

Education:

Ph.D., Geology, Pennsylvania State University, 1976
M.S., Geology, Pennsylvania State University, 1969
B.A., Geology, Franklin and Marshall College, 1967

Professional Experience:

JG Environmental Inc., Boxborough, Massachusetts (2004-Present), President/Principal Hydrogeologist
GeoTrans, Inc., Harvard, Massachusetts, (2004-2006), Principal Hydrogeologist
GeoTrans, Inc., Harvard, Massachusetts, (1985-2004), Vice President/Principal Hydrogeologist
Roy F. Weston, Inc., (1984-1985)
Arthur D. Little, Inc., (1981-1984)
U.S. Geological Survey, Water Resources Division, Boston, Massachusetts and St. Paul, Minnesota, (1974-1981)

Professional Certification:

AIH-Certified Professional Hydrogeologist, #953,
Registered Licensed Site Professional, #4217, MA
Professional Geologist, #002722-G, PA

Professional Affiliations:

American Geophysical Union
American Institute of Hydrology
American Institute of Professional Geologists
American Society of Civil Engineers
American Water Resources Association
Association of Ground Water Scientists and Engineers of NGWA
Geological Society of America
International Association of Hydrological Sciences

Professional Committees:

Board of Registration of Hazardous Waste Site Cleanup Professionals for Massachusetts
Loss Prevention Committee of Massachusetts Licensed Site Professionals Association
Associate Editor for Ground Water

Experience Summary:

Dr. Guswa has more than 35 years of experience as a hydrogeologist and groundwater scientist. His experience ranges from planning, directing and implementing field investigations of groundwater systems to the application of analytical and numerical models to simulate groundwater systems. He has provided consulting services to local, national and international governmental agencies as well as commercial clients in the United States and Canada. His work experience includes planning and directing programs for regional and local groundwater resource evaluation; supervision of deep and shallow test well drilling and sampling programs; design and supervision of aquifer testing, monitoring and analysis programs; analysis of groundwater/surface water interactions; development and application of groundwater flow, energy and chemical transport models; assessment of soil and groundwater contamination; evaluation of vapor intrusion potential from contaminated soil and groundwater; evaluation and conceptual design of remedial systems; and participation in regulatory negotiations related to Remedial Investigation/Feasibility Studies, Remedial Design and Remedial Actions. He has also provided expert opinion and testimony as part of mediation, arbitration and litigation concerning soil and groundwater contamination, vapor intrusion potential, groundwater and soil remediation, as well as hydrogeology and hydrology.

Example Project Experience:

Principal Investigator for RI/FS and RD/RA Statement of Work negotiations, site investigation, data evaluation, and remedy selection and implementation for several federal and state Superfund sites. Principal work activities included participating in negotiations with regulatory agencies, designing and supervising implementation of site characterization investigations and data evaluation, developing and applying numerical models to aid analyses of groundwater flow and chemical transport, evaluating and assisting in the selection of remedial alternatives, and supervising the implementation of remedial actions.

Principal Investigator for pre-design investigations for a former MGP site in Massachusetts. Project work included the design of a field investigation to determine the extent of mobile NAPL, mapping subsurface conditions that control the NAPL migration, and selecting locations for installation of grouted sheet pile walls and NAPL recovery wells. The selected remedy for a portion of the site was installation of physical and hydraulic barriers to prevent LNAPL and DNAPL discharge into an adjacent river.

Principal Investigator for the implementation of an Interim Remedial Measure to excavate contaminated soil from beneath a former degreaser in an unoccupied building. The excavated soil was stockpiled on-site and treated with conventional soil vapor extraction (SVE) and thermally-enhanced SVE. A second SVE system was installed within the shallow bedrock beneath the excavated area to remove residual contamination from bedrock fractures that were dewatered as a result of groundwater extraction. The combined hydraulic capture zone of the on-site groundwater extraction system and an adjacent groundwater extraction system was evaluated and a report recommending enhancements to the recovery systems to improve the performance of the combined systems was submitted to the MassDEP.

Evaluated hydrodynamic, gravitational, and capillary pressure forces on the migration of an immiscible organic fluid. Developed and applied a one-dimensional multiphase flow model to aid design of a remedial plan for DNAPL migration at an inactive landfill. Provided technical evaluation of hydrogeologic issues in support of settlement agreement discussions and possible litigation.

Provided technical analyses regarding the nature and extent of soil and groundwater contamination resulting from leaking underground tanks and pipelines. Designed investigations and actions to remediate associated soil and groundwater contamination.

Project Director, Principal Investigator and LSP of Record for several sites in Massachusetts where soil and groundwater were contaminated by chlorinated solvents and/or petroleum hydrocarbons. Work was done in accordance with the provisions of the Massachusetts Contingency Plan.

