

D. Robert Gan, Ph.D., P.E.

Managing Principal

Mr. Gan has more than 30 years of research and professional experience in the civil and environmental engineering fields. He is a licensed Professional Engineer in a number of states in the U.S. and had served as the Board Director of Central Jersey Branch of the American Society of Civil Engineers (CJB/ASCE) from 2014 to 2016.

Mr. Gan's areas of expertise include business management; leadership development; marketing strategy development; merger and acquisition support; environmental liability management; litigation support; water and wastewater characterization, treatment, discharge permit applications and engineering design; fate and transport modeling; soil and groundwater remedial investigations and feasibility studies (RI/FS) and remedial design/remedial action (RD/RA); environmental and regulatory compliance assessment and audits; environmental support to property transaction activities; and air dispersion modeling, emission evaluation, and permit application.

SELECTED PROJECTS

Remedial Investigations and Remedial Actions

United States Geological Survey - Evaluated the fate and transport of volatile and semi-volatile organic compounds (VOCs and semi-VOCs) in the soil system. Conducted bench-scale laboratory tests to measure multi-phase distribution coefficients of selected VOCs and semi-VOCs. Analyzed experimental data and applied computerized property estimation methods to develop partition coefficients and distribution parameters for selected VOCs and semi-VOCs.

Fuel Distribution and Bulk Petroleum Storage Facilities, Various Locations in Connecticut, Florida, Georgia, Illinois, Kentucky, Massachusetts, Maryland, Michigan, North Carolina, New Jersey, New York, Ohio, Pennsylvania, Virginia, Wisconsin, West Virginia, and Washington, D.C. - Developed management strategies to effectively manage and discharge of environmental liabilities associated with sites having historical and on-going operation of petroleum fuel distribution and storage activities. Performed Phase I environmental site assessments and remedial investigations. Conducted bench-scale and field tests to evaluate the feasibility of natural attenuation, enhanced bioremediation, in-situ bioventing, in-situ chemical oxidation, soil vapor extraction, biosparging, air sparging, dual-phase vapor and liquid extraction (bio-slurping), groundwater hydraulic controls, intrinsic bioremediation, and passive and active containment to remediate and control petroleum-contaminated soils and groundwater. Prepared pilot study work plans, pilot study reports, remedial action work plans, groundwater reclassification, engineering design reports,

Education

Ph.D./Civil and Environ. Engineering
 University of Wisconsin-Madison
 Madison, Wisconsin
 December 1991

M.S./Civil and Environ. Engineering
 Utah State University
 Logan, Utah
 December 1988

B.S./Environmental Engineering
 National Chung-Hsing University
 Taiwan, R.O.C.
 June 1985

Professional/Business Training

U.S. Small Business Administration
 (US SBA) Emerging Leaders
 Training – April to October 2017

Advanced Management Program,
 TSM Business School – September
 2007 to March 2008

Senn-Delaney Leadership Training –
 February 2003 & July 2005

Crisis Communication Training –
 September 2002

Leading Professional Service Firms,
 Harvard Business School, July 2002

Integrated Decision Management –
 September 2001

Capital Stewardship &
 Organizational Capability Leadership
 Roles and Behaviors – June 2001

The OSHA 40-Hour Training Course
 in Hazardous Waste Operations and
 Emergency Response
 (HAZWOPER), required by OSHA
 29 CFR 1910.120

Licenses/Certifications

Licensed Professional Engineer (PE)
 in the States of Connecticut, New
 Jersey, New York, Pennsylvania, and
 Wisconsin

New Jersey Department of
 Environmental Protection (NJDEP)
 Underground Storage Tank (UST)
 Certification

Awards

Rudolph Hering Medal 1992
 American Society of Civil Engineers

Radebaugh Award 1989
 Central State Water Environmental
 Association

Golden Key Medal 1985
 Nation Chung-Hsing University

Jing-O Scholastic Award 1982
 National Chung-Hsing University

Professional Affiliations

American Society of Civil Engineers

Water Environment Federation

National Ground Water Association

Phi Tau Phi Scholastic Honorary
 Society

construction drawings, technical specifications, operation and maintenance plans, site-specific monitoring plans, risk-based corrective actions (RBCA), and site-specific health and safety plans. Evaluated remediation system performance, and coordinated and oversaw system operation, maintenance, and monitoring activities.

