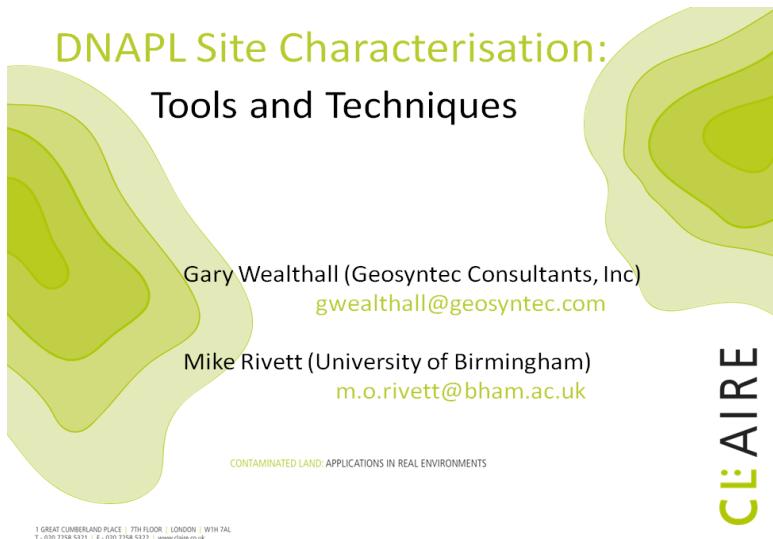


## Cited and Useful literature listing



Brewster, M.L., Annan, A.P., Greenhouse, J.P., Kueper, B.H., Olhoeft, G.R., Redman, J.D., and Sander, K.A., 1995. Observed migration of a controlled DNAPL release by geophysical methods. *Ground Water*, 33(6), 977-987.

Brooks, M.C., Annable, M.D., Rao, P.S.C., Hatfield, K., Jawitz, J.W., Wise, W.R., Wood, A.L. and Enfield, C.G., 2002. Controlled release, blind tests of DNAPL characterization using partitioning tracers. *J. Contaminant Hydrology*, 59, 187-210.

Davis, B.M., Istok J.D., Semprini L., 2003. Static and push-pull methods using radon-222 to characterize dense nonaqueous phase liquid saturations *Ground Water* 41 (4), 470-481.

Chapman, S.W., Parker, B.L., 2005. Plume persistence due to aquitard back diffusion following dense nonaqueous phase liquid source removal or isolation. *Water Resources Research*, 41, W12411.

Cohen, R.M. and Mercer, J.W., 1993. *DNAPL Site Evaluation*. C.K. Smoley, CRC Press.

Davison, R.M., Wealthall, G.P. and Lerner, D.N. (2002) Source treatment for dense non-aqueous liquids. R&D Technical report P5-051/TR/01 Environment Agency, Bristol. ISBN 1 857054 830.

DiFilippo, E.L., Brusseau, M.L., 2008. Relationship between mass-flux reduction and source-zone mass removal: Analysis of field data. *J. Contam. Hydrol.* 98, 22 – 35.

Falta, R.W., P.S. Rao, and N. Basu, 2005. Assessing the impacts of partial mass depletion in DNAPL source zones. I. Analytical modeling of source strength functions and plume response. *J. Contaminant Hydrology*, 78, 259-280.

Falta, R.W., Basu, N., Rao, P.S., 2005. Assessing the impacts of partial mass depletion in DNAPL source zones: II. Coupling source strength functions to plume evolution. *J. Contam. Hydrol.* 78, 259–280, doi:10.1016/j.jconhyd.2005.05.010.

Feenstra, S., Mackay, D., Cherry, J.A., 1991. A Method for Assessing Residual NAPL Based on Organic Chemical Concentrations in Soil Samples. *Ground Water Monit. R.* 11(2), 128-136.

Gerhard, J. I., and B. H. Kueper, 2003. Relative permeability characteristics necessary for simulating DNAPL infiltration, redistribution, and immobilization in saturated porous media, *Water Resour. Res.*, 39(8), 1213, doi:10.1029/2002WR001490.

Gerhard, J.I., Pang, T.W., and B.H. Kueper, 2006. Time scales of DNAPL migration in sandy aquifers investigated with numerical simulation. *Ground Water*, 45(2), 147-157.

Glover KJ, Munakata-Marr J, Illangasekare TH (2007) Biologically-Enhanced Mass Transfer of Tetrachloroethene from DNAPL in source zones: experimental evaluation and influence of pool morphology. *Environ. Sci. Technol.* 41(4), 1384-1389.

Grant G.P., Gerhard, J.I., 2007. Simulating the dissolution of a complex dense nonaqueous phase liquid source zone:1. Model to predict interfacial area, *Water Resour. Res.* 43:W12410.

Guilbeault, M.A., Parker, B.L., Cherry, J.A., 2005. Mass and Flux Distributions from DNAPL Zones in Sandy Aquifers. *Ground Water* 43(1), 70 – 86.

Hofstee, C., M. Oostrom, J. H. Dane, and R. C. Walker, 1998. Infiltration and redistribution of perchloroethylene in partially saturated, stratified porous media, *J. Contam. Hydrol.*, 34, 293– 313.

