design assistance for full-scale field applications.

The EICON Group, Inc. (Environmental Infrastructure & Consultants) (Nov 1993 – July 1997)

Position: Chief Scientist, General Manager - Technology Applications Division
Responsibilities: SBP Technologies, Inc. (see below); Scientific advisor to the EICON Group which consisted of: 1) SBP Technologies, Inc., 2) SBP-NE, 3) Florida Groundwater Services, Inc., 4) Florida Remedial Services, Inc., 5) Westcott & Mapes, Inc., and 6) EICON Surveys, Inc.

Ver-Val Environmental Enterprises, Inc. (VVEE) (October 1993 - 1995)

Position: Co-founder, Senior Environmental Microbiologist
Responsibilities: Field bioremediation operations; U.S. DOD/DOE proposal writing (AFCEE, NAVFAC, Army Corp, etcetera).

University of West Florida - Center for Environmental Diagnostics and Bioremediation (Jan 1993-1995).

Position: Adjunct Research Assistant Professor

Clemson University (May 1992-present)

Position: Adjunct Assistant Professor of Microbiology
SBP Technologies, Inc. (formerly Southern Bio Products) (May 1990-July, 1997)
Position: Co-founder, General Manager & Senior Environmental Microbiologist.

Technical Highlights:

- Two Level Three Science and Technology Achievement Awards from U.S. EPA, 1995.
- Lead Project Scientist for U.S.DOD Technology Demonstration/Validation Project (multiple year, multiple site SERDP award of \$2.45 million)
- Lead Project Scientist for 2 U.S. EPA SITE Demonstration Projects
- Acting Team Leader for Biodegradation Research, Microbial Ecology and Biotechnology Branch, U.S. EPA Environmental Research Laboratory at Gulf Breeze, FL (1992).
- Coordinate oil spill bioremediation research for U.S. EPA and SBP (1989-1991).
- Design and conduct of bench-, pilot-, and full-scale remediation projects; biotreatability studies.
- Develop protocols for evaluation of oil spill bioremediation products when applied to land and open waters (U.S. EPA, NETAC).

Corporate Development Highlights:

- Liaison and Project Leader for International Technology Development Programs with private sector, U.S. and European Corporations and Governments.
- Achieved profitability during first or second year of commercial operations of all startup endeavors.
- Increased revenue from at least 50% to >500% annually for every commercial endeavor.
- Identified major acquisition targets and procured licenses or agreements for multiple (11) international joint business partners offering complementary technology and services.
- Identified and procured International Teaming Partners for joint business development and international technology applications.

Research Interests:

Basic and applied aspects of biological detoxification of pesticides and hazardous wastes; Isolation, characterization and management of native degraders as well as the design and construction of organisms potentially capable of more efficiently removing targeted compounds from contaminated environments; Developing protocol for proper evaluation and effective implementation of field-scale bioremediation technologies; Design, implementation and evaluation of advanced remediation technologies for laboratory-, pilot- and full-scale operations.

Honor Societies:

- Sigma Xi (not active)
- Gamma Sigma Delta (not active)

Certifications:

- OSHA Hazardous Waste Operations and Emergency Response Standard [29 CFR 1910.120(e)] - 40 hour HAZWOPER #CIH291032, 1991.
- 8-hour HAZWOPER refreshers
- Administrative Hearing and Trial Training Course

Recognitions:

- Two Scientific and Technological Achievement Awards, Level III recognition in the category of Control Systems and Technologies. U.S. EPA Office of Research and Development, Washington, D.C., 1995.
- Nominated for the State of Arkansas Scientific Advisory Board, 1994 -1996.
- Scientific and Technological Achievement Award, Level I (highest level; \$5000.00), recognition in the category of Transport and Fate. U.S. EPA Office of Research and Development, Washington, D.C., 1990.
- Outstanding Service Award, Alaskan Oil Spill Bioremediation Efforts, U.S. EPA, Gulf Breeze Environmental Research Laboratory, 1990.
- Special Recognition Award for Excellence in Biodegradation Research, U.S. EPA, Gulf Breeze Environmental Research Laboratory, 1989.
- First Place, Oral Research Presentation Graduate Student Competition, Weed Science Society of America, 1988.
- Third Place, Oral Research Presentation Graduate Student Competition, American Society of Agronomy, 1986.
- Graduate Student Representative to the College of Agricultural Sciences Research Committee, Clemson (1987-1988).
- Graduate Student Representative to the College of Agriculture Advisory Board, SIU-C (1984-1985).

Professional Affiliations:

- American Society of Agronomy (inactive)

- American Society for Microbiology
- National Groundwater Association
- Soil Science Society of America (inactive)
- Weed Science Society of America (inactive)

Activities:

- Reviewer, Environmental Science & Technology (1991 - 1999)
- Reviewer, Applied Environmental Microbiology (1992 - 2005)
- Reviewer, Kluwer Academic Publishers (1995-2002)
- Editorial Board, Antonio Van Leeuwenhoek, January 1995-2000
- Scientific Advisory Board, Phytotech, Inc., Princeton, NJ 1996-1998
- Scientific Advisory Board, *Labroides Dimidiatus* Environmental (LDD), Israel Editorial Board, Applied & Environmental Microbiology, January 1999-2004
- Review Committee – Battelle's *In Situ* and On-Site Bioremediation Symposium, 1999
- Review Committee – Battelle's *In Situ* and On-Site Bioremediation Symposium, 2001
- Review Committee – Battelle's *In Situ* and On-Site Bioremediation Symposium, 2002
- Review Committee/Session Chair – Battelle's *In Situ* and On-Site Bioremediation Symposium, 2003
- Review Committee/Session Chair – Battelle's *In Situ* and On-Site Bioremediation Symposium, 2004
- Review Committee/Session Chair – Battelle's *In Situ* and On-Site Bioremediation Symposium, 2005
- Review Committee/Session Chair – Battelle's *In Situ* and On-Site Bioremediation Symposium, 2006
- Review Committee/Session Chair – Battelle's *In Situ* and On-Site Bioremediation Symposium, 2007
- Review Committee/Session Chair – Battelle's *In Situ* and On-Site Bioremediation Symposium, 2008
- Review Committee/Session Chair – Battelle's *In Situ* and On-Site Bioremediation Symposium, 2009
- Review Committee/Session Chair – Battelle's *In Situ* and On-Site Bioremediation Symposium, 2010
- Review Committee/Session Chair – Battelle's *In Situ* and On-Site Bioremediation Symposium, 2011
- Review Committee/Session Chair – Battelle's *In Situ* and On-Site Bioremediation Symposium, 2012
- Review Committee – 21st Annual International Conference on Soils, Sediments and Water (UMASS Symposium), 2005
- Review Committee/Session Chair – Oxidation and Reduction Technologies (ORT's-1) for *In Situ* Treatment of Soils and Water, 2004.
- Review Committee/Session Chair – Oxidation and Reduction Technologies (ORT's-2) for *In Situ* Treatment of Soils and Water, 2005

- Review Committee/Session Chair – Challenges in Site Remediation (CSR-1) for *In Situ* Treatment of Soils and Water, 2005

Master's Thesis:

Mueller, J.G. 1985. Enhancement of soybean nodulation via multiple antibiotic resistant mutants of *Rhizobium japonicum* strain 110. Master Thesis. Southern Illinois University, Carbondale, Illinois. 59 pages.

Doctoral Dissertation:

Mueller, J.G. 1988. Biodegradation of carbamothioate herbicides. Doctoral Dissertation. Clemson University, Clemson, South Carolina. 111 pages.

Refereed Publications:

Mueller, J.G., H.D. Skipper, E.R. Shipe, L.W. Grimes and S.C. Wagner. 1988. Intrinsic antibiotic resistance in *Bradyrhizobium japonicum*. *Soil Biol. Biochem.* 20:879-882.

Mueller, J.G., H.D. Skipper and E.L. Kline. 1988. Loss of butylate-utilizing ability by a *Flavobacterium* sp.. *Pestic. Biochem. Phys.* 32:189-196.

Mueller, J.G., H.D. Skipper and E.L. Kline. 1989. Bacterial stimulation by carbamothioate herbicides. *Weed Sci.* 37:424-427.

Mueller, J.G., P.J. Chapman and P.H. Pritchard. 1989. Creosote-contaminated sites: Their potential for bioremediation. *Environ. Sci. Technol.* 23:1197-1201.

Mueller, J.G., P.J. Chapman and P.H. Pritchard. 1989. Action of a fluoranthene-utilizing bacterial community on polycyclic aromatic hydrocarbon components of creosote. *Appl. Environ. Microbiol.* 55:3085-3090. *1989 U.S. EPA Scientific and Technological Achievement Award, Level 1.*

Mueller, J.G., P.J. Chapman, B.O. Blattmann and P.H. Pritchard. 1990. Isolation and characterization of a fluoranthene-utilizing strain of *Pseudomonas paucimobilis*. *Appl. Environ. Microbiol.* 56:1079-1086.

Mueller, J.G., S.E. Lantz, B.O. Blattmann and P.J. Chapman. 1990. Alternative biological treatment processes for remediation of creosote-contaminated materials: bench-scale treatability studies. EPA/600/9-90/049. 89 p.

Mueller, J.G., S.E. Lantz, B.O. Blattmann and P.J. Chapman. 1991. Bench-scale evaluation of alternative biological treatment processes for the remediation of pentachlorophenol- and creosote-contaminated materials: solid-phase bioremediation. *Environ. Sci. Technol.* 25:1045-1055.

Mueller, J.G., S.E. Lantz, B.O. Blattmann and P.J. Chapman. 1991. Bench-scale evaluation of alternative biological treatment processes for the remediation of pentachlorophenol- and creosote-contaminated materials: slurry-phase bioremediation. *Environ. Sci. Technol.* 25:1055-1061.

Mueller, J.G., D.P. Middaugh, S.E. Lantz and P.J. Chapman. 1991. Biodegradation of creosote and pentachlorophenol in groundwater: chemical and biological assessment. *Appl. Environ. Microbiol.* 57:1277-1285.

Middaugh, D.P., J.G. Mueller, R.L. Thomas, S.E. Lantz, M.J.Hemmer, G.T. Brooks and P.J. Chapman. 1991. Detoxification of creosote- and PCP-contaminated groundwater by physical extraction: chemical and biological assessment. *Arch. Environ. Contam. Toxicol.* 21:233-244.

Mueller, J.G., S.M. Resnick, M.E. Shelton, and P.H. Pritchard. 1992. Effect of inoculation on the biodegradation of weathered Prudhoe Bay crude oil. *J. Indust. Microbiol.* 10:95-105.

Middaugh, D.P., S.M. Resnick, S.E. Lantz, C.S. Heard and J.G. Mueller. 1993. Toxicological assessment of biodegraded pentachlorophenol: Microtox and fish embryos. *Arch. Environ. Contam. Toxicol.* 24:165-172.

Mueller, J.G., S.E. Lantz, R.J. Colvin, D. Ross, D.P. Middaugh and P.H. Pritchard. 1993. Strategy using bioreactors and specially selected microorganisms for bioremediation of groundwater contaminated with creosote and pentachlorophenol. *Environ. Sci. Technol.* 27:691-698.

Mueller, J.G., J.-E. Lin, S.E. Lantz, and P.H. Pritchard. 1993. Recent Developments in Cleanup Technologies: Implementing Innovative Bioremediation Technologies. *Remediation/ Summer Issue* 369-381.

Pritchard, P.H., J.G. Mueller, J.C. Rogers, F.V. Kremer and J.A. Glaser. 1993. Oil spill bioremediation: Experiences, lessons and results from the *Exxon Valdez* oil spill in Alaska. *Biodegradation* 3:315-335.

Middaugh, D.P., S.E. Lantz, C.S. Heard and J.G. Mueller. 1994. Field-scale testing of a two-stage bioreactor for removal of creosote and pentachlorophenol from ground water: chemical and biological assessment. *Arch. Environ. Contam. Toxicol.* 26:320-328. *1995 U.S. EPA Scientific and Technological Achievement Award, Level III.*

Middaugh, D.P., R. Thomas, C.S. Heard, S.E. Lantz and J.G. Mueller. 1994. Field-scale testing of a hyperfiltration unit for removal of creosote and pentachlorophenol from ground water: chemical and biological assessment. *Arch. Environ. Contam. Toxicol.* 26:309-319. *1995 U.S. EPA Scientific and Technological Achievement Award, Level III.*

Mueller, J.G., R. Devereux, D.S. Santavy, S.E. Lantz, S. Willis and P.H. Pritchard. 1997. Phylogenetic and physiological comparisons of PAH-degrading microorganisms from geographically diverse soils. *Antonie Van Leeuwenhoek*. 71:329-343.

Sharak-Genthner, B.R., S.E. Lantz and J.G. Mueller. 1997. Persistence of polycyclic aromatic hydrocarbon components of creosote under anaerobic enrichment conditions. *Arch. Environ. Contamin. Toxicol.* 32:99-105.

Borchert, S.M., F.S. Lakhwala and J.G. Mueller. 1997. UVB Technology invigorates microbes at a Superfund Site. *Soil & Groundwater Cleanup*. February/March Issue: pages 6-10.

Lantz, S.E., M.T. Montgomery, W.W. Schultz, P.H. Pritchard, B.J. Spargo, and J.G. Mueller. 1997. Constituents of an organic wood preservative that inhibit the fluoranthene-degrading ability of *Sphingomonas paucimobilis* strain EPA505. *Environ. Sci. Technol.* 31: 3573-3580.

Kelley, C.A., R.B. Coffin, and J.G. Mueller. 1998. Stable Isotope Analyses – An Innovative Technique to Monitor Biodegradation of Petroleum Hydrocarbons. *Geotechnical News* September: 20-24.

Lakhwala, F., R.J. Desrosiers and J.G. Mueller. 1998. Demonstration of a microbiologically enhanced vertical groundwater circulation well technology at a Superfund site. *Groundwater Monitoring and Remediation*. Spring: 97-106.

Kelley, C.A., R.B. Coffin, and J.G. Mueller. 1998. Stable Isotope Analyses – An innovative technique to monitor biodegradation of petroleum hydrocarbons. *GeoTechnical News*, September, 1998, Pages 20-24.

Hammer, B.T., C.A. Kelley, R. B. Coffin, L.A. Cifuentes, J. G. Mueller. 1998. $\delta^{13}C$ values of polycyclic aromatic hydrocarbons collected from two creosote-contaminated sites. *Chem. Geol.* 152: 43-58.

Trust, B.A., D.L. Hesse, R.B. Coffin, J.G. Mueller, and L.A. Cifuentes. 1999. Tracing biodegradation with stable carbon isotope measurements of respired CO_2 . *Bioremediation Journal*.

Mueller, J., M. Ohr, B. Wardwell, D. and F. Lakhwala. 1999. mGCW Technology for Remediation of Groundwater Containing Chlorinated Hydrocarbons and Heavy Metals: I – *In Situ* Hydraulics. *Soil & Groundwater Cleanup* Oct/Nov 1999: pages 8-14.

Ho, Y-F., M. Jackson, Y-Yang, J.G. Mueller, and P.H. Pritchard. 2000. Characterization of Fluoranthene- and Pyrene-Degrading bacteria isolated from PAH-Contaminated Soils and Sediments and Comparison of Several *Sphingomonas* Sp. *J. Ind. Microbiol. Biotechnol.* 24:100-112.

Story, S.P., J.D. Kline, S.H. Parker, T-R J. Tzeng, J. Mueller and E. Kline. 2001. Identification of Intermediate metabolites of fluoranthene and phenanthrene degradation by three classes of TN5 mutants of *S. paucimobilis* EPA505 deficient in polycyclic aromatic hydrocarbon utilization. *Gene* 378-393.

Story, S. P.; Parker, S. H.; Kline, J. D.; Tzeng, T.-R. J.; Mueller, J. G.; Kline, E. L. Identification of four structural genes and two putative promoters necessary for utilization of naphthalene, phenanthrene, and fluoranthene by *Sphingomonas paucimobilis* var. EPA 505. *Gene* 2000, 260, 155-169.

Boyd, T. J., Montgomery, M. T., Spargo, B. J., Smith, D.C., Coffin, R. B., Kelley, C. A., and J. G. Mueller. 2001. Effects of oxygenation on hydrocarbon biodegradation in a hypoxic environment. *Bioremediation*. J.5(2):145-157.

Montgomery, M. T., Spargo, B. J., Mueller, J. G., Coffin, R. B., Smith, D. C., and T. J. Boyd. 2002. Bacterial production stimulated across the zone of influence of a groundwater circulation well in a BTEX-contaminated aquifer. *Ground Water Monitoring and Remediation*. Summer 2002:144-150.

Seech, A., J. Mueller. 2006. A Tale of Two Sites – Treatment of Explosives. *Pollution and Engineering News*, April 2006. Pages 30-34.

Mueller, J., J. Moreno and E. Dmitrovic. 2006. *In situ* biogeochemical stabilization of creosote/pentachlorophenol NAPLs using catalyzed and buffered permanganate: pilot and full scale application. *Land Contamination & Reclamation*, Volume 14, Number 2, pp. 625-629 (5).

Seech, A. and J. Mueller. 2007. Pesticide Termination: Remediation Strategies. *Environmental Protection*, May 2007

Mueller, J. J. Moreno, M. Dingens and P. Vella. 2007. Stabilizing the NAPL Threat: In Situ Biogeochemical Stabilization and Flux Reduction using Catalyzed Permanganate. *Pollution Engineering*, March 2007.