Former Envelope Manufacturing Facility, Union, New Jersey – Developed remedial strategy to manage environmental liability and facilitate the re-development of the environmental impacted site for residential re-use. Provided QA/QC and oversight for the conceptual site model development. Provided technical guidance and oversight of the SESOIL modeling activities to develop site-specific impact to groundwater soil remediation standards to effectively implement the soil remedial actions at the site. Provided QA/QC for the site investigation and remediation activities. Provided peer review of the remedial work plans, reports and permit preparation. Participated in public meetings to assist site development plan review and approval. Designed vapor intrusion (VI) mitigation system to address potential vapor intrusion issues. Provided oversight of VI system installation and construction. Prepared Classification Exception Areas for both overburden and bedrock aquifers at the site to restrict groundwater use at the site.

Former Chemical Manufacturing Facility, Berkeley Heights, New Jersey - Evaluated the effectiveness and performance of the established remedial measures and developed an exit strategy for this former chemical manufacturing facility. The established remedial measures at the site included a slurry wall and an impermeable cap to encapsulate the contaminants at the site. A hydraulic control system was also installed at the site to provide additional containment of the constituents of concern. In order to minimize spending on future remedial activities and effectively manage environmental liability, developed an alternative exit strategy to use intrinsic bioremediation as a primary remedial action to achieve closure goals. Also assisted client with divestment or beneficial reuse of this property.

Former Chemical Manufacturing Facility, New Jersey - Conducted Phase I environmental site assessment to evaluate the site condition, facility operation history, and relevant documents related to the environmental issues to assist the transfer of property ownership. Conducted Phase II site investigation to determine the background soil and groundwater quality, and to address the environmental concerns from the Phase I assessment work.

Former Electronics Manufacturing Sites, Binghamton and Kirkwood, New York – Assisted client with development of exit strategy to effectively manage and discharge the environmental liabilities and achieve site closures associated with these two legacy sites in Binghamton and Kirkwood, New York. Prepared reserve and life-cycle cost estimates for the client's financial reporting and environmental liability management. Managed project budget and validated reserve estimates to ensure achievement of site closures. Led negotiation and discussion with regulatory agencies and other stake holders to implement remedial activities at the sites. Evaluated in-situ aerobic, anaerobic, and anoxic degradation of VOCs in subsurface by injecting oxygen releasing compounds, ORC[®], and hydrogen releasing compounds, HRC[®]. Designed and implemented in-situ chemical oxidation (ISCO) systems, using sodium permanganate as the oxidizing agent, to address residual chlorinated VOCs in groundwater. Performed ISCO system operation and maintenance activities. Conducted groundwater monitoring for regulatory compliance and for remediation monitoring and optimization. Designed and implemented active sub-slab depressurization (ASD) systems at both sites to address vapor intrusion issues and indoor air quality abatement at both facilities.

Former Chemical Manufacturing Facility, California - Developed site closure strategy at this former chemical manufacturing facility and evaluated opportunity for redeveloping this property. Conducted site-specific, objective-oriented remedial investigations to determine the nature and extent of the soil and groundwater impacts. The work was focused on site end use to optimize efforts and

available resources and to minimize costs. The results of the investigation were used to develop practical and risk-based cleanup objectives for constituents of concern in soils and groundwater.

Fuel Oil Terminal Facility, Oceanside, New York - Developed a site investigation plan to determine the extent of phase-separated hydrocarbons (PSHs) and dissolved hydrocarbons at the site. Coordinated and oversaw the Geoprobe® investigation to characterize the dissolved-phase hydrocarbon contamination. Implemented a free-product recovery system as an interim remedial measure (IRM) for the impacted groundwater. Developed protocol for risk-based corrective actions (RBCA) to remediate the petroleum-contaminated groundwater. Implemented in situ chemical oxidation, using sodium permanganate as oxidant, to remediate groundwater impacted by chlorinated solvent at the site.

Shopping Center, New York - Developed field test work plans to evaluate the feasibility of air sparging to remediate groundwater contaminated with chlorinated VOCs. Oversaw field tests and provided peer review of the data analysis and pilot test reports. Developed remedial action implementation and monitoring work plans.

