

1986

**ABIOTIC ORGANIC REACTIONS AT
MINERAL SURFACES: A REVIEW**

E.A. Voudrias and M. Reinhard

*In: Geochemical Processes at Mineral Surfaces, J.A.
Davis and K.R. Hayes, eds., ACS Symposium Series
323, 1986*

EPA-600/D-87-042, NTIS PB 87-175030

**BEHAVIOR OF ORGANIC POLLUTANTS
DURING RAPID-INFILTRATION OF
WASTEWATER INTO SOIL: I. PROCESSES,
DEFINITION, AND CHARACTERIZATION
USING A MICROCOSM**

M.D. Piwoni, J.T. Wilson, D.M. Walters, B.H. Wilson,
and C.G. Enfield

*Hazardous Waste & Hazardous Materials, 3(1):43-55,
1986*

EPA-600/J-86-145, NTIS PB 87-115697/AS

**BEHAVIOR OF ORGANIC POLLUTANTS
DURING RAPID-INFILTRATION OF
WASTEWATER INTO SOIL: II.
MATHEMATICAL DESCRIPTION OF
TRANSPORT AND TRANSFORMATION**

C.G. Enfield, D.M. Walters, J.T. Wilson, and M.D.
Piwoni

*Hazardous Waste & Hazardous Materials, 3(1):57-76,
1986*

EPA-600/J-86-144, NTIS PB 87-115705/AS

**BIOLOGICAL PROCESSES OCCURRING AT
AN AVIATION GASOLINE SPILL SITE**

B. Wilson, B. Bledsoe, and D. Kampbell

*In: Proceedings of the Symposium on Chemical
Quality of Water and the Hydrologic Cycle, American
Chemical Society, Denver, Colorado, June 8-12, 1986*

**BIOTRANSFORMATION OF PRIORITY
POLLUTANTS USING BIOFILMS AND
VASCULAR PLANTS**

B.C. Wolverton and R.C. McCales

*J. Mississippi Academy of Sciences, Vol. XXXI, 1986,
pp. 79-89*

EPA-600/J-86-310, NTIS PB 87-176764

**BIOTRANSFORMATION OF SELECTED
ALKYLBENZENE AND HALOGENATED
ALIPHATIC HYDROCARBONS IN
METHANOGENIC AQUIFER MATERIAL: A
MICROCOSM STUDY**

B.H. Wilson, G.B. Smith, and J.S. Rees

Environ. Sci. Technol. 20(10):997-1002, 1986

EPA-600/J-86-227, NTIS PB 87-170791

**COMMENT ON "AN ADVECTION-DIFFUSION
CONCEPT FOR SOLUTE TRANSPORT IN
HETEROGENEOUS UNCONSOLIDATED
GEOLOGICAL DEPOSITS," BY R.W.
GILLHAM, E.A. SUDICKY, J.A. CHERRY AND
E.O. FRIND**

O. Guven, F.J. Molz, and J.G. Melville

Water Resources Research, 21(1):89-91, January 1986

EPA-600/J-86-028, NTIS PB 86-191384

**A CURVILINEAR FINITE ELEMENT MODEL
FOR SIMULATING TWO-WELL TRACER
TESTS AND TRANSPORT IN STRATIFIED
AQUIFERS**

P.S. Huyakorn, P.F. Andersen, O. Guven, and F.J.
Molz

Water Resources Research, 22(5):663-678, May 1986

EPA-600/J-86-146, NTIS PB 87-115747/AS

**DESIGN MODEL FOR THE OVERLAND FLOW
PROCESS**

J.L. Witherow and B.E. Bledsoe

J. Water Poll. Cont. Fed., 58(5):381-386, May 1986

EPA-600/J-86-094, NTIS PB 86-217049

**DESORPTION OF 2,3,7,8-TCDD FROM SOILS
INTO WATER/METHANOL AND METHANOL
LIQUID PHASES**

R.W. Walters, A. Guiseppi-Elie, M.M. Rao, and J.C.
Means

*In: Chlorinated Dioxins and Dibenzofurans in
Perspective, Lewis Publishers, pp. 157-169, 1986.*

EPA-600/0-88-221, NTIS PB 89-119309

**DETERMINATION OF MONOUNSATURATED
FATTY ACID DOUBLE-BOND POSITION AND
GEOMETRY FOR MICROBIAL
MONOCULTURES AND COMPLEX
CONSORTIA BY CAPILLARY GC-MS OF
THEIR DISULPHIDE ADDUCTS**

P.D. Nichols, J.B. Guckert, and D.C. White
Journal Microbiological Methods 5, 1986, pp. 9-55

**DETERMINISTIC AND STOCHASTIC
ANALYSES OF DISPERSION IN AN
UNBOUNDED STRATIFIED POROUS
MEDIUM**

O. Guven and F.J. Molz
Water Resources Research, 22(11):1565-1574, October
1986
EPA-600/J-86-267, NTIS PB87-166856

**DEVELOPMENT OF A MICROCOMPUTER
CONTROLLED MULTI-PROBE INSTRUMENT
FOR AUTOMATED TIME-DEPENDENT
MEASUREMENT OF REDOX POTENTIAL
AND OXYGEN DIFFUSION RATE**

J.D. Hunter, D.K. Scoggins, R.M. Hawk, and R.M.
Sims
Analytical Instrumentation, 15(1):51-62, 1986
EPA-600/J-86-062, NTIS PB 86-202546

**DISJUNCTIVE KRIGING: 1. OVERVIEW OF
ESTIMATION AND CONDITION
PROBABILITY**

S.R. Yates, A.W. Warrick, and D.E. Myers
Water Resources Research, 22(5):615-621, May 1986

DISJUNCTIVE KRIGING: 2. EXAMPLES

S.R. Yates, A.W. Warrick, and D.E. Myers
Water Resources Research, 22(5):623-630, May 1986

DISJUNCTIVE KRIGING: 3. COKRIGING

S.R. Yates
Water Resources Research, 22(10):1371-1376,
September 1986
EPA-600/J-86-232, NTIS PB 87-166260

**A DISJUNCTIVE KRIGING PROGRAM FOR
TWO DIMENSIONS**

S.R. Yates, A.W. Warrick, and D.E. Myers
Computers & Geosciences, 12(3):281-313, 1986
EPA-600/J-86-247, NTIS PB 87-170353

**DYNAMIC STUDIES OF NAPHTHALENE
SORPTION ON SOIL FROM AQUEOUS
SOLUTION**

R.T. Podoll, K.C. Irwin, and H.M. Jaber
Submitted to *Environ. Sci. & Tech.*

**EFFECTS OF SOLUTE CONCENTRATION
AND COSOLVENTS ON THE AQUEOUS
ACTIVITY COEFFICIENT OF
HALOGENATED HYDROCARBONS**

C. Munz and P.V. Roberts
Environ. Sci. & Tech., 20(8):830-836, 1986

**ENVIRONMENTAL EFFECTS TESTING WITH
QUANTITATIVE MICROBIAL ANALYSIS:
CHEMICAL SIGNATURES CORRELATED
WITH IN SITU BIOFILM ANALYSIS BY FT/IR**

D.C. White
*Toxicity Assessment: An International Quarterly
Volume 1, 1986*

**EVOLVING CONCEPTS OF SUBSURFACE
CONTAMINANT TRANSPORT**

J.F. Keely, M.D. Piwoni, and J.T. Wilson
J. Water Poll. Cont. Fed., 58(5):349-357, May 86
EPA-600/J-86-101, NTIS PB 86-217056

**EXTRAPOLATION OF BIODEGRADATION
RESULTS TO GROUNDWATER AQUIFERS:
REDUCTIVE DEHALOGENATION OF
AROMATIC COMPOUNDS**

S.A. Gibson and J.M. Suflita
Appl. Environ. Microbiol., 52(4):681-688, October
1986
EPA-600/J-86-379, NTIS PB 87-212429/AS

***A FIXED-FILM BIOREACTOR TO TREAT
TRICHLOROETHYLENE-LADEN WATERS
FROM INTERDICTION WELLS**

B.H. Wilson and M.V. White
*In: Proceedings of the Sixth National Symposium and
Exposition on Aquifer Restoration and Ground Water
Monitoring, held May 19-22, 1986, at the Ohio State
University, Columbus, OH, pp. 425-435*

***A GAS CHROMATOGRAPHIC
MICROMETHOD FOR TRACE
DETERMINATIONS OF PHENOLS**

G. Bengtsson
EPA-600/J-85-354, NTIS PB 86-175494

**HYDROLYSIS OF SIMPLE
BROMOALKENES, 1,2-DIBROMOPROPANE,
AND 1,2-DIBROMOETHANE: RATES AND
TAFT'S LINEAR-FREE ENERGY
CORRELATION**

T.M. Vogel and M. Reinhard
Environ. Sci. Technol., 20:992-997, 1986

**IMPROVED FLOTATION TECHNIQUE
FORMICROSCOPY OF IN-SITU AND
SEDIMENT MICROORGANISMS**

T.L. Bone and D.L. Balkwill
Appl. Environ. Microbiol., 51:462-468, 1986
EPA-600/J-86-031, NTIS PB 86-190139

***IN SITU BIORESTORATION AS A GROUND
WATER REMEDIATION TECHNIQUE**

J.T. Wilson, L.E. Leach, M.J. Henson, and J.N. Jones
Ground Water Monitoring Review, pp. 56-64, Fall
1986
EPA-600/J-86-305, NTIS PB 87-177101

**INTERPRETING ORGANIC SOLUTE
TRANSPORT DATA FROM A FIELD
EXPERIMENT USING PHYSICAL
NONEQUILIBRIUM MODELS**

M.N. Goltz and P.V. Roberts
J. Contam. Hydrol., 1:77-93
EPA-600/J-86-056, NTIS PB 86-201266

**MEASUREMENT OF REDOX POTENTIALS IN
SEDIMENT/WATER SYSTEMS:
OPERATIONAL CONSIDERATIONS**

D.L. Macalady, T.J. Grundl, and P.G. Tratnyek
Submitted to *Water Research*, February 1986

MECHANICAL INTEGRITY RESEARCH

J.T. Thornhill and B.G. Benefield
*In: Proceedings of the International Symposium on
Subsurface Injection of Liquid Wastes*, Mar. 1986

**A METHOD FOR THE SEPARATION AND
CHARACTERIZATION OF
ARCHAEBACTERIAL SIGNATURE ETHER
LIPIDS**

C.A. Mancuso, P.D. Nichols, and D.C. White
Journal of Lipid Research, Volume 27, 1986

**MICROBIAL RESPIRATORY QUINONES IN
THE ENVIRONMENT**

D.B. Hedrik and D.C. White
Journal of Microbiological Methods 5, 1986

**MOVEMENT OF SELECTED ORGANIC
LIQUIDS INTO DRY SOILS**

A. Amoozegar, A.W. Warrick, and W.H. Fuller
Hazardous Waste & Hazardous Materials, 3(1):29-41
EPA-600/J-86-152, NTIS PB 87-115770/AS

**A NATURAL GRADIENT EXPERIMENT ON
SOLUTE TRANSPORT IN A SAND AQUIFER, I.
APPROACH AND OVERVIEW OF PLUME
MOVEMENT**

D.M. Mackay, D.L. Freyburg, P.V. Roberts and J.A.
Cherry
Water Resources Research, 22(13):2017-2029
December 1986
EPA-600/J-86-328, NTIS PB 87-176665

**A NATURAL GRADIENT EXPERIMENT ON
SOLUTE TRANSPORT IN A SAND AQUIFER,
II. SPATIAL MOMENTS AND THE
ADVECTION AND DISPERSION OF
NON-REACTIVE TRACERS**

D.L. Freyburg
Water Resources Research, 22(13):2031-2046,
December 1986
EPA-600/J-86-329, NTIS PB 87-176673

**A NATURAL GRADIENT EXPERIMENT ON
SOLUTE TRANSPORT IN A SAND AQUIFER,
III. RETARDATION ESTIMATES AND MASS
BALANCES FOR ORGANIC SOLUTES**

P.V. Roberts, M.N. Goltz and D.M. Mackay
Water Resources Research, 22(13):2047-2058,
December 1986
EPA-600/J-86-330, NTIS PB 87-182838

**A NATURAL GRADIENT EXPERIMENT ON
SOLUTE TRANSPORT IN A SAND AQUIFER,
IV. SORPTION OF ORGANIC SOLUTES AND
ITS INFLUENCE ON MOBILITY**

G.P. Curtis, P.V. Roberts, and M. Reinhard
Water Resources Research, 22(13):2059-2067,
December 1986
EPA-600/J-86-331, NTIS PB 87-182820

A NATURAL GRADIENT EXPERIMENT ON SOLUTE TRANSPORT IN A SAND AQUIFER: SPATIAL VARIABILITY OF HYDRAULIC CONDUCTIVITY AND ITS ROLE IN THE DISPERSION PROCESS

E.A. Sudicky

Water Resources Research, 22(13):2069-2082, December 1986

EPA-600/J-86-327, NTIS PB 87-176657

THE ORGANIC GEOCHEMISTRY OF A SANITARY LANDFILL LEACHATE PLUME

J.F. Barker, J.S. Tessmann, P.E. Plotz, and M. Reinhard

J. Contaminant Hydrology, 1(1/2):171-189, 1986

PERFORMANCE, ANALYSIS AND SIMULATION OF A TWO-WELL TRACER TEST AT THE MOBILE SITE

F.J. Molz, O. Guven, J.G. Melville, R.D. Crocker, and K.T. Matteson

Water Resources Research, 22(7):1031-1037, July 1986

EPA-600/J-86-228, NTIS PB 87-166823

PERMEABILITY OF SOILS TO FOUR ORGANIC LIQUIDS AND WATER

M. Schramm, A.W. Warrick, and W.H. Fuller

Hazardous Waste & Hazardous Materials, 3(1):21-27

EPA-600/J-86-151, NTIS PB 87-115788/AS

QUANTITATIVE CHARACTERIZATION OF MICROBIAL BIOMASS AND COMMUNITY STRUCTURE IN SUBSURFACE MATERIAL: A UNIQUE PROKARYOTIC CONSORTIUM RESPONSIVE TO ORGANIC CONTAMINATION

G.A. Smith, J.S. Nickels, B.D. Kerger, et al.