Provided technical analysis and evaluations regarding hydrogeologic and regulatory considerations related to landfill siting, expansion, and closure.

Provided expert testimony and technical analyses regarding a variety of hydrogeologic-related issues in support of litigation related to causes, impacts and remediation of soil and groundwater contamination.

Developed a groundwater contamination response guide for the U.S. Air Force.

Principal Investigator to review available hydrogeologic and geochemical data for areas being investigated by US Department of Energy as potential repositories for high level radioactive waste.

Principal Investigator to provide technical assistance to a European governmental agency regarding groundwater issues related to siting, monitoring, and evaluating sites for disposal of low and intermediate level radioactive wastes.

Consultant to Ministry of Agriculture and Fisheries, Sultanate of Oman regarding water resource appraisals.

Project Director for US Geological Survey groundwater resource appraisals of Cape Cod, Massachusetts and the Twin Cities metropolitan area, Minnesota.

Project Director for U.S. Geological Survey participation in an aquifer thermal energy storage (ATES) project in St. Paul, Minnesota.

Staff Geologist on a U.S. Geological Survey project to map surficial geology of the Pepperell quadrangle in Massachusetts.

Publications:

1. Guswa, J. H., Bridge, J. R., Sheehan, A. B., and Benegar, J., 2011. Application of a Regional Groundwater Flow Model to Assist in the Selection, Design, Construction, and Performance Evaluation of a Tunnel Drain Collection System for PCB-Contaminated Groundwater in Fractured Bedrock: presented at IGWMC MODFLOW and More 2011 Conference, Golden, CO, June 5-8, 2011.
2. Scheuing, L.E., Guswa, J.H., Bridge, Jonathan R., and LaPoint, E.K., 2011. Delineating the Extent of PCB DNAPL in Fractured Shale: presented at NGWA Groundwater Summit Conference, May 1-5, 2011, Baltimore, MD.
3. Bridge, Jonathon R., Leerkes, J., Baltz, J. F., Lougen, J, Sheehan, A. B., Guswa, J. H., Tripp, D., and Smith, J., 2010. Construction of a Tunnel/Drain Collection System To Control Contaminant Migration In Fractured Bedrock: presented at Battelle International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 23-26, 2010; Monterey, CA
4. Guswa, J.H., Bridge, Jonathan, R., and Johns, Maryellen, 2007. Groundwater Remediation at the W.R. Grace Property, Wells G and H Superfund Site, Woburn, Massachusetts; Fifteen Years of Progress: Proceedings of the 2007 U.S. EPA/NGWA Fractured Rock Conference: State of the Science and Measuring Success in Remediation, September 24-26, 2007, Portland, ME.
5. Eschner, T .R., Rawson, J. R. Y., and Guswa, J. H., 2007. Technical Impracticability Waiver as a Component of a Site-wide Remedy at a Fractured Bedrock Superfund Site in New England: Proceedings of the 2007 U.S. EPA/NGWA Fractured Rock Conference: State of the Science and Measuring Success in Remediation, September 24-26, 2007, Portland, ME.
6. Sheehan, A. B., Guswa, J. H., and Johns, M. C., 2006. Use of Sub-River Diffusive Samplers to Determine the Extent of Contaminated Groundwater Discharging to Surface Water: presented at the Geological Society Annual Meeting in Philadelphia, Pa, October 22-25, 2006.
7. Guswa, J.H., 2005. Technical Impracticability Waivers-Three Site Comparison: presented at the NGWA Theis Conference, Environmental Decision Making: Restoration vs. Risk Reduction, Jan 14-17, 2005, Sedona, AZ.
8. Guswa, J.H., Bridge, J.R., Kueper, B.H., Rawson, J.R.Y., Sheehan, A.B., Scheuing, L.E., Haggard, J.G., and LaPoint, E., 2004. An Innovative Approach for Hydraulic Containment of PCB Contamination in Fractured Bedrock: Invited Presentation at the US EPA/NGWA Fractured Rock Conference in Portland, ME, September 15, 2004.
9. Guswa, J.H., 2003. Options for DNAPL Source Area Containment: Invited Presentation at the US EPA Engineering, Ground Water, and Federal Facilities Forums spring Technical Support Program meeting in Seattle, WA, April 23, 2003.
10. Guswa, J.H., Bridge, J.R., Benjamin, A.E., Scheuing, L.E., Haggard, J.G., LaPoint, E., Rawson, J.R.Y., and Kueper, B.H., 2002. Tunnel/Drain Collection System to Control Contaminant Migration in Fractured Bedrock:

presented at Battelle International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 20-23, 2002; Monterey, CA.