Dolfing, J. M. van Eekert, A. Seech, J. Vogan and J. Mueller. 2008. *In Situ* Chemical Reduction (ISCR) Technologies – Significance of Low Eh Reactions. *International Journal of Soil & Sediment Contamination* Volume 17, Issue 1, Pages 63-74.

Mueller, J. and R. Brown. 2008. Oxidation or Reduction – How to Decide? *Pollution Engineering News*, April 2008, pages 51-54.

Mueller, J. 2008. How To Bioremediate Chlorinated Solvents without Accumulating Metabolites. *Pollution Engineering News*, November 2008, page 51.

Peale, J.G., D., E. Bakkum, F. Lakhwala, J. Mueller and J. Molin. 2008. TCE-Plume Remediation via ISCR-Enhanced Bioremediation utilizing EHC and KB-1. Remediation Journal, Autumn 2008, pages 19-31.

Brown, R., J. Mueller, A. Seech, J. Henderson, J. Wilson. 2009. Interactions Between Biological and Abiotic Pathways in the Reduction of Chlorinated Solvents. Remediation Journal Winter 2009, pages 9-20.

Mueller, J., A. Przepiora, J. Molin, J. Valkenburg and L. Kinsman. 2010. Surprises from the Soil: Planning for the Unexpected. Pollution Engineering News, March 2010, pages.16-19.

Molin, J., J. Mueller, D. Hanson, T. Fowler and T. Skrotzki. 2010. *In situ* remediation of PCE at a site with clayey lithology and a significant smear zone. Remediation Journal, Vol 20 Issue 3, Pages 51 – 62.

Peale, J.D.G., J. Mueller and J. Molin. 2010. Successful ISCR-enhanced bioremediation of a TCE DNAPL source utilizing EHC® and KB-1®. Remediation Journal, Vol 20 Issue 3, Pages 63 – 81.

Mueller, J. 2011. The generation of acetones and ketones – a positive process? Pollution Engineering News, September, 2011. Pages.32-37.

Mueller, M. and J. Mueller. 2011. Meeting NIMBY (How close is too close)? Pollution and Engineering News, November, 2011. Pages 24-27.

Fowler, T., B. Thompson and J. Mueller. 2011. Acetone and 2-Butanone Creation Associated with Biological and Chemical Remediation of Environmental Contamination. Remediation Journal, Winter 2011, pages 9-28.

Mueller, J., A. Karachalios and T. Fowler. 2014. Controlling Methane Production during ERD and ISCR Applications. Pollution Engineering News, October pp 24-29.

Publications Submitted or in Preparation:

Coffin, R.B., M.T. Montgomery, C.A. Kelley, B.T. Hammer, L.A. Cifuentes, and J.G. Mueller. Nutrient cycling during *in situ* bioremediation using groundwater circulation well technology. Appl. Environ. Microbiol.

Jackson, M.M., P.H. Pritchard, Y. Yang, J.G. Mueller, and M.P. Shiaris. Identification of fluoranthene metabolites and its proposed oxidative pathway by *Sphingomonas* sp. strain CO6. Appl. Environ. Biotechnol.

Book Chapters:

Skipper, H.D., J.G. Mueller, V.L. Ward and S.C. Wagner. 1986. Microbial degradation of herbicides. *In* N.D. Camper (ed.), Research Methods in Weed Science, 3rd Ed. p. 245-267.

Pritchard, P.H., J.G. Mueller, J.C. Rogers, F.V. Kremer and J.A. Glaser. 1993. Oil spill bioremediation: Experiences, lessons and results from the *Exxon Valdez* oil spill in Alaska. In E. Rosenberg (ed.) Microorganisms to Combat Pollution. Kluwer Academic Publishers, Boston. Pages 191-230.

Mueller, J.G., S.E. Lantz, R. Devereux, J.D. Berg and P.H. Pritchard. 1994. Studies on the microbial ecology of PAH biodegradation. In R. Hinchee (ed.) In Situ and On-Site Bioreclamation. Lewis Publishers, Boca Raton, FL. Pages 218-230.

Pritchard, P.H., J.G. Mueller, S.E. Lantz and D.L. Santavy. 1995. The potential importance of biodiversity in environmental biotechnology applications: Bioremediation of PAH-contaminated soils and sediments. In D. Allsop *et al* (eds), Microbial Diversity and Ecosystem Function. Chapter 9 pages 161-182. CAB International Publishers. Invited Paper.

Mueller, J.G., M.D. Tischuk, M.D. Brouman, and G.E. Van de Steeg. 1995. Application of *in situ* bioremediation strategies to soil and ground water containing organic wood preservatives. In Battelle's Third International Symposium on In Situ and On-Site Bioreclamation. April 24-27, 1995. San Diego, CA 3(2):571-579.

Kelley, C.A., R.B. Coffin, L.A. Cifuentes, S.E. Lantz and J.G. Mueller. 1995. The use of GC/C/IRMS coupled with GC/MS to monitor biodegradation of petroleum hydrocarbons. In Battelle's Third International Symposium on In Situ and On-Site Bioreclamation. April 24-27, 1995. San Diego, CA.

Lakhwala, F., R. Desrosier, E. Klingel, W. Langley and J.G. Mueller. 1995. *In situ* treatment of TCE contaminated ground water using an integrated bioreactor in a groundwater circulation well. In Battelle's Third International Symposium on In Situ and On-Site Bioreclamation. April 24-27, 1995. San Diego, CA.

Trust, B.A., J.G. Mueller, R.B. Coffin and L.A. Cifuentes. 1995. The biodegradation of fluoranthene by *Sphingomonas paucimobilis* as monitored by stable isotope ratio analysis. In Battelle's Third International Symposium on In Situ and On-Site Bioreclamation. April 24-27, 1995. San Diego, CA 3(5):233-239.

Lantz, S.E., J-E Lin, J.G. Mueller and Pritchard*, P.H.. 1995. Effects of surfactants on fluoranthene mineralization by *Sphingomonas paucimobilis* strain EPA505. In Battelle's Third International Symposium on In Situ and On-Site Bioreclamation. April 24-27, 1995. San Diego, CA 3(8):7-14.

Pritchard, P.H., J-E Lin, S.E. Lantz, J.G. Mueller and W.W. Schultz. 1995. The use of encapsulation/immobilization techniques for bioaugmentation procedures in the bioremediation of high molecular weight PAHs. In Battelle's Third International Symposium on In Situ and On-Site Bioreclamation. April 24-27, 1995. San Diego, CA 3(3):211-220.

Mueller, J.G., C.E. Cerniglia and P.H. Pritchard. 1996. Bioremediation of Environments Contaminated by Polycyclic Aromatic Hydrocarbons. *In* R. Crawford and D. Crawford (eds), Bioremediation: Principles and Applications. Chapter 5, Pages 125-194. Cambridge University Press.

Borchert, S., R. Desrosiers, F. Lakhwala, and J. Mueller. 1996. *In situ* bioremediation using the UVB technology: A case study. *In* Kostecki, P., Calabreses, E., and Bonazountas, M. (Eds), Contaminated Soils. Volume 2, Chapter 30, pp 369-378. Amherst Scientific Publishers, Amherst, MA.

Spargo, B.J. (ed) "*In Situ* Bioremediation and Efficacy Monitoring". US NAVY, Naval Research Laboratory, Washington D.C. NRL/PU/6115-96-317. October 1996. 323 pages.

Mueller, J., E. Klingel, M.D. Brouman, R.B. Coffin, L.A. Cifuentes, W.W. Schultz, and B.J. Spargo. 1996. Field Demonstration of *In Situ* Chemical Containment Technologies Case Study: Naval Battalion Command, Port Hueneme, CA. *In* Spargo, B.J. (ed) "*In Situ* Bioremediation and Efficacy Monitoring". US NAVY, Naval Research Laboratory, Washington D.C. NRL/PU/6115-96-317. October 1996. Pages 3-12.

Mueller, J., E. Klingel, M.D. Brouman, R.B. Coffin, L.A. Cifuentes, W.W. Schultz, and B.J. Spargo. 1996. Field Demonstration of *In Situ* Chemical Containment Technology Case Study: Cabot Carbon/Kopper's Superfund Site, Gainesville, FL. *In* Spargo, B.J. (ed) "*In Situ* Bioremediation and Efficacy Monitoring". US NAVY, Naval Research Laboratory, Washington D.C. NRL/PU/6115-96-317. October 1996. Pages 13-32.

Borchert, S., J. Mueller, F. Lakhawa, S. Lantz, W.W. Schultz, W. Langley, E. Klingel, B.J. Spargo, T. J. Boyd, M.T. Montgomery, J.P. Connolly, L.A. Cifuentes, L.A. Roelke, B.A. Trust, and C.A. Kelley. 1996. Mesocosm Studies Simulating Processes Around the *In Situ* Groundwater Circulation Well Bioremediation Technology. *In* Spargo, B.J. (ed) "*In Situ* Bioremediation and Efficacy Monitoring". US NAVY, Naval Research Laboratory, Washington D.C. NRL/PU/6115-96-317. October 1996. Pages 33-50.

Trust, B., D.H. Scerno, R.B. Coffin, L.A. Cifuentes, and J.G. Mueller. 1996. Tracing Biodegradation with Stable Carbon Isotope Measurements of Respired CO₂. *In* Spargo, B.J. (ed) "*In Situ* Bioremediation and Efficacy Monitoring". US NAVY, Naval Research Laboratory, Washington D.C. NRL/PU/6115-96-317. October 1996. Pages 51-56.

Montgomery, M., T.J. Boyd, B.J. Spargo, J.G. Mueller, R.B. Coffin, and D.C. Smith. 1996. Bacterial Productivity in A BTEX-contaminated Aquifer: A Comparison of ³H-Leucine And ³H-Thymidine Incorporation Methods. *In* Spargo, B.J. (ed) "*In Situ* Bioremediation and Efficacy Monitoring". US NAVY, Naval Research Laboratory, Washington D.C. NRL/PU/6115-96-317. October 1996. Pages 123-132.

Trust, B., C.A. Kelley, R.B. Coffin, L.A. Cifuentes, and J.G. Mueller 1996. ^{13}C Values of Polycyclic Aromatic Hydrocarbons Collected from Two Creosote-Impacted Sites. *In* Spargo, B.J. (ed) "In Situ Bioremediation and Efficacy Monitoring". US NAVY, Naval Research Laboratory, Washington D.C. NRL/PU/6115-96-317. October 1996. Pages 179-194.

Coffin, R., M.T. Montgomery, C.A. Kelley, B.A. Trust, J.G. Mueller, and L.A. Cifuentes. 1996. Analyses of Carbon and Nutrient Concentrations for Optimization of Groundwater Circulation Systems Used in Bioremediation of Organic Contaminants. *In* Spargo, B.J. (ed) "In Situ Bioremediation and Efficacy Monitoring". US NAVY, Naval Research Laboratory, Washington D.C. NRL/PU/6115-96-317. October 1996. Pages 207-222.

Montgomery, M., T.J. Boyd, B.J. Spargo, J.G. Mueller, and R.B. Coffin. 1996. Bacterial Production Stimulated Across the Zone of Influence of a Groundwater Circulation Well in a Creosote-contaminated Aquifer. *In* Spargo, B.J. (ed) "In Situ Bioremediation and Efficacy Monitoring". US NAVY, Naval Research Laboratory, Washington D.C. NRL/PU/6115-96-317. October 1996. Pages 223-234.

Montgomery, M., T.J. Boyd, B.J. Spargo, J.G. Mueller, R.B. Coffin, and D.C. Smith. 1996. Bacterial Production Stimulated Across the Zone of Influence of a Groundwater Circulation Well in a BTEX-contaminated Aquifer. *In* Spargo, B.J. (ed) "In Situ Bioremediation and Efficacy Monitoring". US NAVY, Naval Research Laboratory, Washington D.C. NRL/PU/6115-96-317. October 1996. Pages 235-242.

Lakhwala, F., J.G. Mueller, C.S. Heard, M.D. Brouman, and T. Aley. 1996. Validation of Groundwater Circulation Cell Models Using Fluorescent Dye Tracing and Pressure Transducers. *In* Spargo, B.J. (ed) "In Situ Bioremediation and Efficacy Monitoring". US NAVY, Naval Research Laboratory, Washington D.C. NRL/PU/6115-96-317. October 1996. Pages 259-270.

Pritchard, P.H., J. Jones-Meehan, W. Straube, J.G. Mueller. 1999. Bioremediation of High Molecular Weight PAHS: Application of Techniques in Bioaugmentation and Bioavailability Enhancement. *In* Fass *et al.* (Ed), *Novel Approaches for Bioremediation of Organic Pollution*. Kluwer Academic/ Plenum Publishers, New York. Pages 157-170.

Mueller, J., P.H. Pritchard, M. Tischuk, M. Brouman, P. Swallow, M. Tabe and J. Smith. 1999. Biostabilization Technology for Treating PAH- and PCP-Impacted Soil to Environmentally Acceptable Endpoints: Ten-Year Field Assessment. *In* Fass *et al.* (Ed), *Novel Approaches for Bioremediation of Organic Pollution*. Kluwer Academic/ Plenum Publishers, New York. Pages 255-272.

Spargo, B.J. and J.G. Mueller. 2000. Advanced Remediation Technologies and Management Strategies for Sites Impacted by Hydrocarbon Contaminants. "Handbook of Solvents". ChemTec Publishing. Pages 1617-1630.

Symposia/Workshop Proceedings (*speaker):

Mueller*, J.G., P.J. Chapman, B.O. Blattmann and P.H. Pritchard. 1989. Primary utilization of fluoranthene by *Pseudomonas paucimobilis* strain EPA505. In Proceedings 2nd International Symposium on Gas, Oil, Coal and Environmental Biotechnology, Institute of Gas Technology and Gas Research Institute, Dec. 11-13, New Orleans, LA. Invited Speaker

Mueller*, J.G., P.J. Chapman and P.H. Pritchard. 1990. Aerobic degradation of polycyclic aromatic hydrocarbons (PAHs). In Proceedings U.S. Environmental Protection Agency's Symposium on Bioremediation of Hazardous Wastes: U.S. EPA's Biosystems Technology Development Program. EPA/600/9-90/041. Pages 23-24. Invited Speaker.

Mueller*, J.G., P.J. Chapman, R. Thomas, E.L. Kline, S.E. Lantz and P.H. Pritchard. 1990. Development of a sequential treatment system for creosote-contaminated soil and water: bench studies. In Proceedings U.S. Environmental Protection Agency's Symposium on Bioremediation of Hazardous Wastes: U.S. EPA's Biosystems Technology Development Program. EPA/600/9-90/041. Pages 42-45. Invited Speaker.

Mueller*, J.G., P.J. Chapman, S.E. Lantz, R.E. Traver and P.H. Pritchard. 1990. Multi-phasic biological treatment strategy for creosote-contaminated sites. In "Bioremediation: Field Experience", 90th Annual Meeting American Society for Microbiology, May 13-17, Anaheim, CA. Page xxix. Invited Speaker.

Mueller, J.G., P.J. Chapman, S.E. Lantz, P.H. Pritchard (and J.E. Rogers*). 1990. Recent studies on the microbial degradation of PAHs and their relevance to bioremediation. In Proceedings U.S. Environmental Protection Agency's Workshop on "Biological Remediation of Contaminated Sediments, with Special Emphasis on the Great Lakes" July 17-19, Manitowoc, WI.

Mueller, J.G., S.E. Lantz, R. Thomas, E.L. Kline, P.J. Chapman, D.P. Middaugh, P.H. Pritchard*, R. Colvin, A. Rozich and D. Ross. 1991. Aerobic biodegradation of creosote. In Proceedings U.S. Environmental Protection Agency's Symposium on Bioremediation of Hazardous Wastes: U.S. EPA's Biosystems Technology Development Program. EPA/600/9-91/xxx. Invited Speaker.

Mueller*, J.G., S.E. Lantz, D.P. Middaugh, and P.H. Pritchard. 1992. Field demonstration of innovative bioremediation strategies for PCP and creosote. In Proceedings U.S. Environmental Protection Agency's Symposium on Bioremediation of Hazardous Wastes: U.S. EPA's Biosystems Technology Development Program, May 5-6, Chicago, IL EPA/600/R-92/126, pages 11-14. Invited Speaker.

Drahos*, D.J., J.G. Mueller, S.E. Lantz, C.S. Heard, D.P. Middaugh, and P.H. Pritchard. 1992. Microbial degradation of high molecular weight polyaromatic hydrocarbons at the American Creosote Works Superfund Site, Pensacola, Florida, USA. Proceedings of Second International

Symposium on The Biosafety Results of Field Tests of Genetically Modified Plants and Microorganisms, May 11-14, Goslar, Germany.

Mueller*, J.G., R.J. Colvin, C.S. Heard, S.E. Lantz, D.P. Middaugh, Derek Ross and P.H. Pritchard. 1992. Field Demonstration of Innovative Bioremediation Strategies for PCP and Creosote. In CAWPRC *In Situ* Bioremediation Symposium Sept. 20-24, Niagara-on-the-Lake, Canada. Pages 230-231. Invited Speaker.