J. of Microbiol. (Canada), 32:104-111, 1986

EPA-600/J-86-066, NTIS PB 86-212586

REDUCTION OF HEXACHLOROETHANE TO TETRACHLOROETHYLENE IN GROUNDWATER

C.S. Criddle, P.L. McCarty, M.C. Elliott, and J.F. Barker

J. Contam. Hydrol. (Netherlands), 1:133-142

EPA-600/J-86-057, NTIS PB 86-201324

RELATIONSHIP BETWEEN THE ATP CONTENT OF SUBSURFACE MATERIALS AND THE RATE OF BIODEGRADATION OF ALKYL BENZENES AND CHLOROBENZENE

J.T. Wilson, G.D. Miller, W.C. Ghiorse, and F.R. Leach

J. Contam. Hydrol. (Netherlands), 1:163-170

EPA-600/J-86-063, NTIS PB 86-202538

REVIEW AND EVALUATION OF CURRENT DESIGN AND MANAGEMENT PRACTICES FOR LAND TREATMENT UNITS RECEIVING PETROLEUM WASTES

J.P. Martin, R.C. Sims, and J. Matthews

EPA-600/J-86-264, NTIS PB 87-166369

SEQUENTIAL DEHALOGENATION OF CHLORINATED ETHENES

G. Barrio-Lage, F.Z. Parsons, R.S. Nassar, and P.A. Lorenzon

Environ. Sci. Technol., 20:96, 1986

EPA-600/J-86-030, NTIS PB 86-190188

A SIMPLIFIED ANALYSIS OF TWO-WELL TRACER TESTS IN STRATIFIED AQUIFERS

O. Guven, R.W. Falta, F.J. Molz, and J.G. Melville

Ground Water, 24(1):63-71, January-February 1986

EPA-600/J-86-029, NTIS PB 86-190196

SIMULATIONS OF TWO-WELL TRACER TESTS IN STRATIFIED AQUIFERS AT THE CHALK RIVER AND THE MOBILE SITES

P.S. Huyakorn, P.F. Andersen, F.J. Molz, O. Guven and J.G. Melville

Water Resources Research, 22(7):1016-1030, July 1986

EPA-600/J-86-229, NTIS PB 87-166831

SOLVOPHOBIC APPROACH FOR PREDICTING SORPTION OF HYDROPHOBIC ORGANIC CHEMICALS ON SYNTHETIC SORBENTS AND SOILS

K.B. Woodburn, P.S.C. Rao, M. Fukui and P. Nkedi-Kizza

EPA-600/J-86-143, NTIS PB 87-118493/AS

**SOME PARAMETERS AFFECTING
NONEQUILIBRIUM SORPTION-DESORPTION
DURING SOLUTE TRANSPORT**

D.C. Bouchard and A.L. Wood
EOS, 67:964, 1986

***SORPTION OF HYDROPHOBIC ORGANIC
COMPOUNDS BY SEDIMENTS**

G.P. Curtis, M. Reinhard, and P.V. Roberts
In: Geochemical Processes at Mineral Surfaces, J.A. Davis and K.F. Hayes, Eds., ACS Symp. Series, 323, pp. 191-216
EPA-600/D-87-049, NTIS PB 87-145538

**SORPTION OF VOLATILE ORGANIC
SOLVENTS FROM AQUEOUS SOLUTION
ONTO SUBSURFACE SOLIDS**

M.D. Piwoni and P. Banerjee
Submitted to *J. Contam. Hydrol.*, 1986

**SURVIVAL AND TRANSPORT OF HEPATITIS
A VIRUS IN SOILS, GROUNDWATER AND
WASTEWATER**

M.D. Sobsey, P.A. Shields, F.H. Hauchman, et al.
Water Science Technology, 18(10):97-106, October 1986
EPA-600/J-86-497, NTIS PB 89-120141

**THREE-DIMENSIONAL SOLUTIONS FOR
SOLUTE TRANSPORT IN AN INFINITE
MEDIUM WITH MOBILE AND IMMOBILE
ZONES**

M.N. Goltz and P.V. Roberts
Water Resources Research, 22(7):1139-1148, July 1986
EPA-600/J-86-231, NTIS PB 87-166252

**TRANSPORT OF DISSOLVED
HYDROCARBONS INFLUENCED BY
OXYGEN- LIMITED BIODEGRADATION, I.
THEORETICAL DEVELOPMENT**

R.C. Borden and P.B. Bedient
Water Resources Research, 22(13):1973-1982, December 1986
EPA-600/J-86-332, NTIS PB 87-179727

**TRANSPORT OF DISSOLVED
HYDROCARBONS INFLUENCED BY
OXYGEN- LIMITED BIODEGRADATION, 2.
FIELD APPLICATION**

R.C. Borden, P.B. Bedient, M.D. Lee, C.H. Ward, and J.T. Wilson
Water Resources Research, 22(13):1983-1990, December 1986
EPA-600/J-86-333, NTIS PB 87-179735

**THE USE OF DNA:DNA COLONY
HYBRIDIZATION IN THE RAPID ISOLATION
OF 4-CHLOROBIPHENYL DEGRADATIVE
BACTERIAL PHENOTYPES**

C.A. Pettigrew and G.S. Saylor
J. Microbiol. Methods, 5:205-213, 1986 (Elsevier Science Publishers B.V., Amsterdam, The Netherlands)

**USE OF GEOSTATISTICS TO PREDICT VIRUS
DECAY RATES FOR DETERMINATION OF
SEPTIC TANK SETBACK DISTANCES**

M.V. Yates, S.R. Yates, A.W. Warrick, and C.P. Gerba
Appl. Environ. Microbiol., 52(3):479-483, September 1986
EPA-600/J-86-230, NTIS PB 87-166849

**VARIABILITY OF AQUIFER SORPTION
PROPERTIES IN A FIELD EXPERIMENT ON
GROUNDWATER TRANSPORT OF ORGANIC
SOLUTES: METHODS AND PRELIMINARY
RESULTS**

D.M. Mackay, W.P. Ball, and M.G. Durant
J. Contam. Hydrol., 1:119-132
EPA-600/J-86-055, NTIS PB 86-201241

**WELL CONSTRUCTION AND PURGING
EFFECTS ON GROUND-WATER SAMPLES**

M.J. Barcelona and J.A. Helfrich
Environ. Sci. Technol., 20(11):1179-1184, November 1986
EPA-600/J-86-373, NTIS PB 87-203360/AS

1987

**ADAPTATION TO AND BIODEGRADATION
OF XENOBIOTIC COMPOUNDS BY
MICROBIAL COMMUNITIES FROM A
PRISTINE AQUIFER**

C.M. Aelion, C.M. Swindoll, and F.K. Pfaender
Appl. Environ. Microbiol., 53(9):2212-2217,
September 1987
EPA-600/J-87-208, NTIS PB88-170584

**AN ALTERNATIVE NONLINEAR MODEL FOR
ESTIMATING SECOND-ORDER RATE
COEFFICIENTS FOR BIODEGRADATION**

J.A. Robinson, W.J. Smolenski, and J.M. Suflita
Appl. Environ. Microbiol., 53(5):1064-1068, May 1987
EPA-600/J-87-132, NTIS PB 88-149117

**THE BIODEGRADATION OF CRESOL
ISOMERS IN ANOXIC AQUIFERS**

W.J. Smolenski and J.M. Suflita
Appl. Environ. Microbiol., 53(4):710-716, April 1987
EPA-600/J-87-131, NTIS PB 88-149125

**BIOLOGICAL TREATMENT: IN SITU
TREATMENT OF TCE**

J.T. Wilson, Sam Fogel, and P.V. Roberts
*In: Detection, Control, and Renovation of
Contaminated Ground Water*, N. Dee, W.F. McTernan
and E. Kaplan, Eds., ASCE, New York, pp. 168-178

**BIOTRANSFORMATION OF
TRICHLOROETHENE IN A VARIETY OF
SUBSURFACE MATERIALS**

G.A. Barrio-Lage, F.Z. Parsons, R.S. Nassar, and P.A.
Lorenzo
Env. Toxicology and Chemistry, 6(8):571-578, August
1987

**A COMPARISON OF GEOSTATISTICAL
METHODS FOR ESTIMATING VIRUS
INACTIVATION RATES IN GROUND WATER**

M. Yates and S. Yates
Water Research, 21(9):1119-1125, 1987
EPA-600/J-87-353, NTIS PB 88-218367

**CONTUR: AN ALGORITHM FOR
TWO-DIMENSIONAL HIGH QUALITY
CONTOURING**

S.R. Yates
Computers & Geosciences, 13(1):61-76, 1987
EPA-600/J-87-059, NTIS PB 87-212957/AS

**DETECTION OF A MICROBIAL
CONSORTIUM INCLUDING TYPE II
METHANOTROPHS BY USE OF
PHOSPHOLIPID FATTY ACIDS IN AN
AEROBIC HALOGENATED
HYDROCARBON-DEGRADING SOIL
COLUMN ENRICHED WITH NATURAL GAS**

P.D. Nichols, J.M. Henson, C.P. Antworth, et al.
Environ. Toxicol. Chem., 6:89-97, 1987
EPA-600/J-87-040, NTIS PB 87-203386/AS

**DISTRIBUTION OF PLASMIDS IN
GROUNDWATER BACTERIA**

O.A. Ogumseitan, E.T. Tedford, D. Pacia, et al.
*Journal of Industrial Microbiology (Elsevier Science
Publishers B.V., Amsterdam, The Netherlands)*,
1(5):311-317, February 1987
EPA-600/J-87-037, NTIS PB 87-203071/AS

**DISTRIBUTION OF PROTOZOA IN
SUBSURFACE SEDIMENTS OF A PRISTINE
GROUNDWATER STUDY SITE IN
OKLAHOMA**

J.L. Sinclair and W.C. Ghiorse
Applied and Environmental Microbiology,
53(5):1157-1163, May 1987
EPA-600/J-87-451, NTIS PB 89-130397

**ESTIMATING SOIL WATER CONTENT USING
COKRIGING**

S.R. Yates and A.W. Warrick
Soil Science Society America Journal, 51(1):23-30,
January-February 1987
EPA-600/J-87-060, NTIS PB 87-212940/AS

**EVALUATING THE MAINTENANCE AND
EFFECTS OF GENETICALLY ENGINEERED
MICROORGANISMS**

G.S. Saylor, C. Harris, C. Pettigrew, et al.
Developments in Industrial Microbiology, Vol. 27,
1987
EPA-600/J-87-386

**EVALUATION OF TOXICITY TEST
PROCEDURE FOR SCREENING
TREATABILITY POTENTIAL OF WASTE IN
SOIL**

J.E. Matthews and L. Hastings
Toxicity Assessment, An Intn'l Qrtly., 2(3):265-281,
1987

John Wiley/Sons, Inc., New York
EPA-600/J-87-137, NTIS PB 88-148184

**FIELD EVALUATION OF A SIMPLE
MICROCOSM SIMULATING THE BEHAVIOR
OF VOLATILE ORGANIC COMPOUNDS IN
SUBSURFACE MATERIALS**

J. Wilson, G. Smith, J. Cochran, J. Barker, and P.
Roberts
Water Resources Research, 23(8):1547-1553, August
1987

EPA-600/J-87-207, NTIS PB 88-170550

**FINITE ELEMENT ANALYSIS OF
MULTIPHASE IMMISCIBLE FLOW
THROUGH SOILS**

T. Kuppusamy, J. Sheng, J.C. Parker, and R.J. Lenhard
Water Resources Research, 23(4):625-631, April 1987
EPA-600/J-87-135, NTIS PB 88-148176

**FLUOROMETRIC DETERMINATION OF
HYDROGEN PEROXIDE IN GROUND WATER**

T.R. Holm, G.K. George, and M.J. Barcelona
Anal. Chem., 59(4):582-586, February 1987
EPA-600/J-87-041, NTIS PB 87-203436/AS

**GASEOUS BEHAVIOR OF TCE OVERLYING A
CONTAMINATED AQUIFER**

D.L. Marrin and G.M. Thompson
Ground Water, 25(1):21-27, January-February 1987
EPA-600/J-87-058, NTIS PB 87-213260/AS

**THE INFLUENCE OF MASS TRANSFER ON
SOLUTE TRANSPORT IN COLUMN
EXPERIMENTS WITH AN AGGREGATED
SOIL**

P.V. Roberts, M.N. Goltz, R.S. Summers, J.C.
Crittenden, and P. Nkedi-Kizza
J. Contaminant Hydrology, 1(4):375-393, 1987

**INFLUENCE OF ORGANIC COSOLVENTS ON
LEACHING OF HYDROPHOBIC ORGANIC
CHEMICALS THROUGH SOILS**

P. Kizza, P. S.C. Rao, and A. Hornsby
Env. Science & Technology, Vol. 21, pg. 1107,
November 1987

**INJECTION OF HAZARDOUS WASTE INTO
DEEP WELLS (STATE-OF-THE-ART REPORT)**

A. Strycker and A.G. Collins
EPA-600/8-87-013, NTIS PB 87-170551

**IN SITU RESTORATION TECHNIQUES FOR
AQUIFERS CONTAMINATED WITH
HAZARDOUS WASTES**

M.D. Lee, J.T. Wilson, and C.H. Ward
Journal of Hazardous Materials, 14:71-82, 1987
Elsevier Science Publishers B.V., Amsterdam, The
Netherlands
EPA-600/J-87-032, NTIS PB 87-198396

**MACROMOLECULES FACILITATE THE
TRANSPORT OF TRACE ORGANICS**

G. Bengtsson, C. Enfield, and R. Lindqvist
Science of Total Env., 67 (1987) 159-164, December
1987
EPA-600/J-87-354, NTIS PB 88-220108

**MAINTENANCE AND STABILITY OF
INTRODUCED GENOTYPES IN
GROUNDWATER AQUIFER MATERIAL**

R.K. Jain, G.S. Sayler, J.T. Wilson, et al.
Appl. Environ. Microbiol., 53(5):996-1002, May 1987
EPA-600/J-87-136, NTIS PB 88-148192

**A MATHEMATICAL MODEL FOR THE FATE
OF HAZARDOUS SUBSTANCES IN SOIL:
MODEL DESCRIPTION AND EXPERIMENTAL
RESULTS**

W.J. Grenney, C.L. Caupp, R.C. Sims, and T.E. Short
Hazardous Waste & Hazardous Materials, 4(3),
223-239
EPA-600/J-87-204, NTIS PB 88-170527

MEASUREMENT AND PREDICTION OF SATURATION-PRESSURE RELATIONSHIPS IN THREE-PHASE POROUS MEDIA SYSTEMS

R.J. Lenhard and J.C. Parker

Journal of Contaminant Hydrology, 1(4): 407-424, June 1987

EPA-600/J-87-352, NTIS PB 88-218334

MEASUREMENT OF METHANOTROPH AND METHANOGEN SIGNATURE PHOSPHOLIPIDS FOR USE IN ASSESSMENT OF BIOMASS AND COMMUNITY STRUCTURE IN MODEL SYSTEMS