11. Rawson, James R.Y., Bridge, J.R., Guswa, J.H., LaPoint, E., 2002. A Polymer Flood to Recover DNAPL from Shallow Fractured Bedrock: presented at Battelle International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 20-23, 2002; Monterey, CA.
12. Bridge, J.R., Scheuing, L.E. Guswa, J.H., Benjamin, A.E., Blackey, M., and Kueper, B.H., 2001. The Use of Borehole Geophysics for Hydraulic Characterization to Support Remedial Design for DNAPL Contamination in Fractured Rock: presented at GSA Annual Meeting, Boston, MA, November 2001.
13. Guswa, J.H., Benjamin, A.E., Bridge, J.R., Scheuing, L.E. Tallon, C.D., Wells, J.H., Yates, C.C., LaPoint, E., 2001. Use of Flute System for Characterization of Groundwater Contamination in Fractured Bedrock, Proceedings, Fractured Rock 2001, Toronto, Ontario, March 2001.
14. Bridge, J.R., Rawson, J.Y., Guswa, J.H., LaPoint, E., Gauthier, M. and Kueper, B.H., 2001. An Alcohol-Polymer Flood to Recover DNAPL from Shallow Fractured Bedrock, Proceedings, Fractured Rock 2001, Toronto, Ontario, March 2001.
15. Benjamin, A.E., Bridge, J.R., Guswa, J.H., Johns, M.E., 2001. Use of Multi-Level Wells and Diffusive Sub-River Samplers to Determine the Extent of Contaminated Groundwater in Fractured Bedrock, Proceedings, Fractured Rock 2001, Toronto, Ontario, March 2001.
16. Guswa, J.H., 2000. Installation and Use of FLUTe Multi-Level Monitoring Systems for Water Level and Water Quality Monitoring: presented at USEPA sponsored workshop on characterization and remediation of contaminated groundwater in fractured bedrock, Providence, RI; Nov. 2000.
17. Guswa, John H., Bridge, Jonathan R., and Jordan Michael J., 2000. Delineation of VOC-Contaminated Groundwater Discharge Zone, St. Joseph River, Elkhart, Indiana: in Proceedings of the Ground-Water/Surface-Water Interactions Workshop, EPA/542/R-00/007, 200 pp.
18. Rawson, J.R.Y., Bridge, J., Guswa, J., and LaPoint, E., 2000. A Polymer Flood to Recover DNAPL from Shallow Fractured Bedrock: presented at Battelle International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 22-25, 2000; Monterey, CA.
19. Zeeb, P., Jordan, M., and Guswa, J., 2000. Efficient Three-Dimensional Characterization of TCE Transport in a Sandy Aquifer/Surface Water System; presented at Battelle International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 22-25, 2000; Monterey, CA.
20. Guswa, J.H., Bridge, J.R., and Johns, M., 1999. Review of the Remediation of the W.R. Grace Property in Woburn, MA: presented at the NGWA 1999 Theis Conference regarding Remediation of Subsurface Contaminants: The Meaning and Measures of Success, November 1999; Amelia Island, FL.
21. Guswa, J.H., 1999. Geoscientists in the Legal System: Invited presentation at the Geological Society of America Annual Meeting Pardee Symposium; October 26, 1999; Denver, CO.
22. Guswa, J.H., 1999. Woburn Toxic Trial - Lay Jury and Technical Testimony: Presented at American Geophysical Union Spring Meeting. June 1-4, 1999, Boston, Massachusetts.
23. Guswa, J.H., 1999. Groundwater Remediation at the W.R. Grace Property: presented at the Geological Society of America Northeastern Section Annual Meeting, March 22-24, 1999; Providence, Rhode Island.
24. Guswa, J.H., 1998. Groundwater/Surface Water Interactions Can Preclude Aquifer Restoration: presented at the American Institute of Hydrology/International Association of Hydrogeologists Joint Conference on

Physical, Chemical and Biological Aspects of Aquifer-Stream Relations, September 27-October 2, 1998; Las Vegas, Nevada.