Imhoff, P., Jaffé, P., Pinder, G., 1993. An experimental study of complete dissolution of a nonaqueous phase liquid in saturated porous media. *Water Resour. Res.* 30(2), 307-320.

ITRC (Interstate Technology & Regulatory Council), 2000. Dense non-aqueous Phase liquids (DNAPLs): Review of Emerging Characterisation and Remediation Technologies. 79 pp.  
<http://www.itrcweb.org/Documents/DNAPLs-1.pdf>

ITRC (Interstate Technology & Regulatory Council), 2003. An Introduction to Characterizing Sites Contaminated with DNAPLs 73 pp. [www.itrcweb.org/Documents/DNAPLs-4.pdf](http://www.itrcweb.org/Documents/DNAPLs-4.pdf)

Jackson R.E., Jin, M., 2005. The measurement of DNAPL in low-permeability lenses within alluvial aquifers by partitioning tracers. *Environ. Eng. Geosci.* 11(4):405-412.

Kueper, B.H., Davies, K.L., 2009. Assessment and Delineation of DNAPL Source Zones at Hazardous Waste Sites. EPA Ground Water Issue, EPA/600/R-09/119.  
<http://www.epa.gov/nrmrl/pubs/600r09119/600r09119.pdf>

Kueper, B.H., Wealthall, G.P., Smith, J.W.N., Leharne, S.A., Lerner, D.N., 2003. An illustrated handbook of DNAPL transport and fate in the subsurface. Environment Agency, Bristol.

Kram, M.L., Keller, A.A., Rossabi, J., Everett, L.G., 2001. DNAPL characterization methods and approaches, Part 1, Performance comparisons. *Ground Water Monitoring & Remediation*, Fall, 109-123.

Kueper, B. H., D. Redman, R. C. Starr, S. Reitsma, and M. Mah, 1993. A field experiment to study the behavior of tetracholoroethylene below the water table: Spatial distribution of residual and pooled DNAPL, *Ground Water*, 31(5), 756– 766.

Lawrence, A., Stuart, M., Cheney, C., Jones, N., Moss, R., 2006. Investigating the scale of structural controls on chlorinated hydrocarbon distributions in the fractured-porous unsaturated zone of a sandstone aquifer in the UK. *Hydrogeol. J.* 14(8), 1470-1482.

Lipson, D., Kueper, B.H. and Gefell, M.J., 2005. Matrix diffusion-derived plume attenuation in fractured bedrock. *Ground Water*, 43(1), 30–39.

Longino, B.L. and Kueper, B.H., 1999. Non-wetting phase retention and mobilization in rock fractures. *Water Resources Research*, 35(7), 2085-2093.

Mackay, D. M.; Cherry, J. A. Groundwater contamination: Pump-and-treat remediation *Environ. Sci. Technol.* 1989, 23, 630-636.

Mercer, J.W., Cohen, R.M., 1990. A review of immiscible fluids in the subsurface: Properties, models, characterization and remediation. *J. Contam. Hydrol.* 6, 107-163.

Moreno-Barbero, E., and T. H. Illangasekare (2006), Influence of dense nonaqueous phase liquid pool morphology on the performance of partitioning tracer tests: Evaluation of the equilibrium assumption, *Water Resour. Res.*, 42, W04408, doi:10.1029/2005WR004074.

Nielsen, D. (editor), 2006. *Practical Handbook of Environmental Site Characterization*. CRC Press, Boca Raton, FL.

Oostrom M, Dane JH, Wietsma TW (2006) A Review of Multidimensional, Multifluid Intermediate-Scale Experiments: Nonaqueous Phase Liquid Dissolution and Enhanced Remediation. *Vadose Zone J.* 5:570-598.

Oostrom, M., Rockhold, M.L., Thorne, P.D., Truex, M.J., Last, G.V., Rohay, V.J., 2007. Carbon tetrachloride flow and transport in the subsurface of the 216-Z-9 trench at the Hanford Site. *Vadose Zone J.* 6, 971–984.

Pankow, J.F., Cherry, J.A., 1996. Dense Chlorinated Solvents and other DNAPLs in Groundwater. Waterloo Press, Oregon.

Parker, B.L., Cherry, J.A., Chapman, S.W., Guilbeault, M.A., 2002. Review and analysis of chlorinated solvent dense nonaqueous phase liquid distributions in five sandy aquifers. *Vadose Zone J.* 2, 116-137.

Poulsen, M.M., Kueper, B.H., 1992. A field experiment to study the behavior of tetrachloroethylene in unsaturated porous media. *Environ. Sci. Technol.* 26(5), 889-895.

Rao, P. S. C., M. D. Annable, and H. Kim (2000), NAPL source zone characterization and remediation technology performance assessment: Recent developments and application of tracer techniques, *J. Contam. Hydrol.*, 45, 63– 78.