P.D. Nichols, C.A. Mancuso, and D.C. White

Organic Geochemistry, II(6): 451-461, June 1987

EPA-600/J-87-359, NTIS PB 88-219811

MICROBIAL ECOLOGY OF A SHALLOW UNCONFINED GROUND WATER AQUIFER POLLUTED BY MUNICIPAL LANDFILL LEACHATE

R.E. Beeman and J.M. Suflita

Microbial Ecology, 14(1):39-54, July 1987

EPA-600/J-87-209, NTIS PB 88-170543

A MODEL FOR HYSTERETIC CONSTITUTIVE RELATIONS GOVERNING MULTIPHASE FLOW: 1. SATURATION-PRESSURE RELATIONS

J.C. Parker and R.J. Lenhard

Water Resources Research, 23(12): 2187-2196, December 1987

EPA-600/J-87-357, NTIS PB 88-219837

A MODEL FOR HYSTERETIC CONSTITUTIVE RELATIONS GOVERNING MULTIPHASE FLOW: 2. PERMEABILITY-SATURATION RELATIONS

R.J. Lenhard and J.C. Parker

Water Resources Research, 23(12): 2197-2206, December 1987

EPA-600/J-87-358, NTIS PB 88-219845

MODELING MICROBIAL FATE IN THE SUBSURFACE ENVIRONMENT

M.V. Yates and S.R. Yates

CRC Critical Reviews in Environmental Control 17(4): 307-344, December 1987

EPA-600/J-88-022, NTIS PB 88-219225

MODELING VIRUS SURVIVAL AND TRANSPORT IN THE SUBSURFACE

M.V. Yates, S.R. Yates, J. Wagner, and C.P. Gerba

J. Contaminant Hydrol., 1(3):329-345, March 1987

Elsevier Science Publishers B.V., Amsterdam, The Netherlands

EPA-600/J-87-053, NTIS PB 87-213294/AS

MONITORING TRANSPORT OF SELECTED PESTICIDES AND PHENOLS IN SOIL COLUMNS BY HIGH PERFORMANCE LIQUID CHROMATOGRAPHY

D.C. Bouchard

J. Environ. Science Health, B22(4):391-402, 1987

EPA-600/J-87-185, NTIS PB 88-161849

MONITORING WELL INSTALLATION, PURGING, AND SAMPLING TECHNIQUES-- PART I: CONCEPTUALIZATIONS

J.F. Keely and K. Boateng

Ground Water, 25(3):300-313, May-June 1987

EPA-600/J-87-202, NTIS PB 88-170511

MONITORING WELL INSTALLATION, PURGING AND SAMPLING TECHNIQUES-- PART II: CASE HISTORIES

J.F. Keely and K. Boateng

Ground Water, 25(4):427-439, July-August 1987

EPA-600/J-87-203, NTIS PB 88-170519

MONODISPERSE FERROUS PHOSPHATE COLLOIDS IN AN ANOXIC GROUNDWATER PLUME

P.M. Gschwend and M.D. Reynolds

J. Contaminant Hydrol., 1(3):309-327, March 1987

Elsevier Science Publishers B.V., Amsterdam, The Netherlands

EPA-600/J-87-056, NTIS PB 87-213310/AS

***OPPORTUNITIES FOR BIORECLAMATION OF AQUIFERS CONTAMINATED WITH PETROLEUM HYDROCARBONS**

J.T. Wilson and C.H. Ward

Developments in Industrial Microbiology (Journal of Industrial Microbiology Suppl. 1), 27:109-116, Elsevier, Amsterdam, Biomedical Division, 1987

EPA-600/J-87-133, NTIS PB 88-148150

**A PARAMETRIC MODEL FOR
CONSTITUTIVE PROPERTIES GOVERNING
MULTIPHASE FLUID CONDUCTION IN
POROUS MEDIA**

J.C. Parker, R.J. Lenhard, and T. Kuppusamy
Water Resources Research, 23(4):618-624, April 1987
EPA-600/J-87-134, NTIS PB 88-148168

**PHOSPHORUS AND HEAVY METALS:
ACCUMULATION AND CONSEQUENCES**

W. Van Riemsdijk, T. Lexmond, C. Enfield, and S. van der Zee

In: International Symposium on Animal Manure on
Grassland and Fodder Crops: Fertilizer or Waste?
European Grassland Federation, Wageningen, The
Netherlands, August 31 - September 3, 1987

**PROTECTING GROUNDWATER FROM
VIRAL CONTAMINATION BY SOIL
MODIFICATION**

R.B. Thurman and C.P. Gerba
J. Environ. Science Health, A22(4):369-388, 1987

**QUALITY ASSURANCE IN COMPUTER
SIMULATIONS OF GROUNDWATER
CONTAMINATION**

P. K.M. van der Heijde
Environ. Software, 2(1):19-25, 1987
EPA-600/J-87-084

**REMOVAL OF VOLATILE ALIPHATIC
HYDROCARBONS IN A SOIL BIOREACTOR**

D. Kampbell, J. Wilson, H. Read, and T. Stocksdale
*Journal of Air Pollution Control and Hazardous
Waste Management*, 37(10):1236-1240, October 1987
EPA-600/J-87-261, NTIS PB 88-180393

**SELECTIVE WATER REMOVAL IN
PURGE/GC ANALYSIS OF VOLATILE
AROMATICS IN AQUEOUS SAMPLES**

J.W. Cochran, Northrop Services, Inc.
*Journal of High Resolution Chromatography and
Chromatography Comm.*, Vol. 10, 573-575, October
1987
EPA-600/J-87-355, NTIS PB 88-218342

**TRANSFORMATIONS OF HALOGENATED
ALIPHATIC COMPOUNDS**

T.M. Vogel, C.S. Criddle and P.L. McCarty
Env. Sci. & Tech, 21(8):722-736, August 1987
EPA-600/J-87-206, NTIS PB 88-1705682

1988

**AEROBIC BIODEGRADATION OF NATURAL
AND XENOBIOTIC ORGANIC COMPOUNDS
BY SUBSURFACE MICROBIAL
COMMUNITIES**

C.M. Swindoll, C.M. Aelion, D.C. Dobbins, et al.
Environmental Toxicology and Chemistry,
7(4):291-299, April 1988
EPA-600/J-88-067, NTIS PB 89-103204

**ANAEROBIC BIOTRANSFORMATIONS OF
POLLUTANT CHEMICALS IN AQUIFERS**

J.M. Suflita, S.A. Gibson and R.E. Beeman
Journal of Industrial Microbiology, 3(3):179-194, May
1988
EPA-600/J-88-142, NTIS PB 89-119341

**ANALYSIS OF VOLATILE ORGANIC
CHEMICALS IN AQUEOUS SAMPLES BY
PURGE/GC WITH SELECTIVE WATER
REMOVAL**

J.W. Cochran and J.M. Henson
*Journal of High Resolution Chromatography and
Chromatography
Communications*, 11(12):869-873, December 1988
EPA-600/J-88\366, NTIS PB 89-103204

**ANALYSIS OF VOLATILE ORGANIC
COMPOUNDS IN WATER BY DYNAMIC
STRIPPING, THERMAL DESORPTION,
CRYOFOCUSING AND CAPILLARY GAS
CHROMATOGRAPHY**

S.A. Vandegrift
Journal of Chromatographic Science,
26(10):513-516, October 1988
EPA-600/J-88-200, NTIS PB 89-138796

AN ANALYTICAL SOLUTION TO SATURATED FLOW IN A FINITE STRATIFIED AQUIFER

S.R. Yates

Ground Water, 26(2):199-206, March-April 1988
EPA-600/J-88-030, NTIS PB 88-224944

***ASEPTIC SUBSURFACE SAMPLING TECHNIQUES FOR HOLLOW-STEM AUGER DRILLING**

L.E. Leach, F.P. Beck, J.T. Wilson, and D.H. Kampbell
In: Proceedings of the Second National Outdoor Action Conference on Aquifer Restoration, Ground Water Monitoring and Geophysical Methods, Las Vegas, Nevada, May 23-26, 1988

ATHIAS - AN INFORMATION SYSTEM FOR ABIOTIC TRANSFORMATIONS OF HALOGENATED HYDROCARBONS IN AQUEOUS SOLUTION

W. Ellenrieder and M. Reinhard

Chemosphere, 17(2):331-344, February 1988
EPA-600/J-88-026, NTIS PB 88-224357

BIOCHEMICAL MARKERS FOR MEASUREMENT OF PREDATION EFFECTS ON THE BIOMASS COMMUNITY STRUCTURE, NUTRITIONAL STATUS, AND METABOLIC ACTIVITY OF MICROBIAL BIOFILMS

D.C. White and R.H. Findlay

Hydrobiologia 159, Vol. 1, pp. 119-132, March 1988

BIODEGRADATION AND SORPTION OF ORGANIC SOLVENTS AND HYDROCARBON FUEL CONSTITUENTS IN SUBSURFACE ENVIRONMENTS

J.T. Wilson, J.M. Henson, M.D. Piwoni, B.H. Wilson, and P. Banerjee

Engineering & Services Laboratory, Air Force Engineering & Services Center, Tyndall Air Force Base, FL 32403
ESL-TR-87-52, March 1988

***BIODEGRADATION MODELING AT A JET FUEL SPILL SITE**

H.S. Rifai, P.B. Bedient, J.T. Wilson, K.M. Miller, and J.M. Armstrong

American Society of Civil Engineers: Journal of Environmental Engineering, 114(5):1007-1029, Oct. 1988

EPA-600/J-88-385, NTIS PB 89-103045\AS

BIOENGINEERING ISSUES RELATED TO IN SITU REMEDIATION OF CONTAMINATED SOILS AND GROUNDWATER

P.L. McCarty

Environmental Biotechnology, Plenum Publishing Corporation, 1988

***BIORESTORATION OF AQUIFERS CONTAMINATED WITH ORGANIC COMPOUNDS**

M.D. Lee, J.M. Thomas, R.C. Borden, P.B. Bedient, C.H. Ward, and J.T. Wilson

CRC Critical Reviews in Environmental Control, 18(1):29-89, 1988

EPA-600/J-88-078, NTIS PB 89-103527

***BIOTRANSFORMATION OF CHLORINATED HYDROCARBONS AND ALKYL BENZENES IN AQUIFER MATERIAL FROM THE PICATINNY ARSENAL, NEW JERSEY**

B.H. Wilson

In Proceedings: U.S. Geological Survey, 4th Toxic Substance and Hydro. Meeting, Sept., 1988, 389-394

CAPILLARY COLUMN GC METHOD FOR WATER POLLUTION PERFORMANCE EVALUATION VOLATILES SAMPLES

J.W. Cochran

EPA Quality Assurance Newsletter, 10(2):8-9, July 1988

***CHEMICAL TRANSPORT FACILITATED BY COLLOIDAL-SIZED MOLECULES**

C.G. Enfield

In: Mobility of Colloidal Particles in the Subsurface: Chemistry and Hydrology of Colloid-Aquifer Interactions., Oct. 1988.

DOE/ER-0425, 69-71

**COMPARISON OF METHODS TO
DETERMINE OXYGEN DEMAND FOR
BIOREMEDIATION OF A FUEL
CONTAMINATED AQUIFER**

R.M. Powell, R.W. Callaway, J.T. Michaloski, S.A. Vandegrift,
M.V. White, D.H. Kampbell, B.E. Bledsoe, and J.T. Wilson
Journal of Analytical Chemistry, Vol. 34, pp. 253-263, 1988

EPA/600/J-88/322, NTIS PB 89-207351

**DECAY OF DISSOLVED SUBSTANCES BY
SECOND-ORDER REACTION. PROBLEM
DESCRIPTION AND BATCH-REACTOR
SOLUTIONS**

S.R. Yates and C.G. Enfield
Journal of Environmental Science and Health, A23(1):59-84, January 1988

EPA-600/J-88-016, NTIS PB 88-219787

**DEGRADATION OF HALOGENATED
HYDROCARBONS**

J.T. Wilson
Biotec., 2: 75-77, 1988

**DEGRADATION OF TRICHLOROETHYLENE
BY METHANOTROPHIC BACTERIA IN A
LABORATORY COLUMN OF SATURATED
AQUIFER MATERIAL**

K.P. Mayer, D. Grbic-Galic, L. Semprini, and P.L. McCarty

Wat. Sci. Tech. Vol. 20 (11-12): 175-178, 1988

**DISJUNCTIVE KRIGING AS AN APPROACH
TO MANAGEMENT DECISION MAKING**

S.R. Yates and M.V. Yates
Soil Science Society of America Journal, 52(6):1554-1558, November-December 1988

EPA/600/J-88/431, NTIS PB 90 113473/AS

**DISTRIBUTION AND ACTIVITY OF
MICROORGANISMS IN SUBSURFACE
SEDIMENTS OF A PRISTINE STUDY SITE IN
OKLAHOMA**

R.M. Beloin, J.L. Sinclair, and W.C. Ghiorse
Microbial Ecology, 16(1):85-97, July 1988

EPA-600/J-88-199, NTIS PB 89-138812

**THE EFFECT OF SOIL PROPERTIES AND A
SYNTHETIC MUNICIPAL LANDFILL
LEACHATE ON THE RETENTION OF Cd, Ni,
Pb, and Zn IN SOIL AND SEDIMENT
MATERIALS.**

J.M LeBauve, J. Kotuby-Amacher, and R.P. Gambrell
Journal Water Pollution Control Federation, 60(3):379-385, March 1988

EPA-600/J-88-027, NTIS PB 88-224340

**EFFECT OF A SUBSURFACE SEDIMENT ON
HYDROLYSIS OF HALOALKANES AND
EPOXIDES**

W.R. Haag and T. Mill
Environmental Science and Technology, 22(6):658-663, June 1988

EPA-600/J-88-079

***EFFECTS OF PHYSICAL, CHEMICAL, AND
BIOLOGICAL VARIABILITY IN MODELING
ORGANIC CONTAMINANT MIGRATION
THROUGH SOIL**

D.C. DiGiulio and I.H. Suffet
Proceedings of the 9th National Superfund
Conference, November 28-30, 1988, Washington, D.C.