Casting Facility, Illinois - Conducted soil vapor extraction (SVE) pilot study to evaluate the feasibility of using SVE to remediate soils contaminated with chlorinated solvents. Evaluated the remedial alternatives, including in-situ air sparging, pump and treat, in-situ chemical oxidation, in-well aeration, in-situ circulation wells, and natural attenuation, to address groundwater contaminated with chlorinated VOCs. Designed a full-scale SVE system, and developed a system operation and maintenance and monitoring plan. Developed a long-term groundwater monitoring program to evaluate the effectiveness of using intrinsic bioremediation to remediate the groundwater.

Former Chemical Manufacturing Facility, Illinois - Conducted a comprehensive remedial investigation. Conducted a pilot study to evaluate the feasibility of using SVE and air sparging to remediate soils and groundwater contaminated with chlorinated solvents. Evaluated the remedial alternatives, designed a full-scale SVE and air sparging system, and developed system operation and maintenance and monitoring plan.

Waste Solvent Handling Facility, Wisconsin - Reviewed site hydrogeological conditions and contaminant characteristics to evaluate remedial alternatives for soils and groundwater contaminated with VOCs for this RCRA facility. Developed an interim remediation strategy to provide hydraulic control and containment of the contaminated groundwater, and an interim soil remediation plan. Prepared interim remedial measure report for a dual-phase vapor and liquid extraction system to the USEPA and the Wisconsin Department of Natural Resources (WDNR).

Former Electrical Appliances Facility, Wisconsin - Conducted an SVE pilot test for a forge compound waste disposal site at this CERCLA site to support the RI/FS. Conducted three-dimensional computer modeling analysis using CSUGAS and AIR3D models to support SVE system design. Evaluated the applicability of air sparging and in-situ bioremediation for remediating VOC-contaminated groundwater. Evaluated the fate of VOCs from the site in the municipal water-supply system. Conducted a pilot study to evaluate the feasibility of using bioventing to remediate fuel-oil-contaminated soils at a UST farm at the facility. The pilot study included in-situ O₂/CO₂ measurement to evaluate the in-situ bioactivity at the site. Also conducted in-situ respiration tests to evaluate the contaminants' biodegradation potential due to bioventing. Designed the bioventing system and coordinated the operation and maintenance of the bioventing system to remediate the fuel-oil-contaminated area.

Former Fuel Storage Facilities, Wisconsin - Conducted ASTM risk-based corrective action (RBCA) analysis for the petroleum-contaminated soils. Developed site-specific soil cleanup standards to support site closures. Demonstrated and implemented natural attenuation as the remediation means

for site closure. Evaluated hydrogeological data, site conditions, and groundwater quality to support groundwater remediation by natural attenuation.

Fuel Storage Facility, Wisconsin - Applied geostatistical methods to develop a field investigation plan to define petroleum contaminant impact on subsurface soils and groundwater. Site investigation considered the spatial distribution of contaminants at this 11-acre site. Developed a work plan for a laboratory biotreatability study. Conducted bioventing and air sparging pilot testing. Designed a full-scale bioventing, air sparging, and free-product recovery system. Conducted soil leaching tests to evaluate the site-specific soil cleanup standards.

Railroad Transportation Facility, Florida - Prepared construction drawings and technical specifications for a dual-phase vapor and liquid extraction system to remediate petroleum-contaminated soils and groundwater. Managed construction bidding process and coordinated system construction and startup activities.

Railroad Transportation Facility, North Carolina - Conducted contaminant fate and transport modeling analysis using the USEPA SESOIL model and the USGS MOC model to develop site-specific soil cleanup standards.

Railroad Transportation Facilities, Florida, Georgia, Maryland, and West Virginia - Directed the pilot studies for SVE bioventing, air sparging, and biosparging to evaluate their feasibility to remediate the petroleum-contaminated soils and groundwater. The pilot studies were also designed to obtain parameters for full-scale remediation system design. Activities included coordinating and supervising field activities, peer review of the pilot test results and pilot study reports, and preparing conceptual remediation system design.

Railroad Transportation Facilities, Georgia - Developed RCRA corrective measures and corrective action plans for a railroad transportation facility to remediate soil and groundwater contaminated with chlorinated solvents. Remediation systems included an SVE system, a vacuum-enhanced groundwater pump and treat system, and an in-situ air sparging system.