Mueller*, J.G., S.E. Lantz, D.P. Middaugh, R. Thomas and P.H. Pritchard. 1992. Remediation of ground water contaminated with organic wood preservatives using physical and biological treatment technologies. In Proceedings, International Symposium on Environmental Contamination in Central and Eastern Europe. October 12-16, 1992. Budapest, Hungary. 5 pages. Invited Speaker.

Berg*, J.D., T.E. Bennett, B.S. Nesgard and J.G. Mueller. 1992. Treatment of creosote-contaminated soil by soil washing and slurry-phase bioreactors. In Proceedings, International Symposium on Environmental Contamination in Central and Eastern Europe. October 12-16, 1992. Budapest, Hungary. 5 pages.

Mueller*, J.G., S.E. Lantz, D.P. Middaugh, R. Thomas and P.H. Pritchard. 1992. Remediation of ground water contaminated with organic wood preservatives using physical and biological treatment technologies. In Fourth Forum on Innovative Hazardous Waste Treatment Technologies: Domestic and International. November 17-19, 1992, San Francisco, CA. Invited Speaker.

Mueller*, J.G., J.-E. Lin, S.E. Lantz and P.H. Pritchard. 1993. Innovative Methods for Implementing Bioremediation Technology. In Proceedings, HazMat Central 1993, Rosemont/ O'Hare Exposition Center, March 9-11, 1993, Rosemont, Illinois. 13 pages. Invited Speaker.

Mueller*, J.G., J.-E. Lin, S.E. Lantz and P.H. Pritchard. 1993. Advances in the use of microbial inoculants for the bioremediation of creosote-contaminated sites. Am. Instit. Chem. Engineers Symposium on Bioremediation, March 28 - April 1, 1993, Houston, Texas. Paper 97b. Invited Speaker.

Mueller*, J.G., S.E. Lantz, R. Devereux, J.D. Berg and P.H. Pritchard. 1993. Studies on the microbial ecology of PAH biodegradation. Second International Symposium on *in situ* and on-site bioreclamation. April 5-8, 1993. San Diego, CA.

Mueller*, J.G., J.-E. Lin, S.E. Lantz and P.H. Pritchard. 1993. Innovative bioremediation strategies for creosote: characterization and use of inocula. In Symposium on Bioremediation of Hazardous Wastes: Research, Development and Field Evaluations. EPA/600/R-93/054. May, 1993. Pages 47-50. Invited Speaker.

Mueller*, J.G., R. Devereux, D.L. Santavy, S.E. Lantz and P.H. Pritchard. 1993. Innovative bioremediation strategies for creosote: geographic diversity of PAH-degrading abilities at wood treatment sites. In Symposium on Bioremediation of Hazardous Wastes: Research, Development and Field Evaluations. EPA/600/R-93/054. May, 1993. Pages 208-213. Invited Speaker.

Lin*, J.-E., J.G. Mueller and P.H. Pritchard. 1993. Factors determining the effectiveness of microbial inoculation in soils and sediments: effectiveness of encapsulation. In Symposium on Bioremediation of Hazardous Wastes: Research, Development and Field Evaluations. EPA/600/R-93/054. May, 1993. Pages 86-89.

Mueller*, J.G., J.-E. Lin, S.E. Lantz and P.H. Pritchard. 1993. Bioremediation of PAH-contaminated materials. Amer. Soc. Microbiol. Symposium on Bioremediation; Field Applications, May 16-20, 1993, Atlanta, Georgia. Invited Speaker.

Mueller*, J.G. 1993. Advances in the use of microbial inoculants for the bioremediation of soil and water contaminated with organic wood preservatives. Gordon Research Conference, July 12-16, 1993. Invited Speaker.

Pritchard*, P.H., C.R. Cripe, D.D. Dalton, S.E. Lantz and J.G. Mueller. 1993. Creosote-associated PAH biodegradation in marine sediments: the potential for bioremediation. Gordon Research Conference, July 12-16, 1993. Invited Speaker.

Mueller*, J.G. 1994. Biotechnology applications in the agricultural and environmental industries. Biotechnology and Biomolecular Sciences Colloquium, March 15-16, Richland, Washington. Invited Panel Member.

Mueller*, J.G., P.H. Pritchard, M.T. Montgomery and W.W. Schultz. 1994. *In Situ* Treatment Technologies for PAH-Contaminated Sediments. National Research Council's Committee on Contaminated Marine Sediments, Technology Review Workshop, April 21-22, 1994, Chicago IL. Invited Speaker.

DeBrabandere, J., J.G. Mueller* and P.H. Pritchard. 1994. *Ex Situ* Treatment Technologies for PAH-Contaminated Sediments. National Research Council's Committee on Contaminated Marine Sediments, Technology Review Workshop, April 21-22, 1994, Chicago IL. Invited Speaker.

Mueller*, J.G. 1994. Application of *in situ* bioremediation technologies at US DOE/DOD sites. Jason Society, Special Session. June 22-23, LaJolla, California. Invited Speaker.

Mueller*, J.G. and E.J. Klingel. 1994. Combined Use of Ground Water Circulation (UVB) Technology and *In Situ* Bioreactors for Enhanced Bioremediation of Subsurface Contamination. Joint Army, Navy, NASA, Air Force (JANNAF) Workshop on Environmentally Benign Cleaning and Degreasing Technology, June 14-15, Indian Head, MD. Invited Speaker.

Mueller*, J.G., J.-E. Lin, S.E. Lantz and P.H. Pritchard. 1994. Mechanisms of creosote and PAH

degradation by natural microbial communities. In U.S. EPA Annual Symposium on Bioremediation of Hazardous Wastes: Research, Development and Field Evaluations. San Francisco, California, June 28-30, 1994. Pages 143-149. EPA/600/R-94/075. Invited Speaker.

Pritchard*, P.H., J.G. Mueller, J.-E. Lin and S.E. Lantz. 1994. Metabolic and ecological factors affecting the bioremediation of PAH- and creosote-contaminated soil and water. In U.S.EPA Annual Symposium on Bioremediation of Hazardous Wastes: Research, Development and Field Evaluations. San Francisco, California, June 28-30, 1994. Pages 129-138. EPA/600/R-94/075.

Mueller*, J.G. 1994. Model Studies of Bioremediation Strategies and Monitoring Technologies Joint U.S.-E.C. Commission Task Force on Environmental Biotechnology. Brussels, Belgium, October 17-18. Invited Speaker.

Cifuentes*, L.A., R.B. Coffin, J.G. Mueller, M.D. Brouman, E.J. Klingel, M.Y. Montgomery and W.W. Schultz. 1995. *In situ* bioremediation of fossil fuels and efficacy monitoring. First Annual Meeting, Strategic Environmental Research and Development Program, Washington, D.C., April 11-13, 1995.

Montgomery*, M. T., J.G., Mueller, B. J. Spargo, B.P. Gaber, and W.W. Schultz. 1995. Encapsulated Bacteria for *In Situ* PAH Bioremediation. First Annual Meeting, Strategic Environmental Research and Development Program, Washington, D.C., April 11-13, 1995.

Mueller*, J.G. and R.J. Desrosier. 1995. Cooperative Research and Development Agreements Program: SBP Experience. U.S. EPA's Southeast Remediation Marketplace Conference. Atlanta, GA July 20-21, 1995. Invited Speaker.

Mueller, J.G. 1995. Commercialization of Environmental Biotechnology. KRI International Client Conference and Workshop. Kyoto Japan, December 7, 1995.

Borchert*, S. J. Mueller, C. Heard, F. Lakhwala, S. Lantz, E. Alesi, E. Klingel, W. Langley, M. Brouman, M. Montgomery, T. Boyd, and B. Spargo. 1996. Vertical Groundwater Circulation Technology for *In Situ* Bioremediation. The Sixth West Coast Conference on Contaminated Soils and Groundwater Association for the Environmental Health of Soils (AEHS) March 11-14, 1996, Newport Beach, CA

Mueller*, J., S. Borchert, C. Heard, F. Lakhwala, S. Lantz, E. Alesi, E. Klingel, W. Langley, M. Brouman, R. Coffin, C. Kelley, B. Trust, M. Montgomery, T. Boyd, and B. Spargo. 1996. Efficacy Monitoring of *In Situ* Fuel Bioremediation. The Sixth West Coast Conference on Contaminated Soils and Groundwater Association for the Environmental Health of Soils (AEHS) March 11-14, 1996, Newport Beach, CA.

Mueller*, J., S. Borchert, C. Gatlin, C. Heard, F. Lakhwala, S. Lantz, E. Klingel, W. Langley, M. Brouman, R. Coffin, C. Kelley, B. Trust, L. Cifuentes, T. Montgomery, T. Boyd, and B. Spargo.

1996. Efficacy Monitoring of a Full-Scale *In Situ* Creosote Source Management System. American Chemical Society, September 9-11, Birmingham, AL.

Mueller*, J., S. Borchert, F. Lakhwala, and R. Desrosier. 1996. *In Situ* Bioremediation Using the UVB Technology: Description and Case Study. Proceedings Superfund 96. October 15-17, Washington, D.C.

Borchert*, S., J. Mueller, F. Lakhwala, B. Spargo, T. Montgomery, T. Boyd, R. Coffin, and L. Cifuentes. 1996. Efficacy Monitoring of *In Situ* Bioremediation in Field Applications Using Stable Carbon Isotopes. Annual Meeting, Geological Society of America, October 28-30, Denver, CO.

Mueller*, J., S. Borchert, C. Heard, F. Lakhwala, S. Lantz, M. Brouman, R. Coffin, C. Kelley, B. Trust, T. Montgomery, T. Boyd, B. Spargo, and L. Cifuentes. 1996. Efficacy Monitoring of *In Situ* Fuel Bioremediation. Proceedings Petroleum Hydrocarbons & Organic Chemicals in Ground Water: Prevention, Detection, and Remediation, November 13-15, Houston, TX.

Mueller*, J.G., S.M. Borchert, R.J. Desrosier, R. Kraybill, R. Rico, E.J. Klingel; W. Langley, D.J.A. Smyth, E.A. Sudicky, S.G. Shikaze, M. Tischuk, and M.D. Brouman. 1997. Integrated Funnel-and-Gate/GZB Product Recovery Technologies for *In Situ* Management of a Creosote- NAPL Impacted Aquifer. International Containment Technology Conference and Exhibition February 9-12, St. Petersburg, FL.

Mueller*, J.G., S.M. Borchert, R.J. Desrosier, E.J. Klingel; W. Langley, D.J.A. Smyth, E.A. Sudicky, S.G. Shikaze, M. Tischuk, and M.D. Brouman. 1997. Integrated Funnel-and-Gate/GZB Product Recovery and Containment Technologies for *In Situ* Management of a Creosote-NAPL Impacted Aquifer. Outdoor Action Conference, National Ground Water Association April 1-3, Las Vegas, NV.

Pritchard*, P.H., Y-F Ho., J.G. Mueller and P.A. Willumsen. 1997. Diversity of PAH-Degrading Isolates from Soil. Proceedings Battelle's Third International Symposium on *In Situ* and on-Site Bioremediation April 28-May 1, New Orleans, LA. 4(2):249.

Brouman*, M.D., M. Tischuk, E.J. Klingel, M. Sick, D. Smyth, E.A. Sudicky, S. Shikaze, S. Borchert, and J.G. Mueller. 1997. *In Situ* Management System Employing Integrated Funnel- and Gate/GZB Containment and Recovery Technologies. Proceedings Battelle's Third International Symposium on *In Situ* and on-Site Bioremediation April 28-May 1, New Orleans, LA. 4(4):149-154

Mueller*, J.G., S.M. Borchert, L. A. Cifuentes, E.J. Alesi and C. Leins. 1997. Verification of Calculated Biodegradation Rates by Stable C Isotope and Soil Sample Analyses. Proceedings Battelle's Third International Symposium on *In Situ* and on-Site Bioremediation April 28-May 1, New Orleans, LA. 4(2): 353-358.

Montgomery*, M., T.J. Boyd, B. Spargo, R.B. Coffin, and J.G. Mueller. 1997. Bacterial Productivity in BTEX- and PAH-Contaminated Aquifers. Proceedings Battelle's Third International Symposium on In Situ and on-Site Bioremediation April 28-May 1, New Orleans, LA. 4(4):125-130.

Lakhwala*, F., S. Borchert, J. Mueller and R. Desrosier. 1997. An Introduction to Groundwater Circulation Well Technologies for *In Situ* Remediation: Design, Operation and Case Studies. National Association of Remedial Project Managers, June 30-July 3, Boston, MA.

Lakhwala*, F., J. Mueller and W. Langley. 1997. Experimental validation of groundwater circulation cell models using tracer dyes and/or pressure transducers. Proceedings 12 Annual Conference on Contaminated Soils. Cot. 20-23, 1997, Amherst, MA. Page 19.

Lakhwala*, F., W. Langley, S. Borchert and J. Mueller. 1997. Field Validation of the Zone of Influence of Groundwater Circulation Wells using Tracer Dyes and/or Pressure Transducers. Petroleum Hydrocarbons Conference and Exhibition, November 12-14, Houston, TX.

Mueller*, J., S. Borchert, and F. Lakhwala. 1997. An overview of *in situ* vertical groundwater circulation cell technologies. Proceedings Superfund '97. December 2-4, Washington, D.C.

Spargo, B. and J. Mueller. (1998). Mesocosm Research Tool for Simulating *In Situ* Remediation Processes for Soil and Groundwater. Proceedings 11th Annual U.S./German Data Exchange/Technology Transfer Meeting, April 20-24, U.S. Army Environmental Center, APG, MD.

Mueller*, J.G., P.H. Pritchard, M. Brouman, P. Swallow, M. Tabe and J. Smith. 1998. Biostabilization technology for treating PAH-impacted soil to environmentally acceptable endpoints: ten-year field assessment. 42nd OHOLO Conference on Novel Approaches for Bioremediation of Organic Pollution, May 3-7, Eilat Israel.

Mueller*, J., F. Lakhwala, J. Carter, B. Spargo, M. Montgomery and M. Brouman. 1998. Economics and Performance of GCW Technology at a Creosote Site. Proceedings Battelle's First International Symposium on Remediation of Chlorinated and Recalcitrant Compounds. May 18-21, 1998, Monterey, CA.

Mueller*, J.G. 1998. Remediation of Soil and Groundwater in Mexico. En Su Primer Congreso Annual De Restuaracion de Suelos, Sociedad de Restauracion de Suelos Y Cuerpos de Agua, A.C. October 26-28, 1998. Mexico City, Mexico.

Mueller*, J., J. Bold, M. Montgomery, T. Boyd, and M. Slenska. 1999. Monitoring Biodegradation of PAHs in Wetlands Using Biogeochemical Assays. Proceedings Battelle's Fifth International Symposium on *In Situ* and on-Site Bioremediation April 19-22, San Diego, CA.

Mueller*, J.G. 1999. *In Situ* Remediation of Groundwater Containing CHC and Heavy Metals. A&WMA Pacific NW International Section Annual Meeting, Nov 3, 1999, Pasco Washington

Montgomery, M. T., T.J. Boyd, J.K. Steele, D.M. Ward, D.C. Smith, B.J. Spargo, R.B. Coffin, J.W. Pohlman, M. Slenska, and J.G. Mueller. 1999. Measuring Intrinsic Bacterial Degradation of PAHs in a Salt Marsh. *Wetlands & Remediation*, November 16-17, 1999, Salt Lake City, UT.

Mueller*, J., M. Brouman, J. Cook, M. Slenska, and M. Tischuk. 2000. *In situ* source management strategies at wood treatment sites. Proceedings Battelle's Second International Symposium on Remediation of Chlorinated and Recalcitrant Compounds. May 22-25, Monterey, CA.

King, M., J. Cook, J. Mueller, and J. Barker. 2000. Natural attenuation trends at wood treatment sites. Proceedings Battelle's Second International Symposium on Remediation of Chlorinated and Recalcitrant Compounds. May 22-25, Monterey, CA.

Boyd, T.J., M. Montgomery, J. Mueller, J. Steele, B. Spargo, R. Coffin, J. Pohlman, T. Demetriades-Shah, and M. Slenska. 2000. Source reduction effect on creosote PAH bioremediation in marsh sediments. Proceedings Battelle's Second International Symposium on Remediation of Chlorinated and Recalcitrant Compounds. May 22-25, Monterey, CA. 2(7):189-196.

Erickson, J., M. Tischuk, J. Cook, J. Mueller, and B. Mahaffey. 2000. Enhanced Aerobic/Anaerobic Bioremediation for a Wood-Treating Site. Proceedings Battelle's Second International Symposium on Remediation of Chlorinated and Recalcitrant Compounds. May 22-25, Monterey, CA. 2(7):139-144.

Ritter, M., J. Moreno, T. Hopper, J. Cook, S. Craig, and J. Mueller. 2000. Hydraulically facilitated remediation by natural attenuation for groundwater impacted by chromium, arsenic, and boron. NGWA 2000.

Bouknight, J., M. Montgomery, T. Boyd, M. Slenska, and J. Mueller. 2001. Accelerated *In Situ* Bioremediation and Phytoremediation of Marsh Sediments. SETAC Nashville, TN.

Mueller*, J., M. Ritter, J. Moreno, T. Hopper, J. Cook, and S. Craig. 2001. Hydraulically facilitated remediation by natural attenuation for groundwater impacted by inorganic wood preservatives. Battelle's *In Situ* and On-Site Bioremediation Symposium June 4-7, San Diego, CA.