**EQUIVALENCE OF MICROBIAL BIOMASS
MEASURES BASED ON MEMBRANE LIPID
AND CELL WALL COMPONENTS,
ADENOSINE TRIPHOSPHATE, AND DIRECT
COUNTS IN SUBSURFACE AQUIFER
SEDIMENTS**

D.L. Balkwill, F.R. Leach, J.T. Wilson, J.F. McNabb,
and D.C. White

Microbial Ecology, 16(1):73-84, July 1988

EPA-600/J-88-131, NTIS PB 89-119853

**EVALUATION OF MOBILITY OF PESTICIDES
IN SOIL USING U.S. EPA METHODOLOGY**

J.E. McLean, R.C. Sims, W.J. Doucette, C.R. Caupp
and W.J. Grenney

Journal of Environmental Engineering, 114(3):689-703, June 1988

EPA-600/J-88-143, NTIS PB 89-119358

**FORCED-GRADIENT TRACER TESTS AND
INFERRED HYDRAULIC CONDUCTIVITY
DISTRIBUTIONS AT THE MOBILE SITE**

F.J. Molz, O. Guven, J.G. Melville, J.S. Nohrstedt, and
J.K. Overholtzer

Ground Water, 26(5):570-579, September 1988

EPA-600/J-88-255, NTIS PB 89-181382

**GAS CHROMATOGRAPHIC
DETERMINATION OF AVIATION GASOLINE
AND JP-4 JET FUEL IN SUBSURFACE CORE
SAMPLES**

S.A. Vandegrift and D.H. Kampbell

Journal of Chromatographic Science,

26(11):566-569, November 1988

EPA-600/J-88-271, NTIS PB 89-181309

**INFLUENCE OF INORGANIC AND ORGANIC
NUTRIENTS ON AEROBIC
BIODEGRADATION AND ON THE
ADAPTATION RESPONSE OF SUBSURFACE
MICROBIAL COMMUNITIES.**

C.M. Swindoll, C.M. Aelion, and F.K. Pfaender

Applied and Environmental Microbiology,

54(1):212-217, January 1988

EPA-600/J-88-036, NTIS PB 88-225743

**MACROMOLECULAR TRANSPORT OF
HYDROPHOBIC CONTAMINANTS IN
AQUEOUS ENVIRONMENTS**

C. Enfield and G. Bengtsson

Ground Water, 26(1):64-70, January-February 1988

EPA-600/J-88-044, NTIS PB 88-219191

***METAL COMPLEXATION BY NATURAL
ORGANIC MATTER IN GROUND WATERS**

T.R. Holm and M.J. Barcelona

In :Proceedings of the Ground Water Geochemistry
Conference, Denver, Colorado, February 16-18, 1988,
pp. 245-267

**METHODOLOGY FOR ASSESSING
RESPIRATION AND CELLULAR
INCORPORATION OF RADIOLABELED
SUBSTRATES BY SOIL MICROBIAL
COMMUNITIES**

D.C. Dobbins and F.K. Pfaender

Microbial Ecology, 15(3):257-273, May 1988

EPA-600/J-88-065

**METABOLISM OF THE ¹⁸O-METHOXY
SUBSTITUTE OF 3-METHOXYBENZOIC ACID
AND OTHER UNLABELED
METHOXYBENZOIC ACIDS BY ANAEROBIC
BACTERIA**

K.A. DeWeerd, A. Saxena, D.P. Nagle, Jr., and J.M.
Sufliata

Applied and Environmental Microbiology,

54(5):1237-1242, May 1988

EPA-600/J-88-384, NTIS PB 90-103037

**MICROBIAL ECOLOGY OF THE
TERRESTRIAL SUBSURFACE**

W.C. Ghiorse and J.T. Wilson

Advances in Applied Microbiology, Vol. 33, pp.
107-172, 1988

Published by Academic Press Inc.,

EPA-600/D-88-196

**MICROBIAL REMOVAL OF HALOGENATED
METHANES, ETHANES, AND ETHYLENES IN
AN AEROBIC SOIL EXPOSED TO METHANE**

J.M. Henson, M.V. Yates, J.W. Cochran, and D.L.
Shackleford

FEMS Microbiology Ecology, 53(3-4):193-201,
May-June 1988

EPA-600/J-88-066, NTIS PB 89-103196

**MODEL OF CARBON SUBSTRATE
INJECTION TO ENHANCE
DENITRIFICATION IN AQUIFERS**

S.W. Childs, F.T. Lindstrom, L. Boersma, and D.D.
Myrold

In: Proceedings of the Agricultural Impacts on Ground
Water--A Conference, Des Moines, Iowa, March 21-23,
1988, pp. 547-559

**MODIFIED PURGE-AND-TRAP/GAS
CHROMATOGRAPHY METHOD FOR
ANALYSIS OF VOLATILE HALOCARBONS IN
MICROBIOLOGICAL DEGRADATION
STUDIES**

J.W. Cochran, M.V. Yates, and J. M. Henson

Journal of Microbiological Methods, 8(6):347-354,
November 1988

EPA-600/J-88-276, NTIS PB 89-181325

**MORPHOLOGICAL AND CULTURAL
COMPARISON OF MICROORGANISMS IN
SURFACE SOIL AND SUBSURFACE
SEDIMENTS AT A PRISTINE STUDY SITE IN
OKLAHOMA**

T.L. Bone and D.L. Balkwill

Microbial Ecology, 16(1):49-64, July 1988

EPA-600/J-88-198, NTIS PB 89-138820

**MOVEMENT AND TRANSFORMATION OF
HALOGENATED ALIPHATIC COMPOUNDS
IN NATURAL SYSTEMS**

P.L. McCarty, P.V. Roberts, M. Reinhard, and G. Hopkins

Presented at the USA/USSR Symposium on "Fate of Pesticides and Chemicals in the Environment," held at the University of Iowa, Iowa City, Iowa, on October 14, 1987

**MOVEMENT OF CONTAMINANTS FROM
OILY WASTES DURING LAND TREATMENT**

T. E. Short

In: Soils Contaminated by Petroleum: Environmental & Public Health Effects. E.J. Calabrese and P.T. Kostecki, Eds. New York, John Wiley & Sons, pp. 317-330, 1988

**ORGANIC CATION EFFECTS ON THE
SORPTION OF METALS AND NEUTRAL
ORGANIC COMPOUNDS ON AQUIFER
MATERIAL**

D.C. Bouchard, R.M. Powell, and D.C. Clark

Journal of Environmental Science and Health,

A23(6):585-601, August 1988

EPA-600/J-88-188, NTIS PB 89-119770

**OUTLINE FOR PAPER ON TOXICITY BASED
APPROACH TO EVALUATING AQUATIC
TOXICITY FROM GROUND WATER AND
SOIL CONTAMINANTS**

D. DiGiulio

**OXYGEN TRANSFER THROUGH FLEXIBLE
TUBING AND ITS EFFECTS ON GROUND
WATER SAMPLING RESULTS**

T.R. Holm, G.K. George, and M.J. Barcelona

Ground Water Monitoring Review, 8(3):83-89,

Summer 1988

EPA-600/J-88-145, NTIS PB 89-119374

**PESTICIDE SORPTION ON GEOLOGIC
MATERIAL OF VARYING ORGANIC
CARBON CONTENT**

D.C. Bouchard and A.L. Wood

Toxicology and Industrial Health, 4(3):341-349,
May-June 1988

EPA-600/J-88-144, NTIS PB 89-119366

**PROCEEDINGS OF THE INTERNATIONAL
SYMPOSIUM ON BIOFOULED AQUIFERS:
PREVENTION AND RESTORATION**

American Water Resources Association

Proceedings of Symposium held November 9-14, 1986,
Atlanta, GA

EPA-600/9-88-007

**RAPID, SENSITIVE METHOD FOR THE
ANALYSIS OF HALOGENATED GASES IN
WATER**

J.W. Cochran

*Journal of High Resolution Chromatography &
Chromatography Communications*, 11(9):663-665,
September 1988

EPA-600/J-88-187, NTIS PB 89-118798

**SEEPAGE IN A SATURATED-STRATIFIED
AQUIFER WITH RECHARGE**

S.R. Yates

Soil Science Society of America Journal,

52(2):356-363,

March-April 1988

EPA-600/J-88-130, NTIS PB 89-120091

**SOLUBILITY OF AROMATIC POLLUTANTS
IN MIXED SOLVENTS**

K.R. Morris, R. Abramowitz, R. Pinal, P. Davis, and
S.H. Yalkowsky,

Chemosphere, 17(2):285-298, February 1988

EPA-600/J-88-037, NTIS PB 88-225750

**SOME REACTIONS OF NATURALLY
OCCURRING NUCLEOPHILES WITH
HALOALKANES IN WATER**

W.R. Haag and T. Mill

Environmental Toxicology and Chemistry,

7(11):917-924, November 1988

EPA-600/J-88-386, NTIS PB 90-103052/AS

**SORPTION NONEQUILIBRIUM DURING
SOLUTE TRANSPORT**

D.C. Bouchard, A.L. Wood, M.L. Campbell, et al.
Journal of Contaminant Hydrology, 2:209-223, July
1988
EPA-600/J-88-132, NTIS PB 89-119861

**SORPTION OF 2, 3, 7,
8-TETRACHLORODIBENZO-P-DIOXIN TO
SOILS FROM WATER/METHANOL
MIXTURES**

R.W. Walters and A. Guiseppi-Elie
Environmental Science & Technology, Volume 22, pp.
819-825, July 1988
EPA-600/J-88-321, NTIS PB 89-207344

**SORPTION OF CADMIUM, NICKEL, AND
ZINC BY KAOLINITE AND
MONTMORILLONITE SUSPENSIONS**

R.W. Puls and H.L. Bohn
Soil Science Society of America Journal,
52(5):1289-1292,
October 1988
EPA-600/J-88-270, NTIS PB 89-181333

**SPATIAL VARIABILITY OF
REMOTELY-SENSED SURFACE
TEMPERATURES AT FIELD SCALE**

S.R. Yates, A.W. Warrick, A.D. Matthias, and S. Musil
Soil Science Society of America Journal, 52(1):40-45,
January-February 1988
EPA-600/J-88-031, NTIS PB 88-224936

**SURVEY OF MICROBIAL POPULATIONS IN
BURIED-VALLEY AQUIFER SEDIMENTS
FROM NORTHEASTERN KANSAS**

J.L. Sinclair, S. Randtke, J. Denne, L. Hathaway, and
W. Ghiorse

***VIRUS SURVIVAL AND TRANSPORT IN
GROUND WATER**

M.V. Yates and S.R. Yates
In: Proceedings International Conference on Water and
Wastewater Microbiology, Newport Beach, California,
February 8-11, 1988, Volume 2, pp. 49-1 through 49-7

1989

**ABIOTIC DEHALOGENATION OF 1,2-
DICHLOROETHANE AND 1,2-
DIBROMOETHANE IN AQUEOUS SOLUTION
CONTAINING HYDROGEN SULFIDE**

J.E. Barbash and M. Reinhard
Environmental Science & Technology 23(11): 1349-
1358, Nov. 1989
EPA-600-J-89-352, NTIS PB 90-216284

**ABIOTIC DEHALOGENATION REACTIONS
OF HALOALIPHATIC COMPOUNDS IN
AQUEOUS SOLUTION**

M. Reinhard, J.E. Barbash, J.M. Kunzle
In: Proceedings of Intern. Conf. on Physicochemical &
Biological Detoxification of Hazardous Wastes 722-
741, May 1988

**ACCUMULATION OF POLY-B-
HYDROXYBUTYRATE IN A METHANE-
ENRICHED, HALOGENATED,
HYDROCARBON-DEGRADING SOIL
COLUMN: IMPLICATIONS FOR MICROBIAL
COMMUNITY STRUCTURE AND
NUTRITIONAL STATUS**

P.D. Nichols, and D.C. White
Hydrobiologia, 177/177,369-377, June 1989
EPA-600/J-89-256, NTIS PB 90-135260/AS

**ADAPTATION OF AQUIFER MICROBIAL
COMMUNITIES TO THE BIODEGRADATION
OF XENOBIOTIC COMPOUNDS: INFLUENCE
OF SUBSTRATE CONCENTRATION AND
PREEXPOSURE**

C.M. Aelion, D.C. Dobbins, and F.K. Pfaender
Environmental Toxicology and Chemistry 8(1):75-86,
January 1989

**ANAEROBIC BIODEGRADATION OF
NITROGEN-SUBSTITUTED AND
SULFONATED BENZENE AQUIFER
CONTAMINANTS**

J.M. Sulfito
Hazardous Wastes & Hazardous Materials, 6 (2):
121-133, Spring 89
EPA-600/J-89-190, NTIS PB 90-140708

THE ANAEROBIC BIODEGRADATION OF o-, m- and p-CRESOL BY SULFATE-REDUCING BACTERIAL ENRICHMENT CULTURES OBTAINED FROM A SHALLOW ANOXIC AQUIFER

J.M. Suflita, L. Liang, and A. Saxena
Journal of Industrial Microbiology, 4 (4): 255-266,
July 1989
EPA-600/J-89-187, NTIS PB 90-140674

APPROXIMATE AND ANALYTICAL SOLUTIONS FOR SOLUTE TRANSPORT FROM AN INJECTION WELL INTO A SINGLE FRACTURE

C. Chen and S.R. Yates
Ground Water 27 (1): 77-86, Jan-Feb 1989
EPA-600/J-89-189, NTIS PB 90-740690

BACTERIOPHAGE TRANSPORT IN SANDY SOIL AND FRACTURED TUFF

R.C. Bales, C.P. Gerba, G.H. Grondin, and S. L. Jensen
Applied and Environmental Microbiology, 55(8):
2061-2067, August 1989
EPA-660-J-89-279, PB 90-185299

***BIOPLUME MODEL FOR CONTAMINANT TRANSPORT AFFECTED BY OXYGEN LIMITED BIODEGRADATION**

H. Rifai, P. Bedient, and J. Wilson
EPA-600/M-89-019
NTIS PB 90-145798/AS

CHEMICAL TRANSPORT FACILITATED BY COLLOIDAL-SIZED MOLECULES

C.G. Enfield
In: Mobility of Colloidal Particles in the Subsurface,
69-71
Report # DOE/ER-0425

COMPARISON OF SORPTION ENERGETICS FOR HYDROPHOBIC ORGANIC SOLUTES ON RPLC SORBENTS AND SOILS IN A BINARY MIXED-SOLVENT SYSTEM

K.B. Woodburn, J.J. Delfino, P.S.C. Rao, and L.S. Lee
Environ. Sci. Technol., 23(4):407-413, April 1989
EPA-600/J-89-081, NTIS PB 90-103649/AS

CURRENT STATE-OF-THE-ART TECHNIQUES FOR MECHANICAL INTEGRITY TESTING OF UNDERGROUND INJECTION WELLS

J.T. Thornhill
In: Proceedings of Conference on Prevention & Treatment of Groundwater & Soil Contamination in Petroleum Exploration & Production, Calgary, Alberta, Canada, May 9-11, 1989, pp. 8.0-8.22

DEHALOGENATION OF PESTICIDES BY ANAEROBIC MICROORGANISMS IN SOILS AND GROUND WATERS--A REVIEW

E.P. Kuhn and J.M. Suflita
In: Reaction and Movement of Organic Chemicals in Soils, B.L. Sawhney and K. Brown, Eds., Madison, WI, American Society of Agronomy, SSSA, Special Publication No. 22, Chap. 6, pp. 110-180

DESIGN OF A PHYSICAL MODEL OF A WATER TABLE AQUIFER

F.P. Beck, D.M. Walters, and T.E. Short
In: Proceedings of the Third National Outdoor Action Conference on Aquifer Restoration, Ground Water Monitoring and Geophysical Methods, Orlando, FL, May 22-25, 1989, pp. 689-703

DETERMINATION OF OPTIMAL TOXICANT LOADING FOR BIOLOGICAL CLOSURE OF A HAZARDOUS WASTE SITE

M. Bianchini, R. Portier, J. Matthews, et al.
Aquatic Toxicology and Hazard Assessment: 10th Volume,
ASTM STP 971, pp. 503-516
EPA-600/D-89-163
NTIS PB 90-116641/AS

DISSOLVED OXYGEN AND METHANE IN WATER BY A HEADSPACE EQUILIBRATION TECHNIQUE

D.K. Kampbell, J.T. Wilson, and S.A. Vandegrift
Intern. J. Environ. Anal. Chem., 36:249-257, March 1989
EPA-600/J-89-186, NTIS PB 90-138454

DYNAMIC STUDIES OF NAPHTHALENE SORPTION FROM AQUEOUS SOLUTION

R.T. Podoll, K.C. Irwin, and H.M. Jaber
Chemosphere, 18 (11/12): 2399-2412, Aug. 1989
EPA-600/J-89-184, NTIS PB 90-140864

**FILTRATION OF GROUND WATER SAMPLES
FOR METAL ANALYSIS**

R.W. Puls and M.J. Barcelona

Hazardous Wastes and Hazardous Materials, 6 (4):
385-393, Nov. 1989

EPA-600/J-89-278, NTIS PB 90-185182

**THE INFLUENCE OF ALTERNATE
ELECTRON ACCEPTORS ON THE
METABOLIC FATE OF HYDROXYBENZOATE
ISOMERS IN ANOXIC AQUIFER SLURRIES**

E.P. Kuhn, J.M. Suflita, M.D. Rivera, and L.Y. Young

Applied and Environmental Microbiology,
55(3):590-598, March 1989

EPA-600/J-89-125 PB 90-113259/AS

**INFLUENCE OF MACROMOLECULES ON
CHEMICAL TRANSPORT**

C. Enfield

Env. Science Tech. 23 (10): 1278-1286 1989

EPA-600/J-89-277, NTIS PB 90-185125

**IN SITU BIOREMEDIATION OF SUBSURFACE
MATERIAL AND GROUNDWATER
CONTAMINATED WITH AVIATION FUEL:
TRAVERSE CITY, MICHIGAN**

C.Ward, J. Thomas, S Fiorenza, et al.