Petrochemical Manufacturing Facility, Lin-Yuan, Taiwan, R.O.C. - Provided technical review of remedial investigation and remedial action plans and reports. Directed field pilot studies for evaluate the feasibility and effectiveness of soil vapor extraction, air sparging, and in situ bioremediation to remediate constituents of concern in the subsurface. Developed remedial strategy to assist the petrochemical plant in effectively managing its environmental liability.

Water and Wastewater Characterization, Treatment, and Evaluation

PET Bottle Cleaning and Processing Facility, Stockton, California - Evaluated the feasibility of 100% recycle of treated wastewater from the facility to the bottle cleaning process. Evaluated options for reducing total dissolved solids (TDS) content in the effluent. Specified cooling tower unit, electrodialysis reversal (EDR) unit and evaporator for TDS removal at the facility. Provided assistance to the operation, performance monitoring, and maintenance of the wastewater treatment system at the facility. Prepared wastewater discharge permit to the City's POTW for emergency discharge purposes. Developed Storm Water Pollution Prevention Plan and provided training to the facility employee.

Petroleum Refinery, Superior, Wisconsin - Responsible for evaluating existing wastewater characteristics and designing a new best available control technology (BACT) wastewater treatment plant to comply with more stringent effluent limitations required by the refinery's NPDES permit. Assisted wastewater characterization study to identify wastewater characteristics and sources of loading and conducted a waste minimization study to reduce loading to the maximum extent and

separate stormwater to remove uncontaminated runoff. Assisted in engineering design for the wastewater treatment plant. Participated in construction oversight, shop drawings review, and coordination with contractors/subcontractors for system installation/construction and coordinated equipment deliveries and the construction schedule to monitor project milestone compliance. The treatment system consisted of oil/water separation, dissolved air floatation, flow equalization, pH neutralization, activated sludge with clarification, and sand filtration. The design complied with state regulations and federal limitations through the use of vapor recovery equipment to eliminate volatile organic compound emissions from all treatment units as required by the Clean Air Act.

Steel Mill, New Jersey - Evaluated the feasibility of using groundwater as an alternative source for the facility cooling process water. Conducted present-worth and payback analysis to select the most cost-effective water-use alternatives. Developed a conceptual plan for the groundwater extraction and treatment system to meet the plant water demand. Coordinated groundwater pumping tests and evaluated test results. Prepared the New Jersey Water Allocation Permit application.

Pharmaceutical Company, New Jersey - Evaluated potential impacts of air toxic emissions from the facility to the municipal water-supply system. Conducted modeling analysis to evaluate the fate of methylene chloride in the air stripping process of the municipal water treatment system. Conducted Monte-Carlo simulation to analyze the sensitivity and uncertainty of impact of the methylene chloride emissions on portable water quality.

Steel Mill, Kutztown, Pennsylvania - Evaluated the stormwater management network. Evaluated stormwater characterization, and prepared and submitted a stormwater discharge permit application.

Fuel Oil Terminal Facility, Oceanside, New York - Provided engineering evaluation of the existing stormwater collection and treatment system. Designed the stormwater collection and treatment system upgrade, including collection drainage, pumping stations, and carbon adsorption treatment system. Provided construction management for the installation and construction of the system upgrade. Coordinated equipment delivery with contractors for system construction and treatment unit installation. Oversaw system startup, and operation and maintenance. Provided litigation support to assist in compliance of regulatory requirements.

Deink Market Pulp Facility, Maryland - Conducted surface-water quality modeling analysis to simulate instream dissolved oxygen concentrations due to publicly owned treatment work effluent for a nearly 40-mile river. Conducted a zone of initial dilution (ZID) study to establish the surface-water discharge limits, and to present a conceptual design of the outfall diffuser system to optimize mixing ration. The modeling results were approved by the Maryland Department of Environment (MDE). The MDE established water quality based discharge limits for the facility at varying flow and temperature conditions.

Shopping Center, New Jersey - Evaluated the wastewater characteristics and treatment unit process for the existing wastewater treatment facility. Conducted an engineering analysis to determine the requirements for necessary system upgrade to comply with the New Jersey Pollutant Discharge Elimination System (NJPDES) discharge permit limitations.