Mueller*, J. J. Erickson, M. Brouman, M. Bollinger, M. Tischuk, and J. Cook. 2001. Integrated Technologies for *In Situ* Source Management at an Operating Wood Treatment Site. *In Situ* Containment Conference, Orlando FL June 11-14, 2001.

Mueller*, J., J. Erickson, N. Thomson, C. Lamarche, J. Cook, M. Tischuk, and M. Brouman. 2002. *In situ* biogeochemical stabilization versus attempted NAPL removal. Proceedings, Battelle's Third International Symposium on Remediation of Chlorinated and Recalcitrant Compounds. May 20-24, Monterey, CA.

Montgomery, M.T., T.J. Boyd, J.K. Steele, D.M. Ward, D.C. Smith, B.J. Spargo, R.B. Coffin, J. Pohlman, J.G. Mueller and M. T. Slenska. 2002. Measuring Intrinsic Bacterial Degradation of PAHs in a Salt Marsh. Proceedings, Battelle's Third International Symposium on Remediation of Chlorinated and Recalcitrant Compounds. May 20-24, Monterey, CA.

Mueller*, J.G. 2002. "Bioremediation Technologies and Management Strategies for Soil and Groundwater: Experiences and Lessons Learned." 32 Annual Meeting Israel Society for Ecology and Environmental Quality Sciences, Tel Aviv, Israel December 17-19, 2002.

Mueller*, J., M. Tischuk and M. Brouman. 2002. "In situ biogeochemical stabilization for Source Area Management." 32 Annual Meeting Israel Society for Ecology and Environmental Quality Sciences, Tel Aviv, Israel December 17-19, 2002.

Montgomery, M.T. D.C. Smith, C.L. Osburn, J.G. Mueller, and T.J. Boyd. 2002. Seasonal succession of the PAH-mineralizing bacteria in creosote-impacted inter-tidal sediments. 12th Annual West Coast Conference on Contaminated Soils, Sediments and Water. San Diego, CA March 18-21 2003.

Seech, A. G. Bell and J. Mueller. 2002. Enhanced Solid-phase Bioremediation of PAH-impacted Dredged Marine Sediments from the Tar Ponds Site in Sydney Nova Scotia, Canada. 18th Annual International Conference on Contaminated Soils, Sediments and Water. October 21-24, 2002 Amherst Mass.

Michael T. Montgomery, T.J. Boyd, C.L. Osburn, J.G. Mueller, and D.C. Smith. 2003. Preferential degradation of PAHs over natural organic matter by bacteria in intertidal sediments. 225th ACS National Meeting, New Orleans, LA, March 23-27, 2000.

MacFabe, S., J. Mueller and S. Pitkin. 2003. Forensic Characterization of Co-mingled Groundwater Plumes Using Detailed Profiling Techniques for the Purpose of Liability Separation and Remedial Design. Amer. Academy of Forensic Sciences 55th Annual Meeting, Chicago, IL. Feb 17-22, 2003.

ABRAHAMSON, J.A., A.A. KOPANIA, J.G. MUELLER AND M. D. TISCHUK. 2003. DNAPL MANAGEMENT AT A CREOSOTE-IMPACTED SITE. *IN SITU* AND ON-SITE BIOREMEDIATION SYMPOSIUM, ORLANDO FL JUNE 10-14, 2003.

Erickson, J.R., J. Mueller, M. Tischuk, M. Bollinger and M. Brouman. 2003. *In Situ* Biogeochemical Stabilization of Creosote/Pentachlorophenol NAPLs using Permanganate. *In Situ* and On-Site Bioremediation Symposium, Orlando FL June 10-14, 2003.

Mueller*, J., S. MacFabe, D. Hill, K. Bolanos-Shaw and A. Seech. 2004. Enhanced Reductive Dechlorination of Organic Solvents in Groundwater Using Controlled Release Carbon with ZVI. AEHS 14th Annual West Coast Conference on Soil, Sediments and Water. San Diego, CA. March 15-18, 2004.

Gibson, M., A. Seech, D. Hill, and J. Mueller. 2004. Placement of EHC by Hydrofracturing to Treat Chlorinated Solvent Plumes. Battelle's Fourth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 24-27, 2004.

Raymond, D. G. Bell, A. Seech, J. Mueller and T. Slater. 2004. Full-Scale Bioremediation of Pesticide-Impacted Soil/Sediment at the THAN Superfund Site, Montgomery, Alabama. Battelle's Fourth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 24-27, 2004.

Dmitrovic, E., A. Seech, J. Mueller and J. Trevors. 2004. PRB Fill Material for the Reductive Dechlorination of Chlorinated Solvents. Battelle's Fourth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 24-27, 2004.

Mueller*, J., S. MacFabe, A. Seech, D. Hill and K. Bolanos-Shaw. 2004. Reductive Dechlorination of Solvents in Groundwater Using Controlled Release Carbon with ZVI. Battelle's Fourth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 24-27, 2004.

Raymond, D. A. Seech and J. Mueller. 2004. Full-Scale Bioremediation of PCP-Impacted Soil. Battelle's Fourth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 24-27, 2004.

Subramanian, S. M. Ander, J. Day and J. Mueller. 2004. Bioremediation of PCP using VS-GCW Technology. Battelle's Fourth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 24-27, 2004.

Mueller*, J. and A. Seech. 2004. Bioremediation Technologies for Dredged Marine Sediments. USA – Baltic International Symposium on Advances in Marine Environmental Research, Monitoring and Technologies. Klaipeda, Lithuania. June 15-17, 2004

Lakhwala, F., J. Mueller, J. Molin, D. Hill, K. Bolanos-Shaw and A. Seech. 2004. mGCW *In Situ* Bioreactor Technology for Accelerated Removal of Perchlorate and Nitrogenous Compounds from Soil and Groundwater. 228th ACS National Meeting, Philadelphia PA August 22-26, 2004.

Erickson, J.R., J. Mueller, M. Tischuk and M. Bollinger. 2004. Cost-Effective Multi-Component Remedy for Closure of Creosote NAPL Sites. 2004 NGWA Remediation Conference: Site Closure and Total Cost of Clean-up. New Orleans, LA November 15-16, 2004.

Dmitrovic, E., A. Seech, K. Bolanos-Shaw, D. Hill, M. Gibson, J. Mueller and J. Trevors. 2005. EHC™ – A Novel Material for *In Situ* Reductive Dechlorination of Chlorinated Solvents. First International Conference on Environmental Science and Technology. American Academy of Sciences, New Orleans, LA January 25-27, 2005.

Hill, D. J. Mueller, F. Lakhwala, J. Vogan and A. Seech. 2005. Installation Methods for Subsurface Placement of EHC (solid) and EHC-L (liquid amendments). AEHS 15th Annual West Coast Conference on Soils, Sediments and Water. San Diego, March 2005.

Mueller, J., M. Mueller, H-P Ratzke and A. Seech. 2005. *In Situ* Chemical Reduction (ISCR) using EHC Substrate for Accelerated Remediation by Natural Attenuation (RNA). 2nd European Conference on Natural Attenuation, Soil and Groundwater Risk Management. May 18-20, 2005 Frankfurt, Germany.

J. Molin, J., J. Mueller, F. Lakhwala, D. Hill, E. Dmitrovic, A. Seech, M. Helbling and J. Cook. 2005. *In Situ* Bioreactor System for the Craig Farm Superfund Site. Battelle's Eighth International *In Situ* and On-Site Bioremediation Symposium, June 6-9, 2005 Baltimore, MD.

Mueller*, J., F. Lakhwala, J. Mercer, J. Erickson. D. Hill, E. Dmitrovic, A. Seech. M. Slenska and M. Brouman. 2005. Apparent Naphthalene Production During *In Situ* Biogeochemical Stabilization of Creosote DNAPL. Battelle's Eighth International *In Situ* and On-Site Bioremediation Symposium, June 6-9, 2005 Baltimore, MD.

Mueller, M., M. Brouman and J. Mueller. 2005. Understanding how NIMBY (how close is too close?) can Impact Site Remediation and Re-Development Efforts. Battelle's Eighth International *In Situ* and On-Site Bioremediation Symposium, June 6-9, 2005 Baltimore, MD.

Day, J., J. Molin, A. Seech, D. Hill, G. Vierkant and J. Mueller. 2005. EHC Technology for Managing Chlorinated Solvents in Landfill Leachate. Battelle's Eighth International *In Situ* and On-Site Bioremediation Symposium, June 6-9, 2005 Baltimore, MD.

Mueller*, J., D. Hill, E. Dmitrovic, J. Vogan and A. Seech. 2005. EHC for *In Situ* Bioremediation of Groundwater Containing Chloroethanes and other Chlorinated Solvents. UMASS 21st Annual International Conference on Soils, Sediments and Water. October 17-21, 2005.

Molin, J. J. Mueller, F. Lakhwala and R. Brown. 2005. ISCO or ISCR? Site Specific Factors to Consider when Selecting a Remedial Approach. The 1st International Conference on Challenges in Site Remediation: Proper Site Characterization, Technology Screening and Testing, and Performance Monitoring (CSR-1), November 2005. Chicago, IL USA.

Mueller, J., F. Lakhwala, J. Molin, J. Moreno. J. Vogan, M. Duchene, D. Hill and A. Seech. 2005. The Significant of Low Redox Reactions – Validating the Effect of EHC Technology under Field Conditions. The 1st International Conference on Challenges in Site Remediation: Proper Site Characterization, Technology Screening and Testing, and Performance Monitoring (CSR-1), November 2005. Chicago, IL USA

Mueller, J., J. Molin. A. Seech, K. Bolanos-Shaw and D. Hill and A. Seech. 2006. Effect of EHC™ *In Situ* Chemical Reduction (ISCR) on Chlorinated Compounds under Laboratory and Field Conditions. AEHS 16th Annual West Coast Conference on Soils, Sediments and Water March 13-

16, 2006 San Diego, CA

Seech, A., D. Hill, F. Lakhwala, J. Molin, J. Vogan, M. Duchene and J. Mueller. 2006. *In Situ* Chemical Reduction (ISCR) - Mechanisms for Contaminant Removal under Very Low Redox Conditions. AEHS 16th Annual West Coast Conference on Soils, Sediments and Water March 13-16, 2006 San Diego, CA.

Seech, A, J. Mueller and J. Moreno. 2006. DARAMEND® Bioremediation for the Treatment of PAH Impacted Soils and Sediments. International Symposium and Exhibition on the Redevelopment of Manufactured Gas Plant Sites. Reading, United Kingdom, 4-6 April 2006.

Dmitrovic, E., A. Seech, K. Bolanos-Shaw, D. Hill, T. Slater and J. Mueller. 2006. EHC™ Induced Reductive Dechlorination of Chlorinated Solvent Impacted Groundwater. Battelle's Fifth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 22-25, 2006.

Dolfing, J. M. van Eekert and J. Mueller. 2006. Thermodynamics of Low Eh Reactions. Battelle's Fifth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 22-25, 2006.

Seech, A., D. Hill, F. Lakhwala, J. Molin, J. Moreno, J. Vogan, M. Duchene and J. Mueller. 2006. Mechanisms of Contaminant Removal under Very Low Redox Induced by EHC. Battelle's Fifth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 22-25, 2006.

Jerger, D. W. Hughes, A. Seech, J. Mueller, and J. Harlow. 2006. Full-Scale, In-Place Reductive Remediation of Sediment Containing Organic Explosives at the Yorktown Naval Weapons Station. Battelle's Fifth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 22-25, 2006.

Mueller, J., J. Molin, R. Corzatt and J. Smith. 2006. Integrated Use of EHC™ and KB-1 for Accelerated ISCR. 2006 Midwestern States Risk Assessment Symposium. August 21-24, Indianapolis, Indiana.

Mueller, J., J. Molin and D. Hill. 2006. *In Situ* Chemical Reduction (ISCR) Technology for Dry Cleaning and Related Sites. 2006 Midwestern States Risk Assessment Symposium. August 21-24, Indianapolis, Indiana.

Dmitrovic, E., F; Lakhwala, J. Mueller, J. Peale and E. Bakkom. 2006. Comparison of Three *In Situ* Treatment Technologies For The Remediation Of Trichloroethylene Impacted Groundwater. UMASS 22nd International Conference on Soil, Sediments and Water. Amherst, Mass, October

2006.

Mueller, J., J. Molin, R. Corzatt and J. Smith. 2006. Combined Use of EHC™ plus KB-1 *Dehalococcoides* Inoculant for Accelerated ISCR – First Full-Scale Field Application in Ohio UMass 22nd International Conference on Soil, Sediments and Water. Amherst, Mass, October 2006.

Mueller, J., F. Lakhwala, J. Molin and J. Moreno. 2006. Selection Criteria for Implementing *In Situ* Chemical Reduction. US EPA 2006 Land Revitalization Summit. October 30 - November 1, 2006, Austin, Texas.

Molin, J, Jim Mueller, Fayaz Lakhwala and Richard Brown. 2006. ISCR Technologies for Soil, Sediment and Groundwater. US EPA Land Revitalization Summit. October 30 - November 1, 2006, Austin, Texas.

Dingens, M., J. Mueller and A. Seech. 2006. Catalyzed Permanganates for *In Situ* Stabilization of Organic and Inorganic Contaminants. US EPA 2006 Land Revitalization Summit. October 30 - November 1, 2006, Austin, Texas.

Mueller, J. D. Hill, A. Seech, M. Duchene and Andrzej Przepiora. 2006. EHC-M™ for *In Situ* Chemical Reduction (ISCR) of Chlorinated Compounds and/or Immobilization of Arsenic and other Heavy Metals. Florida Remediation Conference. November 14-15, Kissimmee, Florida.

Harman, T. and J. Mueller. 2006. Design and Selection Criteria for Implementing *In Situ* Chemical Reduction (ISCR) Technologies Within the State of Florida. Florida Remediation Conference. November 14-15, Kissimmee, Florida.

Moreno, J., J. Mueller, M. Duchene and J. Hull. 2007. Funnel and Reactive Gate Designs for *In Situ* Sediment Treatment. EPRI MGP 2007 Symposium - Advances and Innovation in MGP Site Remediation. January 8-11, 2007 Atlanta Georgia.

Mueller, J., J. Moreno, F. Lakhwala, A. Seech, M. Okin, H. Slagle, W. Fisher and C. Sweeney. 2007. *In Situ* Biogeochemical Stabilization and Flux Reduction of MGP Constituents using Catalyzed Permanganate. EPRI MGP 2007 Symposium - Advances and Innovation in MGP Site Remediation. January 8-11, 2007 Atlanta Georgia.

Mueller, J. and A. Seech. 2007. *In Situ* and On-Site Bioremediation Technologies for Impacted Sediments. Battelle's Fourth International Conference on Remediation of Contaminated Sediments. January 22-25, Savannah, Georgia, USA.

Vogan, J., J. Mueller, J. Hull and D. Reible. 2007. Laboratory Testing of AquaBlok+™ for Capping of Contaminated Sediments. Battelle's Fourth International Conference on Remediation of Contaminated Sediments. January 22-25, Savannah, Georgia, USA.

Montgomery, M., C. Osburn, S. Walker, T. Boyd, J. Mueller, Q. Li, H. Perl, F. Montiel-Rivera and J.

Hawari. 2007. 2,4,6-Trinitrotoluene (TNT) Biodegradation in Coastal Waters and Sediments. 17th Annual AEHS West Coast Conference on Soils, Sediments, and Water. March 19-22, 2007, San Diego, California.

Mueller, J., J. Molin, A. Seech and J. Vogan. 2007. Comparative Analysis of Contaminant Removal Mechanisms under Reduced Environments. 17th Annual AEHS West Coast Conference on Soils, Sediments, and Water. March 19-22, 2007, San Diego, California.

Peale, J., E. Bakkom, F. Lakhwala, J. Mueller, J. Moline and P. Dennis. 2007. Integrated Use of EHC™ and KB-1 for Source Area Treatment and PRB Application at a TCE-Impacted Site. Battelle's Ninth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2007 Baltimore, MD.

Mueller, J. J. Moreno, M. Duchene and J. Hull. 2007. *In Situ* Sediment Treatment using AquaBlok+ for Horizontal Permeable Reactive Barriers. Battelle's Ninth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2007 Baltimore, MD.

Mueller, J., D. Hill, A. Seech, M. Duchene and A. Przepiora. 2007. EHC-M™ for *In Situ* Chemical Reduction of Chlorinated Compounds and Simultaneous Immobilization of Heavy Metals. Battelle's Ninth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2007 Baltimore, MD.

Mueller, J., J. Molin, T. Harman and D. Brown. 2007. Design and Selection Criteria for Implementing *In Situ* Chemical Reduction (ISCR) Technologies. Battelle's Ninth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2007 Baltimore, MD.

Mueller, J. J. Moreno, F. Lakhwala, A. Seech, M. Okin, H. Slagle, W. Fisher and C. Sweeney. 2007. Catalyzed Permanganate for *In Situ* DNAPL Stabilization and Flux Reduction. Battelle's Ninth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2007 Baltimore, MD.

Biteman, S., J. Valkenburg, S. MacFabe, J. Mueller and J. Molin. 2007. Pilot-Scale Reductive Dechlorination of Carbon Tetrachloride in Groundwater. Battelle's Ninth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2007 Baltimore, MD.

Hill, D., A. Seech, K. Bolanos-Shaw, E. Dmitrovic and J. Mueller. 2007. Upgradient Reactive Zones of EHC™ for Treatment of Multiple Chlorinated Organic Compounds Battelle's Ninth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2007 Baltimore, MD.