In: Proceedings of the 1989 A&WMA/EPA
International Symposium on Hazardous Waste
Treatment: Biosystems for Pollution Control,
Cincinnati, Ohio, February 1989

* Not available from NTIS

**INTERLABORATORY METHODS
COMPARISON FOR THE TOTAL ORGANIC
CARBON ANALYSIS OF AQUIFER
MATERIAL**

R.M. Powell, B.E. Bledsoe, and G.P. Curtis

Environ. Sci. & Tech. 23 (10): 1246-1249, Oct. 1989

EPA-600/J-89-276, NTIS PB 90-185133

**LARGE LABORATORY COLUMN STUDY OF
THE TRANSPORT AND DEGRADATION OF
ATRAZINE, CARBOFURAN, AND DIURON IN
SOILS**

T.E. Short and C.G. Enfield

In :Proceedings of INRA Workshop on
"Methodological Aspects of the Study of Pesticide
Behavior in Soil," Versailles, France, June 16-17, 1988
(published 04/89)

EPA-600/D-89-162, NTIS PB90-116757/AS

**MECHANISMS OF MICROBIAL
MOVEMENTS IN SUBSURFACE MATERIALS**

P. Reynolds, P. Sharma, G. Jenneman, and M.

McInerney

Applied & Environ. Microbiology, 55(9): 2280-2286,
Sept. 1989

EPA-600/J-89-188, NTIS PB90-140682

**METABOLISM OF CHLORINATED
METHANES, ETHANES & ETHYLENES BY A
MIXED BACTERIAL CULTURE GROWING
ON METHANE**

J. Henson, M. Yates, and J. Cochran

Journal of Indust. Micro. 4: 29-35, 1989

EPA-600/J-89-489, NTIS PB91 144774

**MICROBIAL DEGRADATION OF NITROGEN,
OXYGEN AND SULFUR HETEROCYCLIC
COMPOUNDS UNDER ANAEROBIC
CONDITIONS: STUDIES WITH AQUIFER
SAMPLES**

E. P. Kuhn and J.M. Suflita

Environmental Toxicology and Chemistry, 8(12):
1149-1158, Dec. 1989

EPA-600/J-89-353, NTIS PB 90-216276

**MICROBIAL ECOLOGY OF THE
SUBSURFACE AT AN ABANDONED
CREOSOTE WASTE SITE**

J.M. Thomas, M.D. Lee, M.J. Scott, and C.H. Ward

Journal of Industrial Microbiology, 4(2):109-120,
March 1989

**MOBILIZATION OF AVIATION GASOLINE
FROM A RESIDUAL SOURCE**

D.W. Ostendorf, D.H. Kampbell, J.T. Wilson, and J.H. Sammons

Research Journal WPCF, 61(11/12): 1684-1690, Dec. 1989

EPA-600/J-89-354, NTIS PB 90-216268

**MULTIPHASE FLOW AND TRANSPORT IN
POROUS MEDIA**

J. C. Parker

Review of Geophysics, 27 (3): 311-328, 8-89

EPA-600/J-89-548, NTIS PB 91-241457

**NONEQUILIBRIUM SORPTION DURING
DISPLACEMENT OF HYDROPHOBIC
ORGANIC CHEMICAL AND ⁴⁵Ca THROUGH
SOIL COLUMNS WITH AQUEOUS AND
MIXED SOLVENTS**

P. Nkedi-Kizza, M.L. Brusseau, P. S.C. Rao, and A.G. Hornsby

Environ. Sci. Tech. 23 (7): 814-820, July 1989

EPA-600/J-89-183, NTIS PB 90-140906

**PHYSICOCHEMICAL PROPERTIES AS
PREDICTORS OF ORGANIC CHEMICAL
EFFECTS ON SOIL MICROBIAL
RESPIRATION**

B.T. Walton, T.A. Anderson, M.S. Hendricks and S.S. Talmage

Environ. Toxicol. Chem., 8(1):53-63, January 1989

EPA-600/J-89-100, NTIS PB 90-117185/AS

**PILOT PROJECT ON BIORESTORATION OF
FUEL-CONTAMINATED AQUIFER USING
NITRATE PART I-FIELD DESIGN AND
GROUNDWATER MODELING**

W.C. Downs, S.R. Hutchins, and J.T. Wilson

In Proceedings of Conference on Petroleum Hydrocarbons and Organic Chemicals in Groundwater, Nov. 1989, 219-231

* Not available from NTIS

**PILOT PROJECT ON BIORESTORATION OF
FUEL-CONTAMINATED AQUIFER USING
NITRATE PART II-LABORATORY
MICROCOSM STUDIES AND FIELD
PERFORMANCE**

W.C. Downs, S.R. Hutchins, and J.T. Wilson

In Petroleum Hydrocarbons and Organic Chemicals in Groundwater, Nov. 1989, 598-604

* Not available from NTIS

**PRACTICAL LIMITS TO PUMP & TREAT
TECHNOLOGY FOR AQUIFER
REMEDICATION**

C. Hall

In: Proceedings of Conference on Prevention & Treatment of Groundwater, May 1989

**QUANTITATION OF AVIATION FUEL
CONTAMINANT LEVELS IN SANDY
SUBSURFACE CORE MATERIAL BY GAS
CHROMATOGRAPHY**

S.A. Vandegrift

In: Proceedings of Conference on New Field Techniques for Quantifying the Physical and Chemical Properties of Heterogeneous Aquifers, Mar., 1989, pp. 705-715

**THE REACTIVITY OF SULPHUR
NUCLEOPHILES TOWARD HALOGENATED
ORGANIC COMPOUNDS IN NATURAL
WATERS**

J. Barbash and M. Reinhard

In: Biogenic Sulfur in the Environment
ACS Symposium Series 393: 101-138, 1989

**SEPTIC TANK SETBACK DISTANCES: A
WAY TO MINIMIZE VIRUS
CONTAMINATION OF DRINKING WATER**

M.V. Yates and S.R. Yates

Ground Water, 27(2):202-208, March-April 1989

**SEQUENTIAL REDUCTIVE
DEHALOGENATION OF CHLOROANILINES
BY MICROORGANISMS FROM A
METHANOGENIC AQUIFER**

E.P. Kuhn and J.M. Suflita

Environ. Sci. Technol., 23(7):848-852, July 1989

EPA-600/J-89-103, NTIS PB 90-117219/AS

A SINGLE WELL ELECTRICAL TRACER TEST FOR THE DETERMINATION OF HYDRAULIC CONDUCTIVITY AND POROSITY AS A FUNCTION OF DEPTH

K. Taylor, F. Molz, and J. Hayworth

In: Proceedings of the Second National Outdoor Action Conference on Aquifer Restoration, Ground Water Monitoring and Geophysical Methods, Las Vegas, NE, May 23-26, 1988, pp. 925-938

SOLUTIONS APPROXIMATING SOLUTE TRANSPORT IN A LEAKY AQUIFER RECEIVING WASTEWATER INJECTION

C.S. Chen

Water Resources Research, 25(1):61-72, January 1989

EPA-600/J-89-102, NTIS PB 90-117201/AS

SORPTION OF 2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN FROM WATER BY SURFACE SOILS

R.W. Walters and S.A. Ostazeski

Environ. Sci. Technol., 23(4):480-484, April 1989

EPA-600/J-89-099, NTIS PB 90-116169/AS

SORPTION OF VOLATILE ORGANIC SOLVENTS FROM AQUEOUS SOLUTION ONTO SUBSURFACE SOLIDS

M.D. Piwoni and P. Banerjee

Journal of Contaminant Hydrology, 4(2):163-179, April 1989

EPA-600/J-89-127, NTIS PB 90-113275/AS

SPATIAL AND TEMPORAL GRADIENTS IN AQUIFER OXIDATION-REDUCTION CONDITIONS

M.J. Barcelona, T.R. Holms, M.R. Schock, and G.K. George

Water Resources Research, 25(5):991-1003, May 1989

EPA-600/J-89-082 PB 90-103656/AS

STRUCTURAL PROPERTIES OF ORGANIC CHEMICALS AS PREDICTORS OF BIODEGRADATION AND MICROBIAL TOXICITY IN SOIL

B.T. Walton and T.A. Anderson

Chemosphere 17(8):1501-1507, August 1989

EPA-600/J-88-413, NTIS PB 90-117078/AS

TOWARDS A STANDARD METHOD FOR THE MEASUREMENT OF ORGANIC CARBON IN SEDIMENTS

C.M. Lee and D. Macalady

International Journal of Environmental and Analytical Chemistry, 35(4):219-225, April 1989

EPA-600/J-89-101, NTIS PB 90-117193/AS

TRANSPORT OF DISSOLVED SUBSTANCES WITH SECOND-ORDER REACTION

S.R. Yates and C.G. Enfield

Water Resources Research, 25(7): 1757-1762, July 1989

EPA-600/J-89-185, NTIS PB 90-138447

TRANSPORT PROCESSES INVOLVING ORGANIC CHEMICALS

D.C. Bouchard, C.G. Enfield, and M.D. Piwoni

Reactions and Movement of Organic Chemicals in Soils, SSSA Special Publication No. 22, pp. 349-371, Chapter 14)

SSA and ASA, Madison, WI

EPA-600/D-89-161

NTIS PB 90-116765/AS

USE OF A BOREHOLE FLOWMETER TO DETERMINE SPATIAL HETEROGENEITY OF HYDRAULIC CONDUCTIVITY AND MACRODISPERSION IN A SAND AND GRAVEL AQUIFER, CAPE COD MASSACHUSETTS

K. Hess

In: Proceedings of Conference on New Field Techniques for Quantifying the Physical and Chemical Properties of Heterogeneous Aquifers, 497-508-March 1989

THE USE OF BATCH TESTS AS A SCREENING TOOL FOR RADIONUCLIDE SORPTION CHARACTERIZATION STUDIES, HANFORD, WASHINGTON, U.S.A.

R.W. Puls, L.L. Ames and J.E. McGarrah

Applied Geochemistry 4(1): 63-77, January-February 1989

EPA-600/J-89-018, NTIS PB 89-236285

VALIDATION OF SIGNATURE POLARLIPID FATTY ACID BIOMARKERS FOR ALKANE-UTILIZING BACTERIA IN SOILS AND SUBSURFACE AQUIFER MATERIALS
D.B. Ringelberg, J.D. Davis, G.A. Smith, et al.
FEMS Microbiology Ecology Journal, 62:39-50,
January 1989

VERTICAL INTEGRATION OF THREE-PHASE FLOW EQUATIONS FOR ANALYSIS OF LIGHT HYDROCARBON PLUME MOVEMENT
J.C. Parker and R. J. Lenhard
Transport in Porous Media 5: 187-206, 1989
EPA-600/J-89-545, NTIS PB 91-242487

VERTICAL PROFILES AND NEAR SURFACE TRAPS FOR FIELD MEASUREMENT OF VOLATILE POLLUTION IN THE SUBSURFACE ENVIRONMENT
D. Ostendorf and D. Kampbell
In: Proceedings of Conference on New Field Techniques for Quantifying the Physical and Chemical Properties of Heterogeneous Aquifers, March 1989, pp. 829-841
In: INTERMEDIA POLLUTANT TRANSPORT: Modeling and Field Measurement (D.T. Allen, Y. Cohen and I. Kaplan, Eds.), New York, Plenum Pub. Corp., 189-211
* Not Available NTIS

1990

ADSORPTION OF ORGANIC CATIONS TO NATURAL MATERIALS
B.J. Brownawell, H.Chen, J. Collier, and J. Westall
Environmental Science & Technology, 24 (8): 1234-1241, 1990
EPA-600/J-90-258, NTIS PB 91-144881

AN ANALYTICAL SOLUTION TO RICHARDS' EQUATION FOR A DRAINING SOIL PROFILE
A. W. Warrick, D.O. Lomean, and A. Islas
Water Resources Research, 26 (2): 253-258, 1990
EPA-600/J-90-218, NTIS PB 91-117200

AN ASEPTIC PROCEDURE FOR SOIL SAMPLING IN HEAVY SAND USING SPECIAL HOLLOW STEM AUGER CORING
L. E. Leach
Proceedings of the First International Symposium on Microbiology of the Deep Subsurface: Jan. 1990

ANAEROBIC IN-SITU TREATMENT OF CHLORINATED ETHENES
G.W. Sewell, S.A. Gibson, and H.H. Russell
In: Bioremediation of Groundwater and Contaminated Soils, Proceedings WPCF Annual Conference, 68-79, Oct. 7-11, 1990
EPA-600/D-90-204, NTIS PB 91-137067

***APPROACH TO BIOREMEDIATION OF CONTAMINATED SOIL**
J.L. Sims, R.C. Sims, and J.E. Matthews
Hazardous Waste & Hazardous Material 7(2): 117-149, 1990
EPA-600/J-90-203, NTIS PB 91-116152