Partition Manufacturing Facility, New Jersey - Conducted an engineering evaluation of the performance of an on-site wastewater treatment and disposal system. Evaluated wastewater characteristics, reviewed system operation and monitoring records, and evaluated alternatives to upgrade the on-site wastewater treatment and disposal system to meet the requirements for plant expansion. Prepared a life-cycle analysis (LCA) for the upgrade alternatives. Designed the on-site wastewater treatment and disposal system upgrade to accommodate facility future expansion. Prepared an NJPDES Discharge to Groundwater (DGW) permit application. Provided construction administration and startup services for the on-site wastewater treatment system. Developed system operation and maintenance procedures.

Metropolitan Sewerage District, Madison, Wisconsin - Evaluated data from a five-year field experiment relating to land disposal of municipal sewage sludge contaminated with polychlorinated biphenyls (PCBs). Investigated and evaluated the fate and transport of PCBs in the soil system. Estimated the disappearance rates of PCBs from the soil system and quantified model input parameters to conduct risk assessment of land application of PCB-contaminated soils at this CERCLA site. Developed a risk management plan to assist the sludge disposal practice. Evaluated cost-effective disposal alternatives for sewer sludge disposal at the wastewater treatment facility. Developed a sludge management program for the district.

Food Processing Facility, Baraboo, Wisconsin - Developed a sludge disposal management plan for the facility to assist record keeping, and state permit reporting requirements for the disposal of wastewater treatment system sludge to the local farmlands.

Municipal Wastewater Treatment Plant, Taichung, Taiwan, R.O.C. - Conducted wastewater characterization study to evaluate the treatment efficiency of existing wastewater treatment system to respond to additional waste loads from the service area. Conducted treatability study to select cost-effective treatment alternatives for potential system upgrade.

Air Dispersion Modeling and Emission Evaluation

Pharmaceutical Company, New Jersey - Evaluated potential impacts of air toxic emissions from the facility to the municipal water-supply system. Conducted a modeling analysis to evaluate the fate of methylene chloride in the air stripping process of the municipal water-supply treatment system. Conducted a Monte-Carlo simulation to analyze the sensitivity and uncertainty of impact of the methylene chloride emissions on portable water quality.

Chemical Manufacturing Facility, New Jersey - Evaluated potential impacts of air toxic emissions from the facility. Reviewed the NO_x RACT assessment. Prepared a Title V permit operation application and DPCC/DCR for the facility.

Oil Refinery Facility, Wisconsin - Conducted air quality modeling of SO₂ emissions to evaluate the facility's compliance with ambient air quality standards. Assisted plan to develop compliance plans.

Pulp and Paper Mill, Wisconsin - Conducted air quality modeling analysis of SO₂ and TSP emissions to evaluate the facility's compliance with ambient air quality standards, and to assess the potential prevention of significant deterioration (PSD) increment consumption for proposed boiler operation. Conducted a statistical assessment for arsenic emissions from coal burning boilers in compliance with regulatory requirements.

Chemical Plant Complex, California - Conducted air dispersion modeling analysis for arsenic emission from the plant complex in supporting the aspects of risk assessment and risk management.

Renewal Energy Projects Development

Solar Power Engineering System Development on Landfills, Bernards and Mt. Olive, New Jersey and Scituate, Massachusetts – Conducted environmental due diligence investigation and assessment, and critical issues analysis to evaluate the feasibilities of solar project developments on closed landfills. Conducted engineering analysis for solar racking system installation on existing cap system, gas collection, and stormwater management systems. Participated in site civil engineering and stormwater analysis for the installation of solar system on closed landfills.

EMPLOYMENT HISTORY

- 2011 – Date Member and Managing Principal
Verina Consulting Group, LLC, Bridgewater, New Jersey
- 2008 – 2011 Northeast US Region Manager, Senior Vice President
AMEC Earth & Environmental, Inc., Somerset, New Jersey
- 2005 – 2008 Northeast Area Manager, Senior Vice President
ARCADIS US, Inc., Edison, New Jersey
- 2004 – 2005 NY/NJ Area Manager, Vice President
ARCADIS G&M, Inc., Mahwah, New Jersey
- 2000 – 2003 Principal and Vice President
Blasland, Bouck & Lee, Inc., Cranbury, New Jersey
- 1996 – 2000 Regional Office Manager, Vice President
Gannett Fleming, Inc., Princeton, New Jersey
- 1995 – 1996 Project Manager/Senior Engineer
Eder Associates, Inc., Trenton, New Jersey
- 1995 – 1995 Project Manager/Senior Engineer
Eder Associates, Inc., Jacksonville, Florida
- 1991 – 1995 Project Engineer
Eder Associates, P.C., Madison, Wisconsin
- 1988 – 1991 Research and Teaching Assistant
University of Wisconsin, Madison, Wisconsin
- 1986 – 1988 Research Assistant
Utah State University, Logan, Utah
- 1985 – 1986 Research and Teaching Assistant
National Chung-Hsing University, Taichung, Taiwan, R.O.C.