25. Rawson, J.R.Y., May, R.J., and Guswa, J.H., 1998. Remediation of Multi-Component PCB Containing DNAPL Reservoirs in Fractured Rock: presented at Battelle International Conference on Remediation of Chlorinated and Recalcitrant Compounds, May 18-21, 1998; Monterey, CA.
26. Guswa, J.H., 1997. Conflicting Demands on Water Resources in Urban Areas, The Aberjona River Watershed - An Example: presented at American Institute of Hydrology International Conference on advances in Ground-Water Hydrology - A Decade of Progress, November 16-20, 1997; Tampa, FL.
27. Guswa, J.H., and Rawson, J.R.Y., 1997. Conceptual Model for Remediation of Multi-Component PCB DNAPL Reservoirs in Fractured Rock: presented at the Geological Society of America Annual Meeting Salt Lake City, Utah, October 1997.
28. Kickham, B.J., J.H. Guswa, and J.R. Bridge, 1994. Application of the Principle of Superposition for Effective Groundwater Remediation at the W.R. Grace Facility, Woburn, Massachusetts. Proceedings of the 1994 Focus Conference on Eastern Regional Ground Water Issues, Burlington, VT.
29. Guswa, J.H. and Cherry, J.A., 1993. Factors Affecting the Feasibility of Aquifer Remediation in an Industrial Urbanized Setting, Presented at the Geological Society of America Meeting, Boston, MA, October 1993.
30. Guswa, J.H. and Moore, M.B., 1992. Large-scale Pump-and-Treat in Fractured Rock for Coordinated Remediation of Neighboring Properties; Invited Presentation at the 1992 NGWA Annual Meeting, Las Vegas, NV.
31. Guswa, J.H., 1991. Technical issues of Groundwater Remediation Related to Environmental Law Enforcement at Superfund Sites; talk presented at US Department of Justice 1991 Environmental Law Enforcement Conference; conference co-sponsored by US EPA and Executive Office of US Attorneys: New Orleans, LA.
32. Faust, C.R., J.H. Guswa, and J.W. Mercer, 1989. Simulation of Three-dimensional Flow of Immiscible Fluids Within and Below the Unsaturated Zone: *Water Resources Research*, 25(12): 2449-2464.
33. Guswa, J.H., P.F. Andersen, and T.W. Whiteside, 1989. Analysis of Recent Data Regarding Groundwater Conditions of Nassau County, New York: *NWWA FOCUS Conference on Eastern Regional Groundwater Issue*, Kitchener, Ontario, Canada.
34. Guswa, J.H., and D.S. Ward, 1987. Three-dimensional Models of Groundwater Flow and Chemical Transport in the Aberjona River Valley, Woburn, Massachusetts: Presented at the NWWA Symposium titled Solving Groundwater Problems with Models, Denver, CO.
35. Le Blanc, D.R., J.H. Guswa, M.H. Frimpter, and C.J. Londquist, 1987. Groundwater Resources of Cape Cod, Massachusetts, *U.S. Geological Survey Hydrologic Investigations Atlas*, HA-692, 4 sheets, scale 1:48000.
36. Guswa, J.H., 1984. Application of Multi-phase Flow Theory at a Chemical Waste Landfill, Niagara Falls, New York, *Proceedings of the Second International Conference on Groundwater Quality Research*, (1984 Conference) published by the National Center for Ground Water Research.
37. Guswa, J.H., and D.R. LeBlanc, 1985. Digital Models of Groundwater Flow in the Cape Cod Aquifer System, Massachusetts, U.S. Geological Survey Water Supply Paper 2209.
38. Guswa, J.H., et al., 1984. *Ground Water Contamination and Emergency Response Guide*, Noyes Publication Co., NJ.

39. Guswa, J.H., and D.R. LeBlanc, 1984. Modeling Groundwater Flow in a Coastal Environment. Cape Cod, Massachusetts, *Proceedings of the NWWA Conference on Ground Water Management*, Orlando, FL.
40. Guswa, J.H., and C.R. Faust, 1984. Application of Multi-phase Flow Models to the S-Area Landfill, Niagara Falls, New York, presented at the American Geophysical Union Spring Meeting Symposium regarding Miscible and Immiscible Transport in Groundwater, Cincinnati, OH.
41. Guswa, J.H., 1984. Application of Multi-phase Flow Theory to Design a Remedial Action at a Chemical Waste Landfill, Niagara Falls, NY, presented at the Geological Society of American Hydrotechnology Symposium, Providence, RI.
42. Guswa, J.H., D.I. Siegel, and D.C. Gillies, 1982. A Preliminary Evaluation of the Groundwater Flow System in the Twin Cities Metropolitan Area, Minnesota, *U.S. Geological Survey Water Resources Investigations Report* 82-44.
43. Tasker, G.D., and J.H. Guswa, 1978. Application of a Mathematical Model to Estimate Water Levels, *Ground Water*, 16(1):1821.
44. Guswa, J.H., and D.R. LeBlanc, 1977. Freshwater/Saline Water Relationships on Cape Cod, Massachusetts, presented at Annual Meeting of National Water Well Association, Boston, Massachusetts, (Abstract published in *Ground Water*, 15(4): 323.
45. Guswa, J.H., 1977. Hydrologic Impacts of Two Selected Wastewater Management Alternatives for Cape Cod, Massachusetts, U.S. Geological Survey Administrative Report prepared for USEPA.
46. LeBlanc, D.R., and J.H. Guswa, 1977. Watertable Map of Cape Cod, Massachusetts, May 23-27, 1976, *U.S. Geological Survey Open File Report* 77-419.
47. Guswa, J.H., and C.J. Londquist, 1976. Potential for Development of Groundwater at a Test Site Near Truro, Massachusetts, *U.S. Geological Survey Open File Report* 76-614.