ASSESSING DETOXIFICATION AND DEGRADATION OF WOOD PRESERVING AND PETROLEUM WASTES IN CONTAMINATED SOIL
W. April, R. Sims, and J. Sims
Waste Management & Research, 8 (1): 45-65, Feb. 90
EPA-600/J-90/099, NTIS PB 90-245275

BENZENE AND NAPHTHALENE SORPTION ON SOIL CONTAMINATED WITH HIGH MOLECULAR WEIGHT RESIDUAL HYDROCARBONS FROM UNLEADED GASOLINE
D.C. Bouchard, S.C. Mravik, and G.B. Smith
Chemosphere, 21 (8): 975-989, 1990
EPA-600/J-90-396 NTIS PB 91-171520

BILATERAL WASTEWATER LAND TREATMENT RESEARCH
L. Leach, B. Bledsoe, D. Zhen-Bo, and W. Shao-Tang
Water Environment and Technology, 2 (12): 1990
EPA-600/D-90-396, NTIS PB 91-162636

**BIODEGRADATION OF DIPHENYL ETHERS
BY A COPPER-RESISTANT OF ERWINIA SP.**

H. J. Liaw and V.R. Srinivasan

Jnl. Industrial Microbiology, 6 (4): 235-241, Dec. 1990

EPA-600/J-90-439, NTIS PB 91-177204

**BIOLOGICAL CLEANUP OF TCE,DCE, AND
VC IN GROUNDWATER**

M.R. Scalf

Tech Trends, 1: July 90

**BIOPLUME II PREDICTION OF NATURAL
BIOREMEDIATION IN GROUND WATER
SAVES \$3 MILLION AT TRAVERSE CITY SITE**

J. Williams

A Supplement to Tech Trends EPA-540/M-90/010,
No. 3

**BIOREMEDIATED SOIL VENTING OF LIGHT
HYDROCARBONS**

D. W. Ostendorf and D. H. Kampbell

Hazardous Waste & Hazardous Materials, 7 (4):
319-334, 1990

EPA-600/J-90-397, NTIS PB 91-171538

**CALIBRATION AND AUTOMATION OF A
DUAL-ENERGY GAMMA SYSTEMS FOR
APPLICATIONS IN SOIL SCIENCE**

M. Oostrom and J. H. Dane

* Not Available NTIS

**CHEMICAL TRANSPORT FACILITATED BY
COLLOIDAL-SIZED ORGANIC MOLECULES**

C.G. Enfield

Haz. Materials Control, 3 (4): 50-51, July/Aug. 1990

EPA-600/J-90-395, NTIS PB 91-171512

**COLLOCATION BASED PARALLEL
ALGORITHM TO SOLVE IMMISCIBLE TWO
PHASE IN POROUS MEDIA**

K.F. Guarnaccia and G.F. Pinder

IN :Applications of Supercomputers in Engineering:
Fluid Flow and Stress Analysis, Proceedings of First
International Conference, Edited by C.Brebbia & A.
Peters; 67-78

EPA-600/A-93-027, NTIS PB 93-156180

***COLLOIDAL CONSIDERATIONS IN
GROUNDWATER SAMPLING AND
CONTAMINANT TRANSPORT PREDICTIONS**

R.W. Puls

Nuclear Safety, 31(1): pp. 58-65, Jan-Mar.1990

EPA-600/J-90-198, NTIS PB 91-116202

**COLUMN STUDIES ON METHANOTROPHIC
DEGRADTION OF TRICHLOROETHENE AND
1,2-DICHLOROETHANE**

N.A. Lanzarone and P.L. McCarty

Ground Water 28(6): Nov.-Dec., 1990

**CONTAMINANT TRANSPORT IN THE
SUBSURFACE: SORPTION EQUILIBRIUM
AND THE ROLE OF NONAQUEOUS PHASE
LIQUIDS**

D.C. Bouchard

IN: Intermedia Pollutant Transport: Modeling and
Field Measurements (David T. Allen, Yoram Cohen
and Isaac R. Kaplan,Eds.) New York, Plenum Pub.
Corp., pp. 189-211

**COPPER COMPLEXATION BY NATURAL
ORGANIC MATTER IN CONTAMINATED
AND UNCONTAMINATED GROUND WATER**

T.R. Holm

Chemical Speciation and Bioavailability, 2 (2): 63-
76, Apr. 1990

EPA-600/J-90-269, NTIS PB 91-144865

**COSOLVENCY AND SORPTION OF
HYDROPHOBIC ORGANIC CHEMICALS**

P.S.C. Rao, L.S. Lee, and R. Pinal

Environmental Science & Technology, 24(5): 647-
654, 1990

EPA-600/J-90-201, PB 91-116178

**COSOLVENCY OF PARTIALLY MISCIBLE
ORGANIC SOLVENTS ON THE SOLUBILITY
OF HYDROPHOBIC ORGANIC CHEMICALS**

R. Pinal, P.S.C. Rao, and L. Lee

Environmental Science & Technology, 24(5): 639-
467, 1990

EPA-600/J-90-199, NTIS PB 91-116194

COSOLVENT EFFECTS ON SORPTION AND MOBILITY OF ORGANIC CONTAMINANTS IN SOILS

A.L. Wood, D.C. Bouchard, M.L. Brusseau, and P.S.C. Rao
Chemosphere, 21(4-5): 575-587, 1990
EPA-600/J-90-394, NTIS PB 91-171504

DISSOLUTION OF ORGANIC LIQUIDS IN GROUNDWATER

P.T. Imhoff, P.R. Jaffe, and G.F. Pinder
Environmental Engineering, Proceedings of the 1990 Specialty Conference July 8-11, 1990, pp. 291-297 *
Not Available NTIS

EFFECT OF MINERAL MEDIA ON TRICHLOROETHYLENE OXIDATION BY AQUIFER METHANOTROPHS

S.M. Henry and D. Grbic-Galic
Microb. Ecol. 20: 151-169, 1990

EFFECTS OF NAPL WEATHERING ON CONTAMINANT TRANSPORT

D.C. Bouchard, S.C. Mravik, and A.R. Lee
Proceedings of Conference on Haz. Waste Research, May, 1990

EFFECT OF pH AND CONCENTRATION ON THE TRANSPORT OF NAPHTHALENE IN SATURATED AQUIFER MEDIA

A.T. Kan and M.B. Tomson
Jnl. Contaminant Hydrology, 5(3): 235-251, March 1990
EPA-600/J-90-157, NTIS PB 91-109959

EFFECTS OF RESIDUAL HYDROCARBONS ON CONTAMINANT SORPTION

D.C. Bouchard, S.C. Mravik, and G.B. Smith
Electric Power Research Institute, EN-6749, Project 2485, Proceedings, pp. 24/1-10, March 1990
Not Available NTIS

ELECTRODE MEASUREMENT OF REDOX POTENTIAL IN ANAEROBIC FERRIC/FERROUS CHLORIDE SYSTEMS

T. J. Grundl and D.L. Macalady
Jnl. Contaminant Hydrology, 5 (1): 97-117, Dec. 89
EPA-600/J-89-386, NTIS PB 90-246075

ENVIRONMENTAL FACTORS INFLUENCING METHANOGENESIS IN A SHALLOW ANOXIC AQUIFER: A FIELD & LABORATORY STUDY

R.E. Beeman and J.M. Suflita
Ind. Inst. Micro. 5 (1): 45-57, Jan. 1990
EPA-600/J-90-097, NTIS PB 90-245515

ESTIMATION OF FREE HYDROCARBON VOLUME FROM FLUID LEVELS IN MONITORING WELLS

R.J. Lenhard and J.C. Parker
Ground Water, 28(1): 57-67, Jan.-Feb. 90
EPA-600/J-90-538, NTIS PB91-233387

ESTIMATION OF SPILL VOLUME FROM MONITORING WELL NETWORKS

J.C. Parker, A.K. Katyal, J.L. Zhu, and S. Mishra
Ground Water Mgmt., 2: 1233-1243

AN EULERIAN-LAGRANGIAN LOCALIZED ADJOINT METHOD FOR REACTIVE TRANSPORT IN GROUNDWATER

M.A. Celia and S. Zisman
IN: Proceedings of the Eighth International Conference on Computational Methods in Water Resources, Venice, Italy, pp. 383-392, June 1990
* Not Available NTIS

AN EULERIAN-LAGRANGIAN LOCALIZED ADJOINT METHOD FOR THE ADVECTION-DIFFUSION EQUATION

M.A. Celia, T.F. Russell, I. Herrera, and R.E. Ewing
Adv. Water Resources, 13 (4): 197-206, 1990
EPA-600/J-90-444, NTIS PB 91-177253

FATE OF PAH COMPOUNDS IN TWO SOIL TYPES: INFLUENCE OF VOLATILIZATION, ABIOTIC LOSS, AND BIOLOGICAL ACTIVITY

K Park, R. Sims, R. Dupont, W. Doucette, and J. Matthews
Environmental Toxicology and Chemistry 9(2): 187-195, Feb. 1990
EPA-600/J-90-026, NTIS PB 90-219635

**FIELD AND LABORATORY EVALUATION OF
THE USE OF NITRATE TO REMOVE BTX
FROM A FUEL SPILL**

S.R. Hutchins, J.T. Wilson, et. al.

In: Proceedings, Environmental Research Conference
on Ground Water Quality and Waste Disposal, I.P.
Murarka and S. Cordle, Eds., May 89

*Not Available NTIS

**FIELD EVALUATION OF IN-SITU
BIODEGRADATION OF CHLORINATED
ETHENES: PART I, METHODOLOGY AND
FIELD SITE CHARACTERIZATION**

P.V. Roberts, G.D. Hopkins, D.M. Mackay, and L.
Semprini

Ground Water, 28 (4): 591-604, July-August, 1990

EPA-600/J-90-261, NTIS PB 91-144857

**A FIELD EVALUATION OF IN-SITU
BIODEGRADATION OF CHLORINATED
ETHENES: PART II, RESULTS OF
BIOSTIMULATION AND
BIOTRANSFORMATION EXPERIMENTS**

L. Semprini, P.V. Roberts, G.D. Hopkins, and P.L.
McCarty

Ground Water, 28(5): 715-727, Sept.-Oct., 1990

**GENERAL MASS-CONSERVATIVE
NUMERICAL SOLUTION FOR THE
UNSATURATED FLOW EQUATION**

M.A. Celia, E.T. Bouloutas, and R.L. Zarva

American Geophysical Union, 26(7): 1482-1496,
July, 1990

EPA-600/J-90-445, NTIS PB 91-177261

**GROUNDWATER TRANSPORT OF
HYDROPHOBIC ORGANIC COMPOUNDS IN
THE PRESENCE OF DISSOLVED ORGANIC
MATTER**

A.T. Kan and M.B. Tomson

Env. Toxic & Chem. 9 (3): 253-263, Mar. 90

EPA-600/J-90-101, NTIS PB 90-245291

**HYDROCARBON SPILL EXPOSURE
ASSESSMENT MODELING**

J.W. Weaver and R.J. Charbeneau

Ground Water Mgmt., Book 4 of the Series

Proceedings of the 1990 Petroleum Hydrocarbons and
Organic Chemicals in Ground Water: Prevention,
Detection, and Restoration, Nov. 1990

EPA-600/D-91-002, NTIS PB 91-162669

**HYDROLOGIC-HYDROCHEMICAL
CHARACTERIZATION OF TEXAS FRIO
FORMATION USED FOR DEEP-WELL
INJECTION OF CHEMICAL WASTES**

C.W. Kreitler, M. S. Akhter, and A. Donnelly

Environmental Geological Water Science, 16 (2):
107-120, 1990

EPA-600/J-90-257, NTIS PB 91-144899

**INFLUENCE OF SOLVENT AND SORBENT
CHARACTERISTICS ON DISTRIBUTION OF
PENTACHLOROPHENOL IN OCTANE-
WATER AND SOIL-WATER SYSTEMS**

L. S. Lee, P.S.C. Rao, P. Nkedi-Kizza, and J.J. Delfino

Environmental Science & Technology, 24 (5): 654-
661, 1990

EPA-600/J-90-200, NTIS PB 91-116186

**MEASUREMENT TECHNIQUES FOR
SORPTION OF ORGANICS TO RESIDUAL
AMOUNTS OF FUEL HYDROCARBONS**

S.C. Mravik, D.C. Bouchard, and A.R. Lee

Groundwater Management, Proceedings of the 1990
Cluster of Conferences

NWWA 1, 877-891

* Not available NTIS

**METAL COMPLEXATION BY NATURAL
ORGANIC MATTER IN GROUNDWATER**

T.R. Holm

In: Chemical Modeling of Aqueous Systems II, Series
416, 505-518

* Not available NTIS

**MICROBIAL CARBON DIOXIDE
GENERATION AND OXYGEN UTILIZATION
IN THE UNSATURATED SUBSURFACE AT A
GASOLINE SPILL SITE**

D.H. Kampbell

In: Proceedings of Conference on Hazardous Waste
Research, Volume II

EPA-600/D-90-250, NTIS PB 91-162644

**MODELING MICROBIAL TRANSPORT IN
SOIL AND GROUNDWATER**

M.V. Yates and S.R. Yates

Amer. Society for Microbiology News, 56(6): 324-
327, 1990

EPA-600/J-90-202, NTIS PB 91-116160

**MODELING MULTICOMPONENT ORGANIC
CHEMICAL TRANSPORT IN THREE FLUID
PHASE POROUS MEDIA**

J.J. Kaluarachchi and J.C. Parker

Journal of Contaminant Hydrology, 5 (4): 349-374,
1990

EPA-600/J-90-216, PB 91-117465

**MODELING THE TRANSPORT OF ATRAZINE
IN SOIL CONTAMINATED WITH RESIDUAL
SATURATION OF HYDROCARBON: MODEL
DEVELOPMENT AND VERIFICATION**

K. Liu, C.G. Enfield, and S.C. Mravik

EOS Transactions Amer. Geophysical Union, 71(71):
p 501

**MULTIPHASE FLOW MODELING BY
METHODS OF CHARACTERISTICS
APPROXIMATIONS**

J. Weaver

In: Proceeding of Environmental Research Conference
on Ground Water Quality and Waste Disposal, (I.P.

Murarka and S. Cordle, Eds.