[Sheldon, J., T. Ahrens, P. Kurzanski, J. Mueller and E. Dmitrovic.](#) 2007. [Bench Testing Bioamendments for a Methylene Chloride and Acetone Spill.](#) Battelle's Ninth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2007 Baltimore, MD.

Van Linden, Jan., V. Callebaut and G. Vermeiren, F. Lakhwala, J. Molin and J. Mueller. 2007. *In Situ* Chemical Reduction of Chlorinated Solvents Using EHC™ - A Pilot Test in Belgium. The Third International Conference on Environmental Science and Technology August 6-9, 2007. Houston, TX.

Mueller, J. and A. Seech. 2007. Simultaneous *In Situ* Chemical Reduction (ISCR) of Chlorinated Compounds and Immobilization of Arsenic and other Heavy Metals. SCRoD September 27, 2007. Portland, ME.

Frasco, K., M. Dingens, P. Vella, J. Mueller, J., F. Lakhwala and A. Seech. 2007. RemOX® EC Stabilization Reagent for *In Situ* Biogeochemical Stabilization of MGP and Related Constituents. The 2ND Innovative Environmental Technology Conference - The Environmental Business Council (EBC) of Commerce & Industry Association of New Jersey in partnership with New Jersey Institute of Technology, Newark New Jersey. October 10, 2007.

Molin, J., F. Lakhwala and J. Mueller. 2007. EHC™ and KB-1 Installed Into Existing Gravel Trench Network - P&T System Converted into Permeable Reactive Barriers. The 2ND Innovative Environmental Technology Conference - The Environmental Business Council (EBC) of Commerce & Industry Association of New Jersey in partnership with New Jersey Institute of Technology, Newark New Jersey. October 10, 2007.

Lakhwala, F., J. Mueller, J. Moreno, J. Valkenburg and J. Hull. 2007. Chemical Isolation of Contaminated Sediments Using Sub-Aqueous AquaBlok+™ Capping. The 2ND Innovative Environmental Technology Conference - The Environmental Business Council (EBC) of Commerce & Industry Association of New Jersey in partnership with New Jersey Institute of Technology, Newark New Jersey. October 10, 2007.

Mueller, J., F. Lakhwala, K. Frasco, M. Dingens, D. Foster, J. Zubrow and M. Brouman. 2007. RemOx® EC Stabilization Reagent for *In Situ* Biogeochemical Stabilization and NAPL Flux Reduction. Florida Remediation Conference October 11-12, 2007 - Kissimmee, Florida.

Przepiora, A. J. Mueller and M. Tischuk 2007. *In Situ* Immobilization of Arsenic and other Heavy Metals. Florida Remediation Conference October 11-12, 2007 - Kissimmee, Florida.

Mueller, J., J. Moreno, J. Valkenburg, A. Przepiora and J. Hull. 2007. Chemical Isolation of Contaminated Sediments Using Sub-Aqueous AquaBlok+™ Capping. Florida Remediation Conference October 11-12, 2007 - Kissimmee, Florida.

Mueller, J., J. Molin and J. Smith. 2007. Conversion of Groundwater Collection Trenches into PRBs using EHC ISCR Technologies. Third International Symposium on Permeable Reactive Barriers and Reactive Zones. November 8-9, 2007. Rimini, Italy

Lakhwala, F. J. Mueller, E. Alesi, M. Sick, S. Chang and J. Huang. 2007. Design and Implementation of a Full-Scale Groundwater Circulation Well (GCW) Technology to Treat Chlorinated Solvents.

3rd European Conference on Natural Attenuation and *In Situ* Remediation. November 19-21, 2007. DECHEMA Frankfurt, Germany.

Mueller, J., J. Molin and A. Seech. 2007. Criteria for Successful Implementation of *In Situ* Chemical Reduction (ISCR) Technologies. 3rd European Conference on Natural Attenuation and *In Situ* Remediation. November 19-21, 2007. DECHEMA Frankfurt, Germany.

Mueller, J., A. Seech, K. Frasco and M. Dings. 2007. RemOX® EC Stabilization Reagent for *In Situ* Biogeochemical Stabilization of MGP and Related Constituents. 3rd European Conference on Natural Attenuation and *In Situ* Remediation. November 19-21, 2007. DECHEMA Frankfurt, Germany.

Lakhwala, F., J. Mueller, A. Seech, J. Molin, D. Hill, J. Moreno, E. Dmitrovic, A. Przepiora and J. Valkenburg . 2007. Reductive Dechlorination of Solvents in Groundwater using EHC™ *In Situ* Chemical Reduction (ISCR) – Case Studies. *Securing Groundwater Quality in Urban and Industrial Environments* - 6th International IAHS Groundwater Quality Conference, Fremantle, Western Australia, 2-7 December 2007.

Mueller, J., J. Moreno, F. Lakhwala, K. Frasco and M. Dings. 2007. RemOx™ EC Catalyzed Permanganate for NAPL Stabilization and Flux Reduction. *Securing Groundwater Quality in Urban and Industrial Environments* - 6th International IAHS Groundwater Quality Conference, Fremantle, Western Australia, 2-7 December 2007.

Lakhwala, F., J. Mueller, A. Seech, J. Molin, D. Hill, J. Moreno, E. Dmitrovic, A. Przepiora and J. Valkenburg . 2007. EHC-O™: A timed Release Source of Dissolved Oxygen and Nutrients for *In Situ* Treatment of Petroleum Hydrocarbons. *Securing Groundwater Quality in Urban and Industrial Environments* - 6th International IAHS Groundwater Quality Conference, Fremantle, Western Australia, 2-7 December 2007.

Mueller, J. J. Moreno, F. Lakhwala, A. Seech, M. Dings and P. Vella. 2008. REMOX® EC Stabilization Reagent Catalyzed Permanganate for *In Situ* Biogeochemical Stabilization of MGP Constituents. MGP 2008 Gasworks Europe – Redevelopment, Site Management and Remediation March 4-8, 2008, Dresden GERMANY.

Przepiora, A. J. Mueller and M. Tischuk. 2008. *In Situ* Immobilization of Heavy Metals. 18th Annual AEHS West Coast Conference on Soils, Sediments, and Water. March 10-13, 2008, San Diego, California.

Mueller, J. J. Molin and J. Smith. 2008. Conversion of Groundwater Interception Trenches into Passive PRBs. 18th Annual AEHS West Coast Conference on Soils, Sediments, and Water. March 10-13, 2008, San Diego, California.

Mueller, J., J. Molin, A. Seech and D. Hill. 2008. In-Place or On-Site Treatment of Organochlorine Pesticides using DARAMEND® Technology. Tennessee DEC's 37th Annual Solid/Hazardous Waste Conference, Gatlinburg, TN. April 30-May 2, 2008

Molin, J., J. Mueller, F. Lakhwala and J. Valkenburg. 2008. Application of Oxygen Release Compound to Excavation Backfill for Treatment of Residual Groundwater Impacts following LUST Removal. Tennessee DEC's 37th Annual Solid/Hazardous Waste Conference, Gatlinburg, TN. April 30-May 2, 2008.

Mueller, J., J. Molin and J. Smith. 2008. Optimization of Groundwater Remediation via Conversion of Active Interception Trenches into Passive PRBs. AIPG-Georgia Section "Innovative Remediation Technology Conference" Kennesaw State University. May 7-8, 2008.

Moreno, J. A. Przepiora, T. Bellehumeur, J. Mueller, and P. Sinton. 2008. Experience with Modeling Enhanced Bioremediation Using Observed Half Lives Varying in Time and Space. MODFLOW and More: Ground Water and Public Policy. May 19-21, 2008, Golden, CO USA

Mueller, J., J. Molin and J. Smith. 2008. Optimization of Groundwater Remediation via Conversion of Active Interception Trenches into Passive PRBs. Battelle's Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 19-22, 2008.

Frasco, K. M. Dingens, P. Vella, J. Mueller, A. Seech, D. Foster, J. Zubrow and M. Brouman. 2008. RemOx® EC Stabilization Reagent for *In Situ* Biogeochemical Stabilization and NAPL Flux Reduction. Battelle's Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 19-22, 2008.

Lakhwala, F., J. Mueller, E. Alesi, M. Sick, S. Chang and J. Huang. 2008. Full-Scale Groundwater Circulation Well (GCW) Technology to Contain Migration of Chlorinated Solvents. Battelle's Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 19-22, 2008.

Peale, J., E. Bakkum, F. Lakhwala, J. Mueller, J. Molin. 2008. Anticipating Secondary Concerns with ISCR: Data from an Integrated Pilot Study of EHC and KB-1. Battelle's Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 19-22, 2008.

Moreno, J., A. Przepiora, T. Bellehumeur, J. Mueller, F. Lakhwala, J. Molin and J. Valkenburg. 2008. Observed Half-Lives and Their Variation in Time and Space from Experience in Enhanced Bioremediation. Battelle's Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 19-22, 2008.

Bold, J., J. Mueller, M. Tischuk and R. Cooper. 2008. ISCR for *In Situ* Stabilization of Arsenic in Soil and Groundwater. Battelle's Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 19-22, 2008.

Mueller, J., F. Lakhwala and A. Seech. 2008. EHC-O™: a Timed-Release, Buffered Source of Dissolved Oxygen and Inorganic Nutrients for *In Situ* Bioremediation of Petroleum Hydrocarbons. RemTech 2008 - Bologna, Italy. September 24-26, 2008.

Mueller, J., F. Lakhwala and A. Seech. 2008. EHC *In Situ* Chemical Reduction (ISCR) Technology for *In Situ* Treatment of Persistent Organic Compounds. RemTech 2008 - Bologna, Italy. September 24-26, 2008.

Mueller, J., F. Lakhwala, A. Przepiora and A. Seech. 2008. EHC-M *In Situ* Chemical Reduction (ISCR) Technology for *In Situ* Treatment of Heavy Metals (and Persistent Organic Compounds). RemTech 2008 - Bologna, Italy. September 24-26, 2008.

Bold, J., J. Mueller, A. Przepiora, J. Bold, R. Cooper and M. Tischuk. 2008. EHC-M® ISCR for *In Situ* Stabilization of Arsenic in Soil and Groundwater. Florida Remediation Conference – Kissimmee, Florida. Oct. 16-17, 2008.

Pujol, E. S. Aluani, F. Tomiatti, J. Molin, J. Mueller and J. Valkenburg. 2008. *In Situ* Stabilization of Lead in Groundwater at a former Battery Recycling Facility in Sao Paola, Brazil. VI Seminário Internacional sobre Remediação de Áreas Contaminadas 27 e 28 de Outubro de 2008 Centro Universitário Senac Campus Santo Amaro - São Paulo – SP.

Frasco, K. J. Mueller, D. Foster, and M. Brouman. 2009. RemOx® EC Stabilization Reagent for *In Situ* Biogeochemical Stabilization and NAPL Flux Reduction. AMERICANA 2009.

Andrzej Przepiora, A., J. Mueller and D. Reible. 2009. Laboratory Evaluation of Coated Clay-Based Composite Treatment Materials for Capping Contaminated Sediments. Battelle's Fifth International Conference on remediation of Contaminated Sediments, February 2-5, 2009, Jacksonville, FL, USA.

Moreno, J., T. Bellehumeur, J. Mueller, F. Lakhwala, J. Valkenburg, J. Molin, A. Seech, K. Bolanos-Shaw, and D. Hill. 2009. Degradation Rate and Yield Data from Bench and Field Pilot Studies of ISCR-Enhanced Bioremediation. AEHS Conference, San Diego, CA March 9-12, 2009.

Mowder, C., C. Divine, J. Valkenburg, J. Mueller, A. Northway, B. Simmons and B. Hare. 2009. Reformulation of an Iron-Carbon Remedial Amendment to Overcome Injectability Challenges at a Fractured Basalt Aquifer. Remtech 2009, Atlanta GA.

Hill, D., J. Mueller and A. Seech. 2009. *In Situ* Chemical Reduction (ISCR) offers Remediation without Contaminant Sequestration or Catabolite Accumulation / La Réduction Chimique *In Situ*

Offre la Réclamation sans Séquestrer les Contaminants ou Accumuler les Catabolites. Intersol 2009 Paris, France. March 24-26, 2009.

Mueller, J., J. Moline and A. Seech. 2009. Remediation of a Dry Cleaning Facility using *In Situ* Chemical Reduction (ISCR) Technology / Réclamation d'une Site de Nettoyage à Sec utilisant la Technologie Réduction Chimique *In Situ*. Intersol 2009 Paris, France. March 24-26, 2009.

Lakhwala, F., J. Molin, D. Hill and J. Mueller. 2009. In Situ Bioremediation of Petroleum Hydrocarbons Using EHC-O® : A Timed-Release, Buffered Source of Dissolved Oxygen and Inorganic Nutrients / La Biodégradation *In Situ* des Hydrocarbures Pétroliers utilisant EHC-O® : Une Source Contrôlé d'Oxygène et des Nutriments Inorganiques. Intersol 2009 Paris, France. March 24-26, 2009.

Prezpiora, A. and J. Mueller. 2009. *In Situ* Chemical Reduction (ISCR) for Simultaneous Treatment of Heavy Metals and Persistent Organic Compounds. Clemson Hydrogeology Workshop April 1-3, 2009 Clemson SC.

Valkenburg, J., J. Mueller, A. Seech, D. Hill, M. Fedowitz and R. Valdez. 2009. *In Situ* Chemical Reduction for Organic Explosives in Soil. National Defense Industry's 2009 Environment, Energy & Sustainability Symposium & Exhibition. May 2009.

Brown, R., J. Mueller and A. Seech 2009. Interactions between Biological and Abiotic Pathways in the Reduction of Chlorinated Solvents. Battelle's Tenth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2009 Baltimore, MD.

Molin, J. Mueller, D. Hill, D. Hanson and T. Skrotzki. 2009. Direct Injection of ZVI and Organic Carbon Slurry for Treatment of PCE in Clayey Lithology. Battelle's Tenth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2009 Baltimore, MD.

Mueller, J., J. Moreno, J. Valkenburg, G. Council, J. Erickson, T. Al, D. Loomer, M. Slenska and M. Brouman. 2009. Field Performance of *In Situ* Biogeochemical NAPL Stabilization. Battelle's Tenth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2009 Baltimore, MD.

Peale, J., E. Bakkom, J. Molin, J. Moreno, J. Mueller and F. Lakhwala. 2009. Degradation Rate and Yield Data from Bench and Field Pilot Studies of ISCR-Enhanced Bioremediation. Battelle's Tenth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2009 Baltimore, MD.

Pujol, E., S. Aluani, F. Tomiatti, J. Molin, J. Mueller and J. Valkenburg. 2009. *In Situ* Stabilization of Lead in Groundwater at a Former Battery Recycling Facility in Brazil. Battelle's Tenth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2009 Baltimore, MD.

Valkenburg, J., J. Mueller, A. Seech, D. Hill, R. Valdez and D. Rusciollelli. 2009. *In Situ* Chemical Reduction for Organic Explosives in Soil. Battelle's Tenth International *In Situ* and On-Site Bioremediation Symposium, May 7-10, 2009 Baltimore, MD.

Valkenburg, J., J. Mueller, A. Seech, D. Hill, M. Fedowitz and R. Valdez. 2009. *In Situ* Chemical Reduction for Organic Explosives in Soil. Bureau of Explosives Conference, Kansas City, MO.

Fayaz Lakhwala, F., J. Mueller, J. Molin, J. Valkenburg and R. Srirangam. 2009. EHC™ and EHC-M™ - *In Situ* Chemical Reduction (ISCR) Technology for Treatment of Chlorinated Solvents and Metals. ISEST 2009, Shanghai, CHINA.

Mueller, J. 2009. *In Situ* Remediation: *In Situ* Chemical Reduction (ISCR) Technologies – Differentiators and Implementation. AEHS Remediation Workshop on Environmental Success in Treatment Objectives, Stresa Italy. June 18-20, 2009.

Mueller, J. 2009. *In Situ* Chemical Reduction (ISCR) for Simultaneous Treatment of Heavy Metals and Persistent Organic Compounds. Remtech, September 23-25, 2009, Ferrara, Italy.

Mueller, J., F. Lakhwala, A. Seech and A. Prezpiora. 2009. EHC-O Timed-Release, Buffered Source of Dissolved Oxygen and Inorganic Nutrients for *In Situ* Bioremediation of Petroleum Hydrocarbons. Remtech, September 23-25, 2009, Ferrara, Italy.

Mueller, J., J. Molin, A. Seech, M. Mueller and A. Prezpiora. 2009. What is ISCR? Importance and Significance of *In Situ* Chemical Reduction to Treat Impacted Soil, Sediment and Groundwater Environments. Remtech, September 23-25, 2009, Ferrara, Italy.

Mueller, J. F. Lakhwala, M. Mueller and J. Moreno. 2009. EHC-M *In Situ* Chemical Reduction (ISCR) Technology for *In Situ* Treatment of Heavy Metals (and Persistent Organic Compounds). 10th International Symposium in Environmental Geotechnology and Sustainable Development. September 7-11, 2009. Bochum, Germany.

Mueller, J. D. Hill, M. Mueller and J. Moreno. 2009. *In Situ* Chemical Reduction (ISCR) offers Remediation without Contaminant Sequestration of Catabolite Accumulation. 10th International Symposium in Environmental Geotechnology and Sustainable Development. September 7-11, 2009. Bochum, Germany.