Rivett, M.O., 1995. Soil-gas signatures from volatile chlorinated solvents: Borden field experiments. *Ground Water*, 33 (1), 84 - 98. doi: 10.1111/j.1745-6584.1995.tb00265.x

Rivett, M.O., Allen-King, R.M., 2003. A controlled field experiment on groundwater contamination by a multicomponent DNAPL: Dissolved-plume retardation. *Journal of Contaminant Hydrology*, 66, 117-146. doi: 10.1016/S0169-7722(03)00006-8

Rivett, M.O., Chapman, S.W., Allen-King, R.M., Feenstra, S., Cherry, J.A., 2006. Pump-and-treat Remediation of Chlorinated Solvent Contamination at a Controlled Field-Experiment Site. *Environmental Science & Technology*, 40, 6770-6781. doi: 10.1021/es0602748

Rivett, M.O., Feenstra, S., 2005. Dissolution of an emplaced source of DNAPL in a natural aquifer setting. *Environmental Science & Technology*, 39, 447-455. doi: 10.1021/es040016f

Rivett, M.O., Feenstra, S., Cherry J.A., 2001. A controlled field experiment on groundwater contamination by a multicomponent DNAPL: Creation of the emplaced-source and overview of dissolved plume development. *Journal of Contaminant Hydrology*, 49, 111-149. doi: 10.1016/S0169-7722(00)00191-1

Rivett, M.O., Feenstra, S, Clark, L., 2006. Lyne and McLachlan (1949): Influence of the first publication on groundwater contamination by trichloroethene. *Environmental Forensics*, 7(4), 313-323. doi: 10.1080/15275920600996180

Rivett, M.O., Wealthall, G.P., Dearden, R.A., McAlary, T.A., 2011. Review of unsaturated-zone transport and attenuation of volatile organic compound (VOC) plumes leached from shallow source zones. *Journal of Contaminant Hydrology*, 123, 130–156. doi:10.1016/j.jconhyd.2010.12.013

Riha, B.D., Rossabi, J., Eddy-Dilek, C.A., Jackson, D., and Keller, C., 2000. DNAPL characterization using the ribbon NAPL sampler: Methods and results. *Proc. Second Int. Conf. on Remediation of Chlorinated and Recalcitrant Compounds*. Battelle Press, Columbus, OH, 33-40.

Rossabi, J., Riha, B.D., Eddy-Dilek, C.A., Lustig, A., Carrabba, M., Hyde, W.K., and Bello, J., 2000. Field tests of a DNAPL characterization system using cone penetrometer– base Raman spectroscopy. *Ground Water Monitoring & Remediation*, 20(4), 72-81.

St. Germain, R., Adamek, S. and Rudolph, T., 2006. In situ characterization of NAPL with TarGOST at MGP sites. *Land Contamination and Reclamation*, 14(2), pp. 573-578.

Sale, T., Newell, C., Stroo, H., Hinchee, R. and Johnson, P., 2008. Frequently asked questions regarding management of chlorinated solvents in soils and groundwater. Environmental Security Technology Certification Program (ESTCP), U.S. Department of Defense, Washington, DC.

Schwiller, F. (1988), Dense Chlorinated Solvents in Porous and Fractured Media Model Experiments, translated from German by J. F. Pankow, 146 pp., A. F. Lewis, Boca Raton, Fla.

Newell, C., 2011. Overview of Matrix Diffusion Processes and its Effects on Managing Chlorinated Solvent sites. Web only publication at:

[http://grac.org/GRACast\\_MatrixDiffusion\\_Mar2011.pdf](http://grac.org/GRACast_MatrixDiffusion_Mar2011.pdf)

Sale, T., Newell, C., 2011. A Guide for Selecting Remedies for Subsurface Releases of Chlorinated Solvents. ESTCP Project ER-200530.

[www.serdp.org/content/download/10883/137620/file/ER-200530-DG.pdf](http://www.serdp.org/content/download/10883/137620/file/ER-200530-DG.pdf)

USEPA, 2004. *Site characterization technologies for DNAPL investigations*. EPA/542/R-04/017.

USEPA, 2003. *The DNAPL Remediation Challenge: Is There a Case for Source Depletion*, EPA/600/R-03/143.

USEPA, 1994. *DNAPL Site Characterization*, OSWER Publication 9355.4-16FS, EPA/540/F-94/049.

USEPA, 1993. *Evaluation of the likelihood of DNAPL presence at NPL sites, national results*. OSWER Publication 9355.4-13, EPA/540-R-93-073.

USEPA, 1993. *Guidance for Evaluating Technical Impracticability of Ground-Water Restoration*. OSWER Directive 9234.2-25. EPA/540-R-93-080.

USEPA, 1992. *Estimating Potential for Occurrence of DNAPL at Superfund Sites*, OSWER Publication 9355.4-07FS.

Zhang, C.Y., Yoon, H., Werth, C.J., Valochchi, A.J., Basu, N., Jawitz, J.W., 2008. Evaluation of simplified mass transfer models to simulate the impacts of source zone architecture on nonaqueous phase liquid dissolution in heterogeneous porous media. *J. Contam. Hydrol.* 102(1-2), 49-60.