* Not available NTIS

**MULTIPHASE FLOW SIMULATION IN
GROUNDWATER HYDROLOGY AND
PETROLEUM ENGINEERING**

R.E. Ewing and M.A. Celia

In: Proceedings of the eighth International Conference
on Computational Methods in Water Resources,
Venice, Italy, pp. 195-204, June 1990

* Not Available NTIS

**NUMERICAL METHODS FOR NONLINEAR
FLOWS IN POROUS MEDIA**

M.A. Celia, E.T. Bouloutas, and P. Binning

In: Proceedings of the Eighth International Conference
on Computational Methods in Water Resources,
Venice, Italy, pp. 145-150, June 1990

* Not Available NTIS

**OASIS: A GRAPHICAL HYPERTEXT
DECISION SUPPORT SYSTEM FOR GROUND-
WATER CONTAMINANT MODELING**

C.J. Newell and P.B. Bedient

Ground Water, 28 (2): 224-234, Mar.-Apr. 1990

EPA-600/J-90-100, NTIS PB 90-245283

**ONE-DIMENSIONAL SOLUTE TRANSPORT IN
POROUS MEDIA WITH PARTIAL WELL-TO-
WELL RECIRCULATION: APPLICATIONS
TO FIELD EXPERIMENTS**

C.V. Chrysikopoulos, P.V. Roberts, and P.K. Kitanidis

Water Resources Research, 26(6): 1189-1195, June
1990

**ORGANIC CHEMICAL TRANSPORT TO
GROUNDWATER**

C.G. Enfield and S.R. Yates

Pesticides in the Soil Environment: Processes,
Impacts, and Modeling, No. 2 in SSSA Book Series,
Ed. H.H. Cheng, Soil Society of America, 271-289,
1990

EPA-600/D-90-203, NTIS PB 91-137059

**PILOT PROJECT ON BIORESTORATION OF
FUEL CONTAMINATED AQUIFER USING
NITRATE**

W.C. Downs, S.R. Hutchins and J.T. Wilson

In: Proceedings of Aquifer Reclamation and Source
Control, Nov. 13- 14, 1990

**PRODUCTION AND TRANSPORT OF
CARBON DIOXIDE IN A CONTAMINATE
VADOSE ZONE: A STABLE AND
RADIOACTIVE CARBON ISOTOPE STUDY**

K. Suchomel and D.K. Kreamer

Env. Sci. Tech., 24(12): 1824-1831, 1990

EPA-600/J-90-486, NTIS PB 91-191478

**QUANTITATIVE FIELD EVALUATION OF
BIOREMEDIATION OF A FUEL SPILL USING
HYDROGEN PEROXIDE**

J. Wilson, D. Kampbell, et al.
IN DECHEMA: Biotechnology Conferences, D.
Behrens and A.J. Driesel, Eds., Frankfurt am Main,
Germany, Bronners Druckerei. Vol. 3, Part A, pp. 45-
48

* Not available NTIS

**REDUCTIVE DEHALOGENATION OF A
NITROGEN HETEROCYCLIC HERBICIDE IN
ANOXIC AQUIFER SLURRIES**

N. R. Adrian and J.M. Sufllita
Appl. & Envr. Microb. 56 (1): 292-294, Jan. 1990
EPA-600/J-90-098, NTIS PB 90-245267

**REDUCTIVE DEHALOGENATION: A
SUBSURFACE BIOREMEDIATION PROCESS**

J. L. Sims, J.M. Sufllita, and H. H. Russell
Remediation, 1 (1): 75-93 Winter, 1990/91
EPA-600/J-90-259, NTIS PB 91-144873

**RELIABILITY AND APPLICABILITY OF DSTs
AND BOTTOMHOLE PRESSURE
MEASUREMENTS IN TEXAS GULF COAST
TERTIARY FORMATIONS**

M.S. Akhter and C.W. Kreitler
*Jnl. Petroleum Science and Engineering, 3 (4): 287-
303, Jan. 1990*
EPA-600/J-90-102, NTIS PB 90-245309

**SAMPLING OF GROUND WATER FOR
INORGANICS-PUMPING RATE, FILTRATION,
AND OXIDATION EFFECTS**

R.W. Puls and J.H. Eychaner
Ground Water Mgmt., 2: 313-327

**SIMPLIFIED SOIL GAS SENSING
TECHNIQUES FOR PLUME MAPPING AND
REMEDATION MONITORING**

D.H. Kampbell, J.T. Wilson, and D.W. Ostendorf
Petroleum Contaminated Soils, 3: 125-139, Sept. 90
EPA-600/D-91-001, NTIS PB-162651

**THE SIMULATION OF AIR FLOW IN SOIL
VACUUM EXTRACTION SYSTEMS BY A 3-D
GROUNDWATER FLOW MODEL**

J. S. Cho and D. DiGiulio
Proceeding on Conference on Hazardous Waste
Research, May 1990

**SOIL BIOVENTING DEMONSTRATION
PROJECT**

J.S. Cho, D. Kampbell, J. Wilson, and D. DiGiulio
In: Proceedings of the Technology for Aquifer
Reclamation Conference, New Jersey, Nov. 13-14,
1990
EPA-600/D-90-248, NTIS PB-162628

**TOTAL ORGANIC CARBON
DETERMINATIONS IN NATURAL AND
CONTAMINATED AQUIFER MATERIALS,
RELEVANCE AND MEASUREMENT**

R.M. Powell
Ground Water Mgmt., 2: 1245-1258
EPA-600/D-90-159, NTIS PB 91-129205

**USE OF FLUORESCENT POLYCYCLIC
AROMATIC HYDROCARBON PROBES IN
STUDYING THE IMPACTS OF COLLOIDS ON
POLLUTANT TRANSPORT IN
GROUNDWATER**

D. Backhus and P. Gschwens
Env. Sci. & Technology, 24 (8): 1214-1223
EPA-600/J-90-217, NTIS PB 91-117457

**USE OF MODEL GENERATED Fe³⁺
ACTIVITIES TO COMPUTE Eh AND FERRIC
OXYHYDROXIDE SOLUBILITIES IN
ANAEROBIC SYSTEMS**

D.L. Macalady, D. Lanqmuir, and T. Grundl
In Chemical Modeling of Aqueous Systems II (D.C.
Melchior and R.L. Bassett, eds.), ACS Symposium
Series 416, pp. 508-518

1991

ADSORPTION OF SURFACTANTS

B.J. Brownawell, H. Chen, W. Zhang, and J. Westall
*Organic Substances and Sediments in Water,
2, Processess and Analytical, Chapter 7, 127-147,
1991*
EPA-600/A-92-013, NTIS PB 92-143809

**ADVANCES IN HAZARDOUS WASTE SITE
ALLUVIAL SAMPLING**

L.E. Leach and D.C. Draper
Proceedings: Design and Construction Issues at
Hazardous Waste Sites, 681-700, May 1-3, 1991
EPA-600/D-91-214, NTIS PB 91-233320

**ANAEROBIC DEGRADATION OF AROMATIC
HYDROCARBONS AND AEROBIC
DEGRADATION OF TRICHLOROETHYLENE
BY SUBSURFACE MICROORGANISMS**

D. Grbic-Galic, S.M. Henry, E. M. Godsy, E. Edwards,
and K.P. Mayer
Book Chapter # 15,

**ASEPTIC SAMPLING OF UNCONSOLIDATED
HEAVING SOILS IN SATURATED ZONES**

L.E. Leach and R.R. Ross
American Chemical Society Symposium Series Book
"Groundwater Residue Sampling Design", April, 1990
EPA-600/D-91-130, NTIS PB 91-216218

**BACTERIAL TRANSPORT THROUGH
HOMOGENEOUS SOIL**

J.T. Gannon, M. Alexander, U. Minelgrin, and R.J.
Wagenet
Soil Biol. Biochem., 23(12): 1155-1160, 1991
EPA-600/J-92-076, NTIS PB 92-153329

**BILATERAL WASTEWATER LAND
TREATMENT RESEARCH BY CHINA AND
THE USEPA**

L.E. Leach, B. Bledsoe, D. Zhen-Bo, and W. Shao-
Tang
Water Science Technology, 24 (5): 33-40
EPA-600/J-91-077, NTIS PB 91-216267

**BIODEGRADATION OF AROMATIC
HYDROCARBONS BY AQUIFER
MICROORGANISMS UNDER DENITRIFYING
CONDITIONS**

S.R. Hutchins and D.A. Kovacs
Environ. Sci. Technol., 25(1): 68-76, Jan. 1991
EPA-600/J-91-003, NTIS PB 91-171892

**BIODEGRADATION OF HYDROCARBON
VAPORS IN THE UNSATURATED ZONE**

D.W. Ostendorf and D.H. Kampbell
Water Resources Research, 27(4): 453-462, April
1991
EPA-600/J-91-084, NTIS PB 91-196642

**BIODEGRADATION OF MONOAROMATIC
HYDROCARBONS BY AQUIFER
MICROORGANISMS USING OXYGEN,
NITRATE, OR NITROUS OXIDE AS THE
TERMINAL ELECTRON ACCEPTOR**

S.R. Hutchins
Appl. Env. Microbiology, 57(8): 2403-2407
EPA-600/J-91-251, NTIS PB 92-110543

**BIOTRANSFORMATION OF CIS-1, 2-
DICHLOROETHYLENE IN AQUIFER
MATERIAL FROM PICATINNY ARSENAL,
MORRIS COUNTY, NEW JERSEY**

T.A. Ehlke, T.E. Imbrigiotta, B.H. Wilson, and J.T.
Wilson
Proceedings: U.S. Geological Survey Toxic
Substances Hydrology Program technical meeting,
March 1991,
pp. 689-697
EPA-600/A-92-085, NTIS PB 92-179100

**BIOTRANSFORMATION OF
MONOAROMATIC AND CHLORINATED
HYDROCARBONS AT AN AVIATION
GASOLINE SPILL SITE**

B.H. Wilson, J.T. Wilson, D.H. Kampbell, et al
Geomicrobiology Jnl., 8: 225-240, 1990, EPA-600/J-
92-028, NTIS PB 92-144005

**BIOVENTING TO TREAT FUEL SPILL FROM
UNDERGROUND STORAGE TANKS**

D.H. Kampbell and J.T. Wilson
3rd Ann. GCHSRC Symposium Proceedings, 2(21-22)
91
Ind. Hazardous Materials, 28: 75-80
*Not available NTIS

**COLLOIDAL Fe_2O_3 TRANSPORT STUDIES IN
LABORATORY MODEL SYSTEMS USING
SHALLOW AQUIFER MATERIAL**

R. W. Puls and R. M. Powell

In: American Chemical Society, Preprints of Papers
presented at the 201st. National Meeting, Atlanta, GA,
31 (1): April 14-19, 1991

EPA-600/D-91-098, NTIS PB 91-191114

**COMPARING STIMULATED AND
EXPERIMENTAL HYSTERETIC TWO-PHASE
TRANSIENT FLUID FLOW PHENOMENA**

R. J. Lenhard, J. C. Parker, and J. J. Kaluarachchi
Water Resources Research, 27(8): 2113-2124,
August, 1991

EPA-600/J-91-195, NTIS PB 91-242545

**COMPARISON BETWEEN MODEL
SIMULATIONS AND FIELD RESULTS FOR IN-
SITU BIORESTORATION OF CHLORINATED
ALIPHATICS: PART I. BIOSTIMULATION OF
METHANOTROPHIC BACTERIA**

L. Semprini and P.L. McCarty

Ground Water 29(3): 365-374, May-June, 1991

**COMPUTER ANIMATION OF NON-AQUEOUS
PHASE TRANSPORT IN A WATER
SATURATED AQUIFER**

E.V. Zeitoun, G.F. Pinder, and J.F. Guarnaccia
*EOS Transactions--The American Geophysical
Union--4/91*, p. 125

*Not Available NTIS

**CONTROL OF AROMATIC WASTE AIR
STREAMS BY SOIL BIOREACTORS**

D.E. Miller and L.W. Canter

Environmental Progress, 10(4): 300-306, Nov. 1991

**DISSOLUTION OF TRICHLOROETHYLENE
AT RESIDUAL SATURATION IN
GROUNDWATER**

P.T. Imhoff, P. R. Jaffe, and G.F. Pinder

*EOS Transactions--The American Geophysical
Union--4/91*, p 119

* Not available NTIS

**EFFECT OF THE GEOCHEMICAL
ENVIRONMENT ON HEAVY-METAL
TRANSPORT GROUND WATER**

J.A. Davis, D.B. Kent, B.A. Rea, S.P. Garabedian, and
L.C.D. Anderson

U.S. Geological Survey Toxic Substances
Hydrology Program

Proceedings of the technical meeting, Monterey, CA,
March 11-15, 1991, pp 53-62.

EPA-600/A-92-088, NTIS PB 92-179134

**EFFECT OF NITRATE ADDITION ON
BIORESTORATION OF FUEL-
CONTAMINATED AQUIFER: FIELD
DEMONSTRATION**

S.R. Hutchins, W. C. Downs, J.T. Wilson, et al

Ground Water, 29(4): 571-580, July-August, 1991

EPA-600/J-91-241, NTIS PB 92-110444

**EFFECTS OF pH, SOLID/SOLUTION RATIO,
IONIC STRENGTH, AND ORGANIC ACIDS ON
Pb AND Cd ON KAOLINITE**

R.W. Puls and R.M. Powell

Water, Air, and Soil Pollution 56-58: 423-430, 1991

EPA-600/J-92-029, NTIS PB 92-143981

**EFFECT OF SODIUM CHLORIDE ON
TRANSPORT OF BACTERIA IN A
SATURATED AQUIFER MATERIAL**

J. Gannon, Y. Tan, P. Baveye, and M. Alexander
Applied and Environmental Microbiology, 57 (9):

2497-2501

EPA-600/J-91-239, NTIS PB 92-110428

**EVALUATION OF HYDRAULIC
CONDUCTIVITIES CALCULATED FROM
MULTIPOINT-PERMEAMETER
MEASUREMENTS**

S.H. Wolf, M.A. Celia, and K.M. Hess

Ground Water, 29(4): 516-525

EPA-600/J-92-029, NTIS PB 92-144013

**EVALUATION OF THE EFFECTIVENESS OF
GROUND WATER EXTRACTION SYSTEMS**

J.L. Haley, B. Hanson, C. Enfield, and J.Glass

Ground Water Monitoring Review, 11 (1): 119-124,
1991

EPA-600/J-91-010, NTIS PB 91-177386

**EVALUATION OF SORPTION MODELS IN
THE SIMULATION OF NAPHTHALENE
TRANSPORT THROUGH SATURATED SOILS**

K. Liu, S.C. Mravik, and C.G. Enfield
Ground Water, 29(5): 685-692
EPA-600/J-91-257, NTIS PB 92-113190

**EXPOSURE ASSESSMENT MODELING FOR
HYDROCARBON SPILLS INTO THE
SUBSURFACE: SENSITIVITY TO SOIL
PROPERTIES**

J. W. Weaver, B.K. Lien, and R. J. Charbeneau
*American Chemical Society, ACS Symposium Series
491*, pp. 217-231
EPA-600/A-92-119, NTIS PB 92-191147

**FATE OF VOLATILE AND SEMIVOLATILE
ORGANIC CHEMICALS IN SOILS: ABIOTIC
VERSUS BIOTIC LOSSES**

T.A. Anderson, J.J. Beauchamp, and B.T. Walton
Jnl. Env. Quality, 20(2): pp. 420-424, April 1991
*Not Available NTIS