Lakhwala, F. J. Mueller and K. Bolanos-Shaw. 2009. *In Situ* Bioremediation of Petroleum Hydrocarbons Using EHC-O: A Timed-Release, Buffered Source of Dissolved Oxygen and Inorganic Nutrients. 10th International Symposium in Environmental Geotechnology and Sustainable Development. September 7-11, 2009. Bochum, Germany.

Mueller, J. F. Lakhwala, E. Dmitrovic and A. Prezpiora. 2009. Immobilization of Arsenic and other heavy metals in groundwater using EHC-M®. 15th Annual Florida Remediation Conference Tools, Techniques and Practices October 15-16, 2009, Orlando Florida.

Mueller, J. F. Lakhwala, E. Dmitrovic and A. Prezpiora. 2009. Immobilization of Arsenic and other heavy metals in groundwater using EHC-M®. 12th Annual Florida Brownfield's Conference and Exhibition November 1-4, 2009, Tampa Florida.

Mueller, J. 2009. EHC® Technology for *In Situ* Treatment of CVOCs in Groundwater. Pollutec, December 1-4, 2009. Paris France.

Mueller, J. and R. Rivera. 2010. *In Situ* Chemical Reduction Technologies –Differentiators and Technology Implementation. 2010 North American Environmental Field Conference & Exposition. January 12-15, 2010. Tampa, Florida.

Mueller, J., J. Moreno, J. Valkenburg, G. Council, J. Erickson, T. Al, D. Loomer, M. Slenska and M. Brouman. 2010. Field Performance of *In Situ* Geochemical Stabilization of NAPL. EPRI 2010 MGP Symposium, January 27-29, 2010. San Antonio, TX.

Mueller, J. and R. Brown. 2010. *In Situ* Chemical Reduction Technologies –Differentiators and Technology Implementation. Second Biennial Southeastern *In Situ* Soil and Groundwater Remediation Conference. February 23-24, 2010. Raleigh, NC.

Mueller, J., A. Seech and R. Brown. 2010. *In Situ* Chemical Reduction Technologies – Differentiators and Technology Implementation. 20th Annual AEHS Meeting & International Conference on Soils, Sediments, Water and Energy. March 15-18, 2010. San Diego, CA.

Mueller, J., A. Seech and R. Brown. 2010. ISCR™ *In Situ* Chemical Reduction Technologies – Differentiators and Technology Implementation. INTERSOL 2010. March 16-18, 2010. Paris, France.

Mueller, J. L. Thannberger, F. Lakhwala, M. Mueller and J. Moreno. 2010. EHC-M® *In Situ* Chemical Reduction (ISCR) Technology for *In Situ* Treatment of Heavy Metals (and Persistent Organic Compounds). INTERSOL 2010. March 16-18, 2010. Paris, France.

Mueller, J., E. Branquet, J. Valkenburg and A. Seech. 2010. DARAMEND® *In Situ* Chemical Reduction Technology for Pesticides and Organic Explosives in Soil / Sediment. INTERSOL 2010. March 16-18, 2010. Paris, France.

Mueller, J., A. Seech and R. Brown. 2010. ISCR™ *In Situ* Chemical Reduction Technologies – Differentiators and Technology Implementation [ISCR™ *In Situ* Τεχνολογίες Χημικής Οξειδο-Αναγωγής για την Απορρύπανση Εδάφων, Ιζημάτων και Υπογείων Υδάτων από Βαρέα Μέταλλα και Ανθεκτικούς Οργανικούς Ρύπους]. 3rd International Exhibition ECOTEC. April 22-25, 2010. Athens, Greece.

Mueller, J. F. Lakhwala, M. Mueller and J. Moreno. 2010. EHC-M® *In Situ* Chemical Reduction (ISCR) Technology for *In Situ* Treatment of Heavy Metals (and Persistent Organic Compounds). 3rd International Exhibition ECOTEC. April 22-25, 2010. Athens, Greece.

Mueller, J., J. Valkenburg and A. Seech. 2010. DARAMEND® *In Situ* Chemical Reduction Technology for Pesticides and Organic Explosives in Soil / Sediment. 3rd International Exhibition ECOTEC. April 22-25, 2010. Athens, Greece.

Mueller, J. and R. Brown. 2010. *In Situ* Chemical Reduction Technologies –Differentiators and Technology Implementation. Battelle’s Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 24-27, 2010.

Mueller, J., J. Moreno, J. Valkenburg, G. Council, J. Erickson, M. Slenska and M. Brouman. 2010. *In Situ* Geochemical Stabilization (ISGS) for NAPL Management. Battelle’s Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 24-27, 2010.

Dvorak, A. J. Peale, E. Bakkom, Jim Mueller and F. Lakhwala. 2010. Predictions and Reality: Quantified Sustainability Evaluation of TCE Source Area Remediation Using EPA Performance Metrics. Battelle’s Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 24-27, 2010.

Peale, J., E. Bakkom, J. Mueller, J. Molin, and A. Przepiora. 2010. Pathway Identification During Successful ISCR-Enhanced Bioremediation of a TCE DNAPL Source Area Battelle’s Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 24-27, 2010.

Lakhwala, F., J. Mueller, A. Przepiora, J. Molin and R. Srirangam 2010. *In Situ* Chemical Reduction (ISCR) of Heavy Metals with EHC-M® Groundwater Quality Management in a Rapidly Changing World GQ10 - 7th International IAHS Groundwater Quality Conference- Zurich, Switzerland. June 13-18, 2010.

Lakhwala, F., R. Srirangam, J. Mueller, J. Molin and J. Valkenburg 2010. Treatment of Chlorinated Solvents in Groundwater using EHC® - *In Situ* Chemical Reduction (ISCR) Technology. Groundwater Quality Management in a Rapidly Changing World GQ10 - 7th International IAHS Groundwater Quality Conference- Zurich, Switzerland. June 13-18, 2010.

Molin, J., T. Bellehumeur, J. Mueller, E. Dmitrovic, J. Valkenburg, J. Moreno and J. Vogan. 2010. Longevity of Micro-Scale ZVI and Organic Carbon in Permeable Reactive Barrier and Source Applications. 5th International Conference on Environmental Science and Technology (ICEST2010), July 12-16, 2010 Houston, TX.

Valkenburg, J., J. Mueller and R. Rivera. 2010. *In Situ* Chemical Reduction (ISCR) Technology – Differentiators and Implementation. AIPG 47th Annual Meeting and Conference AGWT 10th Florida ASR Conference, September 11-15, 2010.

Peale, J. E. Bakkom, J. Mueller, J. Molin and A. Przepiora (2010). Pathway Identification During Successful ISCR-Enhanced Bioremediation of a TCE DNAPL Source Area. CONSOIL 2010, Salzburg Austria September 22-24, 2010.

Valkenburg, J. J. Mueller and A. Seech. 2010. *In Situ* Chemical Reduction for Footprint Reduction – Case Study for Organic Explosives in Soil. CONSOIL 2010, Salzburg Austria September 22-24, 2010.

Valkenburg, J. J. Mueller and J. Molin. 2010. *In Situ* Chemical Reduction for Groundwater Chromium Stabilization in a Complex Geological Environment. CONSOIL 2010, Salzburg Austria September 22-24, 2010.

Mueller, J., R. Rivera and A. Przepiora. 2010. DARAMEND *In Situ* Chemical Reduction (ISCR) Technology for Treatment of Soil and Sediment Impacted by Chlorinated Pesticides. 16th Annual Florida Remediation Conference Tools, Techniques and Practices October 14-15, 2010, Orlando Florida.

Hull, J. J. Collins, J. Mueller, and J. Moreno. 2011. Minimizing Contaminated Flow to Surface Water: Model Evaluation of Active Cap Designs. Battelle Sediments Conference, February 2011.

Christophe Mouvet, C., J. Mueller and L. Thannberger. 2011. Un projet international sur la Réduction Chimique *In Situ* (ISCR) de pesticides chlorés persistants dans des sols tropicaux / An International Project: *In Situ* Chemical Reduction (ISCR) for Persistent Chlorinated Pesticides in Tropical Soils. Intersol 2011, March 28-31, 2011 - Lyon, France.

Mueller, J., J. Moreno, J. Valkenburg and M. Brouman. 2011. Stabilisation Géochimique *In Situ* (ISGS) pour la gestion des NAPL / *In Situ* Geochemical Stabilization (ISGS) for NAPL Management. Intersol 2011, March 28-31, 2011 - Lyon, France.

Valkenburg, J., J. Mueller, J. Molin. (2011). *In Situ* Chemical Reduction (ISCR) Technologies - Differentiators and Implementation. RemTec Chicago, IL May 16-19, 2011.

Mueller, J. 2011. *In Situ* Chemical Reduction Technologies –Differentiators and Technology Implementation. Illinois Groundwater Association Annual Meeting. April 6, 2011 – Dickson Mounds, Illinois.

Mueller, J., J. Valkenburg, A Seech, J. Molin, E. Marcus Bucci, L. Thannberger, S. Colombano, M. Dictor, and C. Mouvet. 2011. *In Situ* Chemical Reduction (ISCR) for Removal of Persistent

Pesticides. Battelle *International Symposium on Bioremediation and Sustainable Environmental Technologies* - Reno, Nevada. June 27-30, 2011.

Mueller, J., J. Valkenburg, M. Scalzi, J. Collins and J. Hull. 2011. Reactive Sealants for Improved *In Situ* Remedial Actions. Battelle *International Symposium on Bioremediation and Sustainable Environmental Technologies* - Reno, Nevada. June 27-30, 2011.

Mueller, J., J. Moreno, A. Przepiora, B. Thompson, T. Majer. 2011. Transient Production of Ketones during *In Situ* Treatment: Environmental Fate of “Fermentation” By-Products. Battelle *International Symposium on Bioremediation and Sustainable Environmental Technologies* - Reno, Nevada. June 27-30, 2011.

Molin, J., T. Bellehumeur, J. Mueller, J., Valkenburg, J. Moreno and J. Vogan. 2011. Longevity of Micro-Scale ZVI and Organic Carbon in Permeable Reactive Barrier and Source Applications. Battelle *International Symposium on Bioremediation and Sustainable Environmental Technologies* - Reno, Nevada. June 27-30, 2011.

Mueller, J., J. Molin and J. Valkenburg. 2011. *In Situ* Chemical Reduction Technologies – Differentiators and Technology Implementation. American Institute of Professional Geologists – National Conference. September 10-13, 2011 - Bloomingdale, Illinois.

Mueller, J., J. Moreno, J. Valkenburg, G. Counsel, J. Erickson, M. Slenska and M. Brouman. 2011. Field Performance of *In Situ* Geochemical NAPL Stabilization. American Institute of Professional Geologists – National Conference. September 10-13, 2011 - Bloomingdale, Illinois.

Mueller, J. J. Molin and A. Przepiora. 2012. Advances in ISCR: Remedial Amendments and Application Strategies. Third Biennial Southeastern *In Situ* Soil and Groundwater Remediation Conference March 6-7, 2012 Raleigh, NC USA.

Mueller, J., P. Block and M. Brouman. 2012. *In Situ* Remedial Strategies for Managing PCP-Impacted Soil, Sediment and Groundwater. 108th Annual Meeting American Wood Preserver’s Association, Nashville TN April 19-May 2, 2012.

Mueller, J., J. Molin, and A. Przepiora. 2012. Potential Benefits of ISCR as Evidenced by 1,2-DCA Experiences. Clemson Hydrogeology Workshop April 1-3, 2012 Clemson SC.

Branquet, E., L. Thannberger, P. Denecheaue, J. Molin and J. Mueller. 2012. Injection of ISCR Materials into Challenging Aquifers using Manchette Tubes. Battelle’s Eighth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 21-24, 2012.

Molin, J., J. Mueller, J. Ogden and J. Zirkle. 2012. Remediation of a PCE Source Area Using a Water-Soluble ISCR Reagent. Battelle's Eighth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 21-24, 2012.

Mueller, J., J. Molin, F. Lakhwala, A. Przepiora and Dick Brown. 2012. Potential Benefits of ISCR as Evidenced by 1,2-DCA Experiences. Battelle's Eighth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 21-24, 2012.

Mouvet, C., M. Dictor, A. Mercier, S. Bristeau, L. Amalric and J. Mueller. 2012. *In Situ* Chemical Reduction (ISCR) for Removal of Kepone from Tropical Soils. Battelle's Eighth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 21-24, 2012.

Peale, J., E. Bakkom, J. Mueller, J. Molin and A. Przepiora. 2012. Predicting the Operational Life of Zero-Valent Iron During ISCR-Enhanced Bioremediation of TCE DNAPL. Battelle's Eighth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 21-24, 2012.

Salvador, C.V.W., J. Ferreira da Silva, J. Molin and J. Mueller. 2012. *In Situ* Stabilization of Lead at an Active Manufacturing Facility in Rio de Janeiro, Brazil. Battelle's Eighth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 21-24, 2012.

Valkenburg, J. Mueller, L. Lonning, A. St. John and K. Titkemeier. 2012. Field Performance of *In Situ* Geochemical NAPL Stabilization. Battelle's Eighth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey Ca. May 21-24, 2012.

Mueller, J. and P. Mosalve. 2012. Green and Sustainable Remediation of Pesticides. FIMA Conference, Bogota, Colombia June 5-9, 2012.

Mueller, J. and P. Mosalve. 2012. Green and Sustainable Remediation of Petroleum Hydrocarbons. FIMA Conference, Bogota, Colombia June 5-9, 2012.

Mueller, J. Advances in ISCR: Remedial Amendments and Application Strategies. 2012. XI Congreso Latinoamericano de Hidrogeología - IV Congreso Colombiano de Hidrogeología. Cartagena de Indias, Agosto 20 al 24 de 2012.

Mueller, J., C. Mouvet, M. Dictor, A. Mercier, S. Bristeau, and L. Amalric. 2012. *In Situ* Chemical Reduction (ISCR) Technology for Kepone and Other Pesticides. 17th Annual Florida Remediation Conference Tools, Techniques and Practices October 11-12, 2012 Orlando Florida.

Molin, J. J. Mueller, L. Moral Tarifa, C.Vicino Witier Salvador, and E. Pujol. 2012. *In Situ* Stabilization of Lead in Groundwater – Two Case Studies from Brazil. EKOS Brazil.

Gray, D. M. McKim, T. Shinkawa, E. Bishop, W. Meese and J. Mueller. 2012. *In Situ* Chemical Reduction of COVC and Chromium Facilitated Redevelopment of an Industrial Property. Re3 Conference, November 12-14, 2012 Atlantic City, NJ.

Mueller, J., D. Gray, M. McKim, T. Shinkawa, E. Bishop and W. Meese. 2013. *In Situ* Chemical Reduction of CVOC and Chromium Facilitated Redevelopment of an Industrial Property. Second International Symposium on Bioremediation and Sustainable Technologies, June 10-13, 2013 Jacksonville, Florida.

Mueller, J., J. Molin, P. Block and F. Lakhwala. 2013. ISCO or ISCR: Site-Specific Factors to Consider when Selecting a Remedial Approach. Second International Symposium on Bioremediation and Sustainable Technologies, June 10-13, 2013 Jacksonville, Florida.

Mueller, J. and J. Molin. 2013. Subsurface Distribution of ZVI/EHC Slurry – Validating Radius of Influence. Second International Symposium on Bioremediation and Sustainable Technologies, June 10-13, 2013 Jacksonville, Florida.

Aluani, S., E. Pujol, R. Martini, J. Mueller, A. Seech, J. Molin, and L. Moral. 2013. Pilot Test for Mercury Stabilization by *In Situ* Chemical Reduction (ISCR) in Groundwater (Brazil Site). Second International Symposium on Bioremediation and Sustainable Technologies, June 10-13, 2013 Jacksonville, Florida.

Aluani, S., E. Pujol, R. Martini, J. Mueller, A. Seech, J. Molin, and L. Moral. 2013. Arsenic Stabilization in Groundwater via *In Situ* Chemical Reduction (ISCR) in Brazil – Bench Test. Second International Symposium on Bioremediation and Sustainable Technologies, June 10-13, 2013 Jacksonville, Florida.

Aluani, S., E. Pujol, R. Martini, J. Mueller, A. Seech, J. Molin, and L. Moral. 2013. Site Closure Brownfield Redevelopment in São Paulo, Brazil, using *In Situ* Chemical Reduction for Chlorinated Compounds. Second International Symposium on Bioremediation and Sustainable Technologies, June 10-13, 2013 Jacksonville, Florida.

Molin, J., J. Mueller, A. Seech, C. Vicino Witier Salvador and E. Pujol. 2013. *In Situ* Stabilization of Lead in Groundwater – Two Case Studies from Brazil Second International Symposium on Bioremediation and Sustainable Technologies, June 10-13, 2013 Jacksonville, Florida.

Mueller, J., J. Molin, C. Salvador, and E. Pujol. 2013. *In Situ* Stabilization of Lead in Groundwater – Two Case Studies from Brazil. CIMAS III CONGRESSO INTERNACIONAL DE MEIO AMBIENTE SUBTERRÂNEO, October 1-3, 2013, Sao Paulo, Brazil.