SELECTED PUBLICATIONS

Gan, D. R., R. R. Dupont, and W. J. Doucette. April 20-22, 1988. Analysis of multiphase partition coefficients of organic constituents in soil systems. Proceedings of the Utah Water Pollution Control Association 1988 Annual Meeting, St. George, Utah, p. 73-90.

Berthouex, P. M., and D. R. Gan. May 16-18, 1989. Evaluation and modeling of sludge applied PCBs in soil system. Presentation at the 62nd Annual Meeting, Central States Water Pollution Control Association, Milwaukee, Wisconsin.

Berthouex, P. M. and D. R. Gan. 1989. Fate of PCBs in Soil Treated with Contaminated Municipal Sludge. Technical Report No. 5, The Consortium for Applied Water Pollution Control Research, College of Engineering, University of Wisconsin-Madison.

Gan, D. R. and R. R. Dupont. 1989. Multiphase and multicomponent measurements of batch equilibrium distribution coefficients for six volatile organic compounds. Hazardous Waste & Hazardous Materials, 6(4):363-383.

Berthouex, P. M. and D. R. Gan. September 23-27, 1990. Crop uptake and disappearance of PCBs from municipal-sludge treated farmland. Presentation at the 2nd International Conference on EnvironMetrics, Como, Italy.

Berthouex, P. M. and D. R. Gan. 1991. Loss of PCBs from municipal-sludge-treated farmland. *Journal of Environmental Engineering, ASCE*, 117(1):5-24.

Berthouex, P. M. and D. R. Gan. July 8-10, 1991. Fate of PCBs in municipal-sludge amended soil. *Environmental Engineering, Proceedings of the 1991 ASCE Specialty Conference, Reno, Nevada*, p. 277-282.

Gan, D. R. and P. M. Berthouex. October 7-10, 1991. The runoff and crop uptake of polychlorinated biphenyls in sewage sludge treated soil. Presentation of the 3rd International Conference on EnvironMetrics, Madison, Wisconsin.

Johnson, R. A., D. R. Gan, and P. M. Berthouex. October 7-10, 1991. Small sample fitting of censored data. Presentation at the 3rd International Conference on EnvironMetrics, Madison, Wisconsin.

Berthouex, P. M. and D. R. Gan. 1991. Discussion of: A comparison of estimates of kinetic constants for a suspended growth treatment system from various linear transformations. S.L. Ong, 62:894 (1990). *Research Journal of the Water Pollution Control Federation*, 63(5):820-823.

Gan, D. R. and P. M. Berthouex. March 29, 1992. The dissipation of PCBs in sewage-sludge treated soils. *Proceedings of 8th International Conference on Advanced Science and Technology, Argonne National Laboratory, Argonne, Illinois*, p. 173-181.

Berthouex, P. M. and D. R. Gan. May 19-22, 1992. Fate of polychlorinated biphenyls in soils treated with municipal sewage sludge. Presentation at the 65th Annual Meeting, Central States Water Pollution Control Association, Fontana, Wisconsin.

Gan, D. R. and W. J. Cunningham. July 17-20, 1992. Preliminary site investigation for petroleum-impacted soils and groundwater at a former fuel storage and distribution site. *Proceedings of the 1992 Modern Science and Technology Application Symposium, Chicago, Illinois*, p. 90-97.

Gan, D. R. and P. M. Berthouex. September 20-24, 1992. The fate of PCBs in sewage sludge amended soils. *Proceedings of the 65th Annual Conference & Exposition, Water Environment Federation, New Orleans, Louisiana*, 4:205-216.