Block, P., S. Steffl and J. Mueller. 2013. Advances in Activated Persulfate Oxidation for Remediation of Soil and Groundwater. CIMAS III CONGRESSO INTERNACIONAL DE MEIO AMBIENTE SUBTERRÂNEO, October 1-3, 2013, Sao Paulo, Brazil.

Mueller, J., L. Moral and P. Rodriguez. 2013. ISCO or ISCR – Site-Specific Factors to Consider when Selecting a Remedial Approach. CIMAS III CONGRESSO INTERNACIONAL DE MEIO AMBIENTE SUBTERRÂNEO, October 1-3, 2013, Sao Paulo, Brazil.

Mueller, J., D. Brown, and M. Naves. 2013. Potential Benefits of ISCR as Evidenced by 1,2-DCA Experiences. CIMAS III CONGRESSO INTERNACIONAL DE MEIO AMBIENTE SUBTERRÂNEO, October 1-3, 2013, Sao Paulo, Brazil.

Mueller, J. D. Gray. E. Bishop and W. Meese. 2013. *In Situ* Chemical Reduction of CVOC and Chromium Facilitated Redevelopment of an Industrial Property. CIMAS III CONGRESSO INTERNACIONAL DE MEIO AMBIENTE SUBTERRÂNEO, October 1-3, 2013, Sao Paulo, Brazil.

Mueller, J. 2013. Overview of ISCO and ISCR Technologies: Differentiators and Selection Criteria. Annual Meeting of the Israeli Society of Ecology and Environmental Sciences – Soil and Groundwater Remediation Innovation. October 7-9, 2013.

Mueller, J. 2013. Potential Benefits of ISCR as Evidenced by 1,2-DCA Experiences. Annual Meeting of the Israeli Society of Ecology and Environmental Sciences – Soil and Groundwater Remediation Innovation. October 7-9, 2013.

Mueller, J., J. Hull and S. McGee. 2014. Remedial Construction using AquaBlok-Based Technology to Place ISCR Reagents for Arsenic and Selenium Immobilization. Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 19-22, 2014 Monterey, California.

Mueller, J., S. Snyder and F. Kaub. 2014. ISCR Reagents Plus PAC for Arsenic Immobilization. Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 19-22, 2014 Monterey, California.

Mouvet, C., M. Sénergues, S. Bristeau, B. Collet, Jean-Marie Gaude, L. Rangon and J. Mueller. 2014. Field Validation of ISCR to Remediate French West Indies Soils Contaminated By Kepone. Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 19-22, 2014 Monterey, California.

Brown, D. and J. Mueller. 2014. Potential Benefits of ISCR as Evidenced by 1,2-DCA Experiences. Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 19-22, 2014 Monterey, California.

Seech, A., J. Mueller, E. Janzen and T. Stravasnik. 2014. Pretreatment of Pesticide-impacted Soil in Southern California using *In Situ* Chemical Reduction Technology. Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 19-22, 2014 Monterey, California.

Peale, J., M. Murray, J. Mueller and J. Molin. 2014. Occurrence and Attenuation of Lesser Chlorinated Compounds Associated with Legacy DNAPL Impacts – Case Study. Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 19-22, 2014 Monterey, California.

Molin, J., J. Mueller, J. Ogden and J. Zirkl. 2014. Successful Application of ISCR for Remediation of a TCA DNAPL Source Area. Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 19-22, 2014 Monterey, California.

PROVECTUS ENVIRONMENTAL PRODUCTS

Mueller, J. 2014. Remedial Actions in Colombia – Challenges and Progress. EKOS Brazil IX Seminário Internacional – Remediação e Revitalização de Áreas Contaminadas, October 1, 2014. Sao Paola, Brazil.

Hull, J. M. Scalzi and J. Mueller. (2015). Reasons and Technology for Inhibiting Methanogenesis during *In Situ* Sediment Treatment. Battelle's Eighth International Conference on Remediation and Management of Contaminated Sediments. January 12-15, 2015. New Orleans, LA.

Mueller, J., M. Scalzi, A. Karachalios, L. Kinsman and J. Peale. (2015). Controlling Methane Production during ERD and ISCR Remedial Actions. RemTEC Summit, March 2-4, 2015. Westminster, CO.

Mueller, J., M. Scalzi, W. Meese, S. Aluani and E. Pujol. (2015). Improved ISCR Reagent for Safer, More Efficient Remedial Actions. Controlling Methane Production during ERD and ISCR Remedial Actions. AEHS WEST COAST CONFERENCE March 23-26, 2015 San Diego, CA.

Hull, J., J. Collins, M. Scalzi and J. Mueller. (2015). Approach to Inhibit Methanogenesis during *In Situ* Sediment Treatment MGP Conference 2015, Providence, RI. April 15-17, 2015.

Mueller, J., M. Scalzi and J.F. Molina. (2015). Safer, More Effective ISCO Remedial Actions using Non-Extreme Persulfate Activation to Yield Sustained Secondary Treatment. PTAC 2015 Soil and Groundwater Forum – April 25, 2015 - Calgary, Alberta, Canada.

Rehm, B., J. Peterson and J. Mueller. (2015). Antimethanogenic ISCR Reagent for Improved Heavy Metal Immobilization. Battelle's Third International Symposium on Bioremediation and Sustainable Environmental Technologies. May 18-21, 2015 Miami, Florida.

Nelson, C. and J. Mueller. (2015). Antimethanogenic Supplement for ERD Amendments. Battelle's Third International Symposium on Bioremediation and Sustainable Environmental Technologies. May 18-21, 2015 Miami, Florida.

Hull, J. and J. Mueller (2015). Technology for Inhibiting Methanogenesis during *In Situ* Sediment Treatment. Battelle's Third International Symposium on Bioremediation and Sustainable Environmental Technologies. May 18-21, 2015 Miami, Florida.

Molina, J.F., J. Henderson, S. Prince and J. Mueller. (2015). Remedial Actions in Colombia – Challenges and Progress to Date. Battelle's Third International Symposium on Bioremediation and Sustainable Environmental Technologies. May 18-21, 2015 Miami, Florida.

Mueller, J. and J. Haselow. (2015). Antimethanogenic, Liquid ERD Amendment for Safer Remedial Actions. Battelle's Third International Symposium on Bioremediation and Sustainable Environmental Technologies. May 18-21, 2015 Miami, Florida.

Peale, J., M. Scalzi, T. Fowler, M. Montgomery, T. Boyd and J. Mueller. (2015). Antimethanogenic ISCR Reagent for Safer, More Efficient Remedial Actions. Battelle's Third International Symposium on Bioremediation and Sustainable Environmental Technologies. May 18-21, 2015 Miami, Florida.

Mueller, J., S. Aluani, E. Pujol, B. Dayharsh, J. Henderson and B. Meyer. (2015). Potential Consequences of Excessive Methane Production Following ERD and Conventional ISCR Treatment: Case Studies and Remedial Alternatives. RE3 CONFERENCE September 15-17, 2015 Philadelphia, PA

Selected Non-Reviewed Publications:

Mueller, J.G., S.E. Lantz and P. J. Chapman. 1990. Continuous-Flow, Sequential Bioreactor System for Biodegradation of Creosote and PCP: Bench-Scale Performance Data. SBP-GB Rep. 9/28/90.

Mueller, J.G., S.E. Lantz and P.J. Chapman. 1990. Batch Reactor System for Biodegradation of Creosote and PCP: Bench-Scale Performance Data. SBP-GB Rep. 10/31/90.

Chapman, P.J., P.H. Pritchard, J.G. Mueller and J.E. Harvey. 1990. Summary of Technical Support to U.S. EPA Regions and/or OERR on Superfund Activities. U.S. EPA, ERL-GB.

Mueller, J.G., S.E. Lantz and P.J. Chapman. 1990. Correlating Oxygen Uptake/Carbon Dioxide Production Rates with Creosote PAH Biodegradation Rates: Pilot-Scale Bioreactor Design. SBP-GB Rep. 11/21/90.

Pritchard, P.H., R. Cripe, J. Clark and J. Mueller. 1991. Protocols and a Scientific Database to Support Decisions on Bioremediation of Oil Spilled on Open Waters. NETAC, Pittsburgh, PA.

Pritchard, P.H., R. Cripe, J. Clark and J. Mueller. 1991. Protocol for Performing Microcosm Evaluations with Oil Spill Bioremediation Products. NETAC, Pittsburgh, PA.

Harvey, J.E., J.G. Mueller and P.H. Pritchard. 1991. Development of Procedures for use of Microbial Inocula to Biologically Treat Soils Contaminated by Creosote and Pentachlorophenol. EPA/600/X-91/129.

Mueller, J.G., S.E. Lantz, C.S. Heard, B.O. Blattmann, M. Downey, B. Artelt, B.P. Klubek and P.H. Pritchard. 1992. Solid-Phase Bioremediation of Diesel-Contaminated Soils. SBP Project No. SBP-GB 01/92-1. Written Report.

Mueller, J.G., and S.E. Lantz. 1992. Biotreatability of Soil from the Columbia Airport site, Columbia, South Carolina. SBP Project No. SBP-GB 02/92. Written Report.

Mueller, J.G., S.E. Lantz, and P.H. Pritchard. 1992. Studies of the Microbial Ecology of PAH Biodegradation in Norwegian Soils. SBP Project No. 12/2/010. Written Report, May 1992.

Mueller, J.G. 1992. Conceptual Remedial Design for In Situ Creosote Bioremediation of the Kettle Pond Area, Hocomonco Pond Location. SBP Project No. 12/2/067. Written Report, Sept. 1992.

Mueller, J.G. 1992. In situ Bioremediation Study for Diesel Fuel, Service City, Facility, Prudhoe Bay, Alaska. SBP Project No. 12/2/032. Written Report, October 1992.

Mueller, J.G. 1993. Creosote K001 Oxidation Field Bioremediation Clean Closure Assessment: Koppers Industries Dolomite Location. SBP Project No. 12/2/100. Written Report, January 1993.

Mueller, J.G. 1993. Bench-Scale Biofeasibility Study for Bioremediation of Soil Containing Creosote and PCP: Koppers Industries Port Newark Location. SBP Project No. 12/2/105. Written Report, March 1993.

Mueller, J.G. 1993. Final Report: Bench-Scale Bioslurry Reactor Study for Bioremediation of Soil Containing Creosote and PCP: Kopper's Gainesville Superfund Site. SBP Project No. 12/02/064. Written Report, April 1993.

Lin, J-E., P.H. Pritchard and J.G. Mueller. 1993. Identification of Encapsulation and Immobilization Techniques for Production, Storage and Application of PAH-Degrading Microorganisms. Final Report to U.S. DOD/USN. SBP Project No.12/3/018. Written Report, July 1993.

Mueller, J.G. 1993. Conceptual Remedial Design Initial Phase Bioremediation Operations for Creosote and CCA: Port Newark, New Jersey Location. SBP Project No. 12/3/030. Written Report, August 1993.

Mueller, J.G. 1993. Conceptual Remedial Design Initial Phase Bioremediation Operations for Creosote: Southern Wood Piedmont's Gulf, North Carolina Location. SBP Project No. 12/3/061. Written Report, September 1993.

Mueller, J.G. 1993. Bioremediation Field Demonstration for non-PCB Transformer oils: Final Report, Saluda River Electrical Cooperative. SCDHEC Project No. GWPD A-21-AA-15641. Written Report, October 1993.

Mueller, J.G., S.E. Lantz and P.H. Pritchard. 1993. Development of Protocol for Conducting Biofeasibility Assessments with Soil Containing Wood Preservatives. SBP Project No. 12/3/030. Written Report, November 1993.

Mueller, J.G. 1994. *In Situ* Bioremediation of Surface Soil at the South Cavalcade Street Superfund Site, Houston, Texas. SBP Project No. 94S120.10, January 10, 1994.

Mueller, J.G. 1994. Development of Biocomposite Matrices for In Situ Bioremediation of PAH-Contaminated Soil and Sediments: Final Report to U.S. DOD/USN (contract number N00014-90-C-2136). SBP Project No. 94S65.10 (12/3/018). Written Final Report. February 15, 1994.

Mueller, J.G. 1994. Pre-Construction Laboratory Testing Results: S-1 Soils Bioremediation Demonstration, Kopper's Feather River Site. SBP Project No. 94S56.10 (12/3/058). Written Final Report. March 30, 1994.

Mueller, J.G. 1994. Laboratory Bioremediation Treatability Study with Creosote Impacted Media, Sauget Illinois. SBP Project No. 94S34.10 (12/2/089). Draft Final Report for Kerr- McGee Chemical Company, May 20, 1994; Final Report July 10, 1994.

Mueller, J.G. 1994. Laboratory Treatability Study of *In Situ* Bioventing: Former Creosote Pond Area, Feather River Superfund Site. SBP Project No. S4030.10. Draft Final Report, June 2, 1994; Final Report July 1, 1994.

Mueller, J.G. 1994. Laboratory Treatability Studies of *In Situ* Bioremediation for creosote-containing soils: South Cavalcade Street Superfund Site. SBP Project No. S4024.10. Written Draft Final Report, June 27, 1994; Final Report June 27, 1994.

Mueller, J.G. 1994. Biofeasibility Assessment for *In Situ* Biosparging of VOCs. ACC/BEI Beaver Valley OTH Tank Farm Area, Phase 2 Analytical Support. Written Report. October 10, 1994.

Mueller, J.G. 1995. Technology Evaluation and Remedial Design Document, *In Situ* Chemical Containment Employing UVB Technology, Central Plant, ARCO Chemical Company/BEI Beaver Valley, PA. Written Report. February 7, 1995.

Mueller, J.G. 1995. 100% Design Document, Solid Phase Bioremediation. Port Newark, New Jersey. Written Report. February 9, 1995.

Mueller, J.G. 1995. *In Situ* Sediment Bioremediation Feasibility Study - Preliminary Report. North Little Rock, Arkansas. Written Report. May 1, 1995.

Mueller, J.G. 1995. *In Situ* Sediment Bioremediation Treatability Study - Final Report. North Little Rock, Arkansas. Written Report. October 21, 1995.

Mueller, J.G. 1995. *In Situ* Bioremediation and Source Management of Impacted Areas Employing Enhanced Vertical Ground Water Circulation (UVB) Technology. Focused Feasibility Study Environmental Biotechnology Support, Former Kopper's Superfund Site, Charleston, SC. Written Report, November 13, 1995.

Mueller, J.G. 1995. *In Situ* Bioremediation of Impacted Sediment Employing Biocomposite Technology. Focused Feasibility Study Environmental Biotechnology Support, Former Kopper's Superfund Site, Charleston, SC. Written Report. November 14, 1995.

Mueller, J.G. 1995. Base-Line Data Summary -*In Situ* Groundwater Pilot Bioremediation System. Koppers Company, Inc. Superfund Site Oroville, California (Feather River Plant) SBP Project No. S5151.10. Written Report December 2, 1995.

Mueller, J.G. and F. Lakhwala. 1996. DRAFT Final Report - Multivendor Treatability Demonstration of Bioremediation Technology at the Sweden-3 Chapman Site. NY State no. 8-28- 040. Written Report November, 1996.

Mueller, J.G., S.M. Borchert, N. Misquitta and D. Foster. 1997. Field Operations Plan: Initial Phase GZB NAPL Recovery and Containment System, Nashua NH. March 24, 1997.

Abstracts and Presentations (*speaker):

Mueller*, J.G., B.P. Klubek, E. Varsa and G. Kapusta. 1984. Enhancement of soybean inoculation via multiple antibiotic resistant mutants of *Rhizobium japonicum* strain 110. Agron. Abstr., Am. Soc. Agron. Annual Meetings, Las Vegas, NV, Nov. 25-30, 1984. p. 96.

Mueller*, J.G., H.D. Skipper, T.A. Hughes, L.W. Grimes and H.L. Musen. 1986. Intrinsic antibiotic resistance in *Bradyrhizobium japonicum*. Abstr. of Tech. Papers, Annual Meeting of Southern Association of Agricultural Scientists, Southern Branch ASA. Feb. 2-5, 1986. p.4.

Mueller*, J.G., H.D. Skipper, E.R. Shipe and R.M. Zablutowicz. 1986. Soybean cultivar x *Bradyrhizobium japonicum* strain interactions. Abstr. Tech. Papers, Annual Meeting SAAS, Southern Branch ASA. Feb. 2-5, 1986. p. 1.

Mueller*, J.G., H.D. Skipper and S.C. Wagner. 1986. Antibiotic resistance markers in *Bradyrhizobium japonicum* from South Carolina Soils. Bull. South Carolina Acad. Sci. Vol 68. p. 148.

Mueller*, J.G., H.D. Skipper, E.L. Kline and T.A. Hughes. 1986. Molecular characterization of carbamothioate-degrading microbes. Agron. Abstr., ASA Annual Meetings, New Orleans, LA. Nov. 30- Dec. 5, 1986. p. 184.

Mueller*, J.G., H.D. Skipper, E.R. Shipe and R.M. Zablotowicz. 1986. Soybean cultivar x *Bradyrhizobium japonicum* interactions. Abstr. Tech. Papers, Agron. Soc. South Carolina, Nov. 3, 1986. p. 8.

Shipe*, E.R., H.D. Skipper, J.G. Mueller and R.M. Zablotowicz. 1986. Soybean cultivar x *Bradyrhizobium japonicum* strain interactions. Agron. Abstr. ASA Annual Meeting, New Orleans, LA, Nov. 30- Dec. 5, 1986. p. 188.