Gan, D. R. and P. M. Berthouex. October 5-9, 1993. Risk assessment of applying PCB-contaminated municipal sewage sludge to farmland. *Proceedings of Asian Waterqual '93, the Fourth IAWQ Asian Regional Conference on Water Conservation and Pollution Control, Jakarta, Indonesia*.

Berthouex, P. M. and D. R. Gan. 1993. A model of measurement precision at low concentrations. *Water Environmental Research*, 65(5): 759-763.

Hoffman, G. D., D. R. Gan, L. M. Abriola, and K.D. Pennell. November 30-December 2, 1993. Implications of mass transfer and molecular diffusion on the performance of soil vapor extraction system. *Proceedings of the SUPERFUND XIV, Hazardous Materials Control Resources Institute*.

Gan, D. R. and P. M. Berthouex. 1994. Disappearance and crop uptake of PCBs from sludge-amended farmland. *Water Environmental Research*, 66(1):54-69.

Gan, D. R. April 12, 1994. Contaminated materials management and selected remedial actions – NR 718 and NR 722. Invited speaker at the seminar of Wisconsin Comprehensive Environmental

Cleanup Rule NR 700 Series, Sponsored by Federation of Environmental Technologists, Inc., Madison Chapter, Madison, Wisconsin.

Gan, D. R. June 19-24, 1994. Compliance with air emission regulations for the soil vapor extraction system. Proceedings of the 87th Annual Meeting & Exhibition, Air & Waste Management Association, Cincinnati, Ohio.

Baker, B. W., G. D. Hoffman, and D. R. Gan. September 20, 1994. In-situ groundwater aeration as an effective technique for remediation of petroleum contaminated aquifers. Presentation at the 1994 Eastern Section Meeting, AAPG-EMD-DEG, Lansing, Michigan.

Fenske, B. A. and D. R. Gan. March 6-8, 1995. Groundwater remediation enhanced by soil vapor extraction. Presentation at the Environment '95 Conference, Federation of Environmental Technologists.

Gan, D. R. and C. C. Wright. June 18-23, 1995. Establishing design criteria for a soil vapor extraction system. Proceedings of the 88th Annual Meeting & Exposition, Air & Waste Management Association, San Antonio, Texas.

Johnson, R. A., D. R. Gan, and P. M. Berthouex. 1995. Goodness-of-fit using very small but related samples with application to censored data estimation of PCB contamination. *Environmetrics*, 6:341-348.

Gan, D. R. and C.C. Wright. October 21-25, 1995. The feasibility of using bioventing to remediate fuel-oil contaminated soils. Proceedings of the WEFTEC '95, the 6th Annual Conference & Exposition, Water Environment Federation, Miami Beach, Florida, 2:457-467.

Gan, D. R. October 23-26, 1995. On-site bioremediation of petroleum-contaminated soils. Paper presented at the 10th Annual Conference on Contaminated Soils – Analysis, Fate, Environmental, and Public Health Effects and Remediation, University of Massachusetts, Amherst, Massachusetts.

Miller, A.W. and D. R. Gan. November 6-8, 1995. Soil and groundwater remediation using dual-phase extraction technology. Proceedings of the SUPERFUND XVI Conference, Hazardous Materials Control Resources Institute, Washington, D.C., p. 1191-1200.

Kugle, D.F. and D. R. Gan. 1996. Keeping remediation costs in check. *Petroleum Marketing Management*, January/February 1996, p. 31-32.

Gan, D. R. and C.C. Wright. March 1996. Bioventing fuel oils – In situ bioventing enhances fuel oil degradation. *Soil & Groundwater Cleanup*, p. 6-11.

Wright, C. C. and D. R. Gan. May 18-21, 1998. Using integrated approach to remediate a trichloroethylene-contaminated aquifer. Paper presented at The First International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, California.

Yuan, R., M. A. Hansen, D. R. Gan, and M. R. Fontana. March 16-18, 2015. In-situ Chemical Oxidation Application of High pH Activated Persulfate at a Challenging DNAPL Contaminated Site. Paper presented at the 2015 National Ground Water Association (NGWA) Groundwater Summit, San Antonio, Texas, March 16 -18, 2015.

Gan, D. R. June 22-25, 2016. Environmental Strategy to Expedite Remediation at a Brownfield Site. Presentation at 3rd International Reunion Conference on Environmental Engineering, University of Wisconsin - Madison, Madison, Wisconsin.