Skipper, H.D., J.G. Mueller* and L.W. Grimes. 1986. Intrinsic antibiotic resistance in *Bradyrhizobium japonicum*. Agron. Abstr. ASA Annual Meeting, New Orleans, LA, Nov. 30- Dec. 5, 1986. p. 189.

Struble*, J.E., H.D. Skipper and J.G. Mueller. 1986. Interactions between mycorrhizal colonization, *Bradyrhizobium japonicum* nodulation and plant growth under varying P concentrations. Agron. Abstr. ASA Annual Meeting, New Orleans, LA, Nov. 30-Dec. 5, 1986. p. 190.

Mueller*, J.G., H.D. Skipper and E.L. Kline. 1987. Isolation and characterization of herbicide-degrading microorganisms. 36th Annual Pest. Chem. School, Jan. 8-9, 1987.

Mueller*, J.G., H.D. Skipper and E.L. Kline. 1987. Carbamothioate-degraders from South Carolina Soils. Proceed. South. Weed Sci. Soc. 40:385.

Mueller*, J.G., H.D. Skipper, E.L. Kline and T.A. Hughes. 1987. Isolation and molecular characterization of butylate-degrading microorganisms. Abst. 27th Annual Meeting Weed Sci. Soc. Am., Feb. 3-5, 1987. p. 18.

Mueller*, J.G., H.D. Skipper and E.L. Kline. 1987. Loss of butylate (But+)-degrading ability by a flavobacterium. Agron. Abstr. ASA Annual Meeting, Atlanta, GA. Nov. 29 - Dec. 4, 1987. p. 188.

Skipper, H.D., J.G. Mueller* and E.L. Kline. 1987. Biodegradation of carbamothioate herbicides as influenced by plasmid moieties. Agron Abstr. ASA Annual Meeting, Atlanta, GA p. 193.

Mueller*, J.G., H.D. Skipper and E.L. Kline. 1988. Biodegradation of carbamothioate herbicides. Proceed. South. Weed Sci. Soc. 41:348. First Place, National Graduate Student Competition.

Mueller*, J.G., H.D. Skipper and E.L. Kline. 1988. Degradation of carbamothioate herbicides by a soil bacterium. Abstr. 28th Annual Meeting Weed Sci. Soc. Am., Feb. 2-4, Las Vegas, NV p. 204.

Lawrence*, E.L., H.D. Skipper, J.G. Mueller and E.L. Kline. 1989. Herbicide-degrading microbes from carbamothioate-history soils. Proceed. South. Weed Sci. Soc. 42:121.

Mueller, J.G., P.J. Chapman and P.H. Pritchard*. 1989. Biodegradation of polycyclic aromatic hydrocarbon components of coal-tar creosote. Agron. Abstr. ASA Annual Meeting, Nov. 16-20, Las Vegas, NV p. 223.

Mueller*, J.G., S.E. Lantz, B.O. Blattmann and P.J. Chapman. 1991. Bench-scale evaluation of alternative biological treatment processes for the remediation of creosote-contaminated materials: solid-phase bioremediation. Proceed. Ann. Meeting Am. Soc. Microbiol., Dallas, TX.

Lantz*, S.E., J.G. Mueller, B.O. Blattmann and P.J. Chapman. 1991. Bench-scale evaluation of alternative biological treatment processes for the remediation of creosote-contaminated materials: slurry-phase bioremediation. Proceed. Ann. Meeting Am. Soc. Microbiol., Dallas, TX.

Sharak-Genthner*, B.R., G.T. Townsend, S.E. Lantz and J.G. Mueller. 1991. Biodegradation of the polycyclic aromatic hydrocarbon (PAH) fraction of creosote under three anaerobic enrichment conditions. Proceed. 12th Ann. Meeting SETAC, Nov. 3-7, 1991.

Morin*, J., L. Cifuentes, J. Mueller and R. Coffin. 1992. Stable carbon isotopes in CO₂ used to examine bacterial sources of organic matter. ASLO Aquatic Sciences Meeting.

Mueller*, J.G., D.P. Middaugh, S.E. Lantz, E.L. Kline, D.J. Lang, D. Ross, R.J. Colvin, S.W. Beckmann, K.L. Kreiton and P.H. Pritchard. 1992. Bioreactor technology for the degradation of creosote and pentachlorophenol: pilot-scale demonstration under the U.S. EPA SITE program. Proceed. Ann. Meeting Amer. Soc. Microbiol., May 26-30, 1992, New Orleans, LA.

Lin*, J-E., J.G. Mueller and P.H. Pritchard. 1992. Use of encapsulated microorganisms as inoculants for bioremediation. Amer. Chem. Soc. Special Session on Bioremediation of Soils and Sediments. September 21-23, 1992, Atlanta, GA.

Lin*, J-E. and J.G. Mueller. 1992. Use of encapsulated microorganisms to prevent pollution by pesticides. Proceed. HMC Superfund '92 Meeting, December, 1992, Washington D.C.

Heard*, C.S., J.G. Mueller, M.D. Brouman and E.T. Manges. 1993. Bioremediation of creosote contaminated soil in slurry-phase reactors as assessed by chemical and Microtox analyses. SETAC.

Devereux*, R., S.E. Lantz, D.L. Santavy, J.D. Berg and J.G. Mueller. 1993. Phylogenetic comparisons of PAH-degrading microorganisms. Proceedings, Amer. Soc. Microbiol. 93rd Ann. Meeting, May 16-20, 1993, Atlanta, Georgia.

Lin*, J-E., J.G. Mueller, E.J. Alesi and P.H. Pritchard. 1993. Use of groundwater circulation and immobilized-cell bioreactor for *in situ* bioremediation of soil and groundwater. Amer. Chem. Soc. Special Session on Bioremediation of Soils and Sediments. September 27-29, 1993, Atlanta, GA.

Peperstraete*, K., J-E. Lin, J.G. Mueller, S.E. Lantz and P.H. Pritchard. 1993. Inoculation with multiple microorganisms for bioremediation of creosote-contaminated soil. Amer. Chem. Soc. Special Session on Bioremediation of Soils and Sediments. September 27-29, 1993, Atlanta, GA.

Mueller*, J.G. 1994. Licensing of EPA Patents by Small Businesses: The TCE and PAH Patents. U.S. EPA's 5th Forum on Innovative Hazardous Waste Treatment Technologies: Domestic and International. May 3-5, Chicago, IL. Invited Speaker.

Lantz*, S.E., J.-E. Lin, J.G. Mueller, M.T. Montgomery and P.H. Pritchard. 1994. Influence of a surfactant on the mineralization of fluoranthene by *Sphingomonas paucimobilis* strain EPA505. Proceedings, Amer. Soc. Microbiol. 94th Ann. Meeting, May 23-27, 1994, Las Vegas, NV.

Flaherty*, D.F., J.G. Mueller, B.P. Gaber, W.W. Schultz and M.T. Montgomery. 1994. Application of transposon mutagenesis for the study of PAH degradation on surfaces by soil pseudomonads. Proceedings, Amer. Soc. Microbiol. 94th Ann. Meeting, May 23-27, 1994, Las Vegas, NV.

Mueller*, J.G., K.M. Brissette, A.P. Becker, and G.E. Van De Steeg. 1994. Evaluation of *in situ* bioventing and solid-phase bioremediation strategies for creosote-contaminated soils: Laboratory test results. Amer. Chem. Soc. Special Session on Bioremediation of Soils and Sediments. September 19-21, 1994, Atlanta, GA.

Trust*, B. J.G. Mueller and R.B. Coffin. 1994. Monitoring the biodegradation of polycyclic aromatic hydrocarbons by stable isotope ratio analysis. Amer. Chem. Soc. Special Session on Bioremediation of Soils and Sediments. September 19-21, 1994, Atlanta, GA.

Mueller*, J.G., M.D. Brouman, W.W. Schultz and E.J. Klingel. 1995. Microbiologically Enhanced Vertical Ground Water Circulation (UVB) Technology for *In Situ* Chemical Containment. Bioremediation Training: Innovative Technologies and Case Histories in Bioremediation. February 15-16, Charleston, SC.

Anderson*, C., J. Vorhagen, C. Page, and J. Mueller. 1995. *In situ* air stripping and bioremediation of ground water impacted by petroleum hydrocarbons. Haz. Mat. Control Res. Institute. Federal Environmental Restoration IV and Defense Cleanup. March 14-15, Atlanta, Georgia.

Mueller*, J.G. and R.J. Desrosiers. 1995. Cooperative Research and Development Agreements Program. Proceedings, U.S. EPA's Southeast Remediation Marketplace: Business Opportunities for Innovative Technologies. July 20-21, Atlanta, Georgia.

Borchert*, S., R. Desrosier, F. Lakhwala, J. Mueller, and W. Schultz. 1995. Using the Mesocosm System to Validate the Success of *In Situ* Bioremediation Strategies. 5th Annual Symposium on Groundwater and Soil Remediation. Oct. 2-6, 1995. Toronto, Ontario.

Mueller*, J.G., F. Lakhwala, S.E. Lantz, E.J. Klingel, M.D. Brouman, R.B. Coffin, C. Kelley, B. Trust, L.A. Cifuentes, M.T. Montgomery and W.W. Schultz. 1995. Use of UVB Technology and Integrated Bioreactors for Chemical Containment and *In Situ* Bioremediation of Subsurface Environments Contaminated by Coal Tar Creosote: Full-Scale Field Demonstration. International Symposium and Trade Fair on the Cleanup of Manufactured Gas Plants and Creosote Sites, September 19-21, 1995, Prague, Czech Republic.

Borchert*, S., J. Mueller, E. Alesi, C. Leins and V. Haninger. 1995. *In situ* bioremediation application strategies for soil and groundwater impacted by PAHs. International Symposium and Trade Fair on the Cleanup of Manufactured Gas Plants and Creosote Sites, September 19-21, 1995, Prague, Czech Republic.

Borchert*, S., J. Mueller, R. Coffin, W. Schultz, L. Cifuentes, and R. Checkai. 1995. Efficacy of Monitoring *In Situ* Bioremediation of Fossil Fuels Using the Mesocosm System. Superfund 95. Washington, D.C. Nov. 6-8, 1995.

Mueller*, J., S. Borchert, C. Heard, F. Lakhwala, S. Lantz, E. Klingel, W. Langley, M. Brouman, Richard Coffin, Cheryl Kelley, Beth Trust, Luis Cifuentes, Michael T. Montgomery, Thomas Boyd and Warren Schultz. 1995. Management of PAH-Impacted Sites via *In Situ* Chemical Containment and Monitoring. IGT's 8th International Symposium on Gas, Oil and Environmental Biotechnology. December 11-13, 1995. Colorado Springs, CO.

Borchert*, S., J. Mueller, E. Alesi, and C. Leins. 1995. Strategy and design criteria for *In situ* bioremediation of soil and groundwater impacted by PAHs. IGT's 8th International Symposium on Gas, Oil and Environmental Biotechnology. December 11-13, 1995. Colorado Springs, CO.

Montgomery, M.T.*, T. Boyd, B. Spargo, J. Mueller, R. Coffin and D. Smith. 1996. Bacterial productivity in a BTEX-contaminated and a creosote-contaminated aquifer: a comparison of 3H-leucine and 3H-thymidine incorporation methods. Proceedings Amer. Soc. Microbiol. 96th Ann. Meeting, New Orleans, LA.

Lakhwala, F.*, R. Desrosier, J. Mueller, N. Kolack and A. Gatchett. 1996. Demonstration of a microbiologically enhanced *in situ* groundwater circulation well technology at a Superfund site. Proceedings Amer. Soc. Microbiol. 96th Ann. Meeting, New Orleans, LA.

Lantz*, S.E., M.T. Montgomery, W.W. Schultz, P.H. Pritchard and J.G. Mueller. 1996. Constituents of organic wood preservatives that inhibit the fluoranthene-degrading ability of a soil bacterium. Proceedings Amer. Soc. Microbiol. 96th Ann. Meeting, New Orleans, LA.

Ho*, Y., Y. Yang, J.G. Mueller and P.H. Pritchard. 1996. Isolation and characterization of bacteria that transform fluoranthene and pyrene. Proceedings Amer. Soc. Microbiol. 96th Ann. Meeting, New Orleans, LA.

Yang*, Y., J.G. Mueller, Y. Ho and P.H. Pritchard. 1996. Characterization of fluoranthene degradation by two bacterial PAH degraders. Proceedings Amer. Soc. Microbiol. 96th Ann. Meeting, New Orleans, LA.

Montgomery*, M. T., T. J. Boyd, B. J. Spargo, J.G. Mueller, L. A. Cifuentes, C. A. Kelley, R. B. Coffin. 1997. Effect of a groundwater circulation well on BTEX degradation in a gasoline contaminated aquifer. Proceedings Amer. Soc. Microbiol. 97th Ann. Meeting, New Orleans, LA.

Patents:

Mueller, J.G. and P.J. Chapman. 1992. Biological Remediation of Creosote- and Similarly-Contaminated Sites. U.S. Patent Office No. 5,132,224; EC Patent Number EP O 404 466 B1 (December 27, 1990).

Mueller, J.G. and P.J. Chapman. 1993. Biological Remediation of Creosote- and Similarly-Contaminated Sites Using *Pseudomonas paucimobilis* strain EPA505. U.S. Patent Office No. 5,242,825.

Mueller, J.G., S.E. Lantz and P.H. Pritchard. 1997. Bioremediation of Soil or Groundwater Contaminated with Compounds in Creosote by Two-Stage Biodegradation. U.S. Patent Office No. 5,614,410.

Spargo, B.J. and J.G. Mueller. (filed 1995). Field Kit for Determining Biotreatability of Polycyclic Aromatic Hydrocarbons. Filed February 15, 1995.

Bernhardt, B., W.L. Langley, E. Klingel, F. Lakhwala, and J.G. Mueller. 1999. Bioremediation well and method for bioremediation treatment of contaminated water. US Patent 5,910,245 (June 8, 1999).

Mueller, J.G. and J. Hull. (2006). Reactive capping matrices for sub-aqueous treatment barriers. Pending.

Hull, J. and J. Mueller (2006). Reactive hole plug and subsurface sealant for pollution prevention. Pending.

Mueller, J.G. and A.G. Seech. (2007). ISCR for Turf Grass Applications. Refused.

Mueller, J.G. and A.G. Seech. (2009). *In Situ* Biogeochemical Stabilization Technology for DNAPL. Refused.

Hull, J. and J. Mueller. 2014. Method and Composition for Inhibiting Methanogenesis during In Situ Sediment Treatment. US PTO filing 62/024649.

Mueller, J.G., A. Karachalios and M. Scalzi. (2015 filing on Provect-K)

Research Grants Awarded:

USDA Competitive Grant: Loss of herbicide efficacy by microbial mediated processes; \$50,000.00 (1987): joint with E.L. Kline and H.D. Skipper.

Milkhaus South Laboratories: Mineralization of alachlor by pure and mixed bacterial cultures; \$3,500.00 (1988).

Southern Bio Products, Inc.: Laboratory and field evaluation of multi-stage creosote and PCB biotreatment processes; \$250,000.00 (1989-1991).

Massey-Burch Investment Group: Bioremediation of hazardous wastes: Venture Capital for SBP Technologies, Inc.

Groundwater Pollution Prevention Fund, Office of Environmental Processes and Effects Research: Reduction of Pesticide Applications Through Bioregulation; \$700,000.00 (1991-1993).

U.S. EPA Innovative Research Program: Role of plasmid transfer in microbial adaptation processes; \$50,000.00 (1990).

Superfund Program, U.S. Environmental Protection Agency, Region IV: Biotreatability of creosote-contaminated soil and water: bench studies; \$92,000.00 (1990).

Superfund Innovative Technologies Evaluation (SITE) Program: Biological treatment for the remediation of creosote and creosote derivatives in an aqueous state: pilot-scale demonstration; \$1,250,000.00 (1991).

Norwegian State Railway: Microbial Ecology of PAH Biodegradation \$10,000 (1992-1993): joint with Aquateam, Inc. (Norway) and U.S. EPA (\$60,000).

National Institute of Health, SBIR: Biological indicators for hazardous waste technologies; \$50,000 Phase I (1993).

Strategic Environmental Research and Development Program (SERDP), U.S. DOD/U.S.EPA: *In situ* bioremediation and efficacy monitoring for fossil fuel contamination. \$4,800,000.00 (\$700K FY'93; \$2,450K FY'94; \$750K FY'95; \$700K FY'96).

U.S. Naval Research Laboratory: *In situ* bioremediation of PAH-contaminated sediments using encapsulated catalysts: \$990,000.00 (\$95K FY'93; \$195K FY'94; \$300K FY'95; \$350K FY'96; \$200K FY'97).

U.S. DOD Dem/Val: Field monitoring of *in situ* bioremediation using overlapping ground water circulation cells (UVB biocurtain): \$250,000.00.

Superfund Innovative Technologies Evaluation (SITE) Program: *In situ* groundwater treatment using microbiologically enhanced groundwater circulation technology: full-scale field demonstration \$250,000.00 (1994-1996).

Countries Worked In:

United States of America, Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Colombia, Czech Republic, Denmark, France, Germany, Hungary, Israel, Italy, Jordan, Latvia, (Libya), Lithuania, Macedonia, Mexico, Norway, Poland, Slovakia, Spain, Taiwan, Thailand, United Kingdom, Vietnam and Venezuela.

Transcripts: Available upon request.