**FIELD EVALUATION OF IN-SITU
BIODEGRADATION OF CHLORINATED
ETHENES: PART III, STUDIES OF
COMPETITIVE INHIBITION**

L. Semprini, G.D. Hopkins, P.V. Roberts, D. Grbic-Galic, and P.L. McCarty
Ground Water, 29(2): 239-250, March-April, 1991

**FIELD SAMPLING OF RESIDUAL AVIATION
GASOLINE IN SANDY SOIL**

D.W. Ostendorf, L. Leach, E.S. Hinlein, and Y. Xie
Ground Water Monitoring Review, Spring 1991, 107-
120
EPA-600/J-91-110, NTIS PB 91-207035

**HOT WATER DISPLACEMENT OF LIGHT
OILS FROM POROUS MEDIA**

E.L. Davis and B.K. Lien
Supplemental-EOS 11-29-91

**INHIBITION OF TRICHLOROETHYLENE
OXIDATION BY THE TRANSFORMATION
INTERMEDIATE CARBON MONOXIDE**

S.M. Henry and D. Grbic-Galic
Applied and Environmental Microbiology, 1770-
1776, June 1991

**INFLUENCE OF ENDOGENOUS AND
EXOGENOUS ELECTRON DONORS AND
TRICHLOROETHYLENE OXIDATION
TOXICITY ON TRICHLOROETHYLENE
OXIDATION BY METHANOTROPHIC
CULTURES FROM A GROUNDWATER
AQUIFER**

S.M. Henry and D. Grbic-Galic
Applied and Environmental Microbiology, 236-234.
Jan. 1991

**INFLUENCE OF ORGANIC COSOLVENTS ON
THE SORPTION KINETICS OF
HYDROPHOBIC ORGANIC CHEMICALS**

M.L. Brusseau, A.L. Wood, and P.S.C. Rao
Environmental Science and Technology, 25(5): 903-
910, Jan. 91
EPA-600/J-91-136, NTIS PB 91-216238

**IN SITU BIOTRANSFORMATION OF CARBON
TETRACHLORIDE, FREON-113, FREON-11,
AND 1,1,1-TCA UNDER ANOXIC CONDITIONS**

L. Semprini, G.D. Hopkins, P.V. Roberts, and P.L.
McCarty
Proceedings from In Situ and On-Site Bioreclamation:
1991

**LABORATORY AND FIELD STUDIES ON BTX
BIODEGRADATION IN A FUEL-
CONTAMINATED AQUIFER UNDER
DENITRIFYING CONDITIONS**

S.R. Hutchins and J.T. Wilson
In Situ Bioreclamation Application and Investigation
for Hydrocarbon and Contaminated Site Remediation,
March 1991, Butterworth-Heinemann pp. 157-172,
EPA-600/D-91-256, NTIS PB 92-121227

**LARGE-SCALE NATURAL GRADIENT
TRACER TEST IN SAND AND GRAVEL, CAPE
COD, MASSACHUSETTS; 1. EXPERIMENTAL
DESIGN AND OBSERVED TRACER
MOVEMENT**

D.R. LeBlanc, S.P. Garabedian, K.M. Hess, et al
Water Resources Research, 27(5): 895-910. May
1991
EPA-600/J-91-135, NTIS PB 91-216275

**MICROBIAL TRANSPORT THROUGH
POROUS MEDIA: THE EFFECTS OF
HYDRAULIC CONDUCTIVITY AND
INJECTION VELOCITY**

H.J. Marlow, K.L. Duston, M.R. Wiesner, et al
Bioremediation: Fundamentals & Effective
Applications, Proceedings ,3rd Annual Symposium
Gulf Coast Hazardous Substance Research Center, pp.
75-82, Feb. 21-22, 1991
EPA-600/A-92-024, NTIS PB 92-150465

***OPTIMIZING BTEX BIODEGRADATION
UNDER DENITRIFYING CONDITIONS**

S.R. Hutchins
Env. Toxicology and Chemistry, 10: 1437-1448
EPA-600/J-91-288, NTIS PB 92-124262

**OXIDATION-REDUCTION CAPACITIES OF
AQUIFER SOLIDS**

M.J. Barcelona and T.R. Holmes
Environmental Science Technology, 25(9): 1565-
1572
EPA-600/J-91-238, NTIS PB 92-110410

**PITFALLS IN HYDROGEOLOGIC
CHARACTERIZATION**

S. Acree
Proceeding: Design & Construction Issues at
Hazardous Waste Sites
EPA-540/8-91-012, * Not available NTIS

**PLAN TO EVALUATE THE EFFECTS OF
HYDROGEOLOGIC CONDITIONS AND
HUMAN ACTIVITIES ON WATER QUALITY
IN THE COASTAL PLAIN OF NEW YORK AND
NEW JERSEY**

E.F. Vowinkel and S.F. Siwec, prepared in
cooperation with the U.S. Environmental Protection
Agency
U.S. Geological Survey, Report 91-4091

**PREDICTION OF THE SOLUBILITY OF
HYDROPHOBIC COMPOUNDS IN NONIDEAL
SOLVENT MIXTURES**

R. Pinal, L. Lee, and P.S.C. Rao
Chemosphere, 22(9-10): 939-951, 1991 Printed in
Great Britain-Pergamon Press plc

**REDUCTIVE DECHLORINATION OF
TRICHLOROETHYLENE IN ANOXIC
MATERIAL FROM PICATINNY ARSENAL,
NEW JERSEY**

B.H. Wilson, T.A. Ehlke, T.E. Imbrigiotta, and J.T.
Wilson
Proceeding: U.S. Geological Survey Toxic Substances
Hydrology Technical Meeting, March 1991, pp. 704-
707
EPA-600/A-92-076, NTIS PB 92-179019

**REDUCTION OF HEXACHLOROETHANE
AND CARBON TETRACHLORIDE AT
SURFACE OF FERROUS IRON BEARING
MATERIALS**

M.R. Kriegman and M. Reinhard
Organic Substances and Sediments in Water, 2, Lewis
Publishers, Inc. 349-364
EPA-600/D-91-247, NTIS PB 92-113141

**RELATIONSHIP BETWEEN CELL
PROPERTIES AND THE TRANSPORT OF
BACTERIA THROUGH SOIL**

J.T. Gannon, M. Alexander, and V.B. Manilal
Applied and Environmental Microbiology, 57(1):
190-193, Jan. 1991
EPA-600/J-91-002, NTIS PB 91-171884

***REMEDICATION OF SITES CONTAMINATED
WITH TCE**

H.H. Russell, J.E. Matthews, and G. Sewell
Remediation, Winter: 167-183, Winter 1990/91
EPA-600/J-91-030, NTIS PB 91-182311

SAMPLING OF CONTAMINATED SITES

F.D. Busche and D.S. Burden
Hazardous Material Control, 4(3): 35-40
EPA-600/J-91-240, NTIS PB 92-110436

***SIMULATION OF TWO PHASE FLOWS AND
TRANSPORT WITH INTERPHASE MASS
EXCHANGE**

J.F. Fuarnaccia and G.F. Pinder
EOS Transactions--The American Geophysical Union--
-4/91, p120
* Not available NTIS

SPATIAL VARIABILITY OF GEOCHEMICAL AND HYDROLOGIC PROPERTIES OF SUBSURFACE MATERIALS IN A SAND AND GRAVEL AQUIFER, CAPE COD, MASSACHUSETTS

C.C. Fuller, J.A. Coston, K.M. Hess, and J.A. Davis
In: Proceedings, U.S. Geological Survey Toxic Substances Hydrology Program technical meeting, Monterey, CA, March 11-15, 1991
EPA-600/A-92-087, NTIS PB 92-179126

STIMULATION OF THE REDUCTIVE DECHLORINATION OF TETRACHLOROETHENE IN ANAEROBIC AQUIFER MICROCOSMS BY THE ADDITION OF TOLUENE

G.W. Sewell and S.A. Gibson
Env. Sci. & Tech. 25(5): 982-984, 1991
EPA-600/J-91-111, NTIS PB 91-207043

A STUDY OF FINITE DIFFERENCE APPROXIMATIONS TO COUPLE CONVECTIVE-DISPERSIVE EQUATIONS WITH A SECOND ORDER REACTION: USING A NONLINEAR FILTER

K. Liu
EOS, 72(17): 125, Abstract April 1991

TOWARD A BETTER UNDERSTANDING OF THE COMPLEX GEOCHEMICAL PROCESSES GOVERNING SUBSURFACE CONTAMINANT TRANSPORT

R.W. Puls
Transport and Mass Exchange Processes in Sand and Gravel Aquifers: Field and Modeling Studies, Proceedings of International Conference and Workshop, Ottawa, Canada 10-1-4-1990
EPA-600/M-91-013, NTIS PB 91-216499

1992

ABIOTIC TRANSFORMATION OF CARBON TETRACHLORIDE IN THE PRESENCE OF SULFIDE AND MINERAL SURFACES

M.R. Kriegman-King and M. Reinhard
American Chemical Society, Division of Environmental Chemistry; preprints of papers presented at the 203rd ACS National Meeting; April 5-10, 1992 2(2): 495-498, San Francisco, CA
EPA-600/A-92-097, NTIS PB 92-179738

ACQUISITION OF REPRESENTATIVE GROUND WATER QUALITY SAMPLES FOR METALS

R.W. Puls and R.M. Powell
Special "Focus" issue of Ground Water Monitoring Review, Summer, 1992, 12(3): 167-176
EPA-600/J-92-308, NTIS PB 92-227487

AN EXACT PEAK CAPTURING AND OSCILLATION-FREE SCHEME TO SOLVE ADVECTION-DISPERSION TRANSPORT EQUATIONS

G. Yeh, J. Chang, and T.E. Short
Water Resources Research, 28 (11): 2937-2951
EPA-600/J-92-409, NTIS PB 93-131845

AN OPTIMAL ADAPTIVE LOCAL GRID REFINEMENT APPROACH TO MODELING CONTAMINANT TRANSPORT

G. Yeh, K.A. Kane, and T.E. Short
Computational Methods in Water Resources IX (1): Numerical Methods in Water Resources, Computational Mechanics Publication 659-667
EPA-600/A-92-182, NTIS PB 92-217314

APPLIED GEOLOGIC, MICROBIOLOGICAL, AND ENGINEERING CONSTRAINTS OF IN-SITU BTEX BIOREMEDIATION

L. Kennedy and S.R. Hutchins
Remediation, Winter, 3(1): 83-107, 1992/1993
EPA-600/J-92-450, NTIS PB 93-141497

BIOREMEDIATION

J.M. Thomas, C.H. Ward, R.L. Raymond, J.T. Wilson, and R.C. Loehr
Book Chapter in the Encyclopedia of Microbiology, 1(A-C): by Academic Press, Inc., 1992
EPA-600/A-93-004, NTIS PB 93-149193

BIOSORPTION OF DICHLORODIPHENYLTRICHLOROETHANE AND HEXACHLOROBENZENE IN GROUND WATER AND ITS IMPLICATIONS FOR FACILITATED TRANSPORT

R. Lindqvist and C.G. Enfield
Applied and Environmental Microbiology, 58(7): 2211-2218
EPA-600/J-92-452, NTIS PB 93-141513

***BIOVENTING APPROACH TO REMEDIATE
A GASOLINE CONTAMINATED
SUBSURFACE**

D.H. Kampbell, J.T. Wilson, and C.J. Griffin
Published in: Emerging Technologies for Hazardous
Waste Management: 1991 Book of Abstracts for the
Special Symposium, Atlanta Ga: Industrial & Eng.
Chemistry Div., American Chemical Society, Oct. 1-3,
1991
EPA-600/A-92-220, NTIS PB 93-119816

**BIOVENTING RECLAMATION PILOT
PROJECT-AVIATION GASOLINE SPILL**

D.H. Kampbell, J.T. Wilson, C.J. Griffin, and D.W.
Ostendorf
Tech Trends, June 1992

**CAPTURE ZONE DELINEATION USING THE
ANALYTIC ELEMENT METHOD: A
COMPUTER MODELING DEMONSTRATION
FOR THE ELLIS COUNTY (KANSAS)
WELLHEAD PROTECTION COMMITTEE**

S.R. Kraemer and D.S. Burden
Ground Water Mgmt. Book 9 of the Series Proceedings
of the 1992 Solving Ground Water Problems With
Models Conference p. 697

**CELL DENSITY AND NON-EQUILIBRIUM
SORPTION EFFECTS ON BACTERIAL
DISPERSAL IN GROUND WATER
MICROCOSMS**

R. Lindqvist and C.G. Enfield
Microbial Ecology, 24: 25-42, Nov. 1992 EPA-600/J-
92-451, NTIS PB 93-141505

**COLLOIDAL TRANSPORT IN SANDY
AQUIFER MATERIAL: SURFACE AND
AQUEOUS CHEMICAL EFFECTS**

R.W. Puls, D.A. Clark, and C.J. Paul
Proceedings: 1992 Fall Meeting American
Geophysical Union, A Supplement to EOS, H12A, pp
167, Oct., 1992

**COLUMN STUDIES ON BTEX
BIODEGRADATION UNDER
MICROAEROPHILIC AND DENITRIFYING
CONDITIONS**

S. R. Hutchins, S.W. Moolenaar, and D.E. Rhodes
Ground Water: The Problem and Some Solutions,
Proceedings: 4th Annual Symposium The Gulf Coast
Hazardous Substance Research Center, Beaumont, TX,
April 2-3, 1992 pp67-90, EPA-600/A-92-080, NTIS
PB 92-179050
Jnl. of Hazardous Materials, 32 1992, 195-214
Elsevier Science Publishers B.V. Amsterdam
EPA-600/J-93-042, NTIS PB 93-158962

**COMPARISON BETWEEN MODEL
SIMULATIONS AND FIELD RESULTS FOR IN-
SITU BIORESTORATION OF CHLORINATED
ALIPHATICS: PART 2. COMETABOLIC
TRANSFORMATIONS**

L. Semprini and P.L. McCarty
Ground Water 30(1): 37-44, January-February, 1992

**COMPARISON OF GROUND-WATER
SAMPLING DEVICES BASED ON
EQUILIBRATION OF WATER QUALITY
INDICATOR PARAMETERS**

C. Paul and R. Puls
In Proceedings: National Ground Water Sampling
Symposium, Washington, D.C. 11-30-92, pp 21-39
EPA-600/A-93-005, NTIS PB 93-149201

**CRITICAL EVALUATION OF TREATMENT
TECHNOLOGIES WITH PARTICULAR
REFERENCE TO PUMP-AND-TREAT
SYSTEMS**

S.G. Schmelling, C.G. Enfield, and J.W. Keeley
Elsevier Applied Science, London and New York, for
SCI Water and Environmental Group. Proceedings of
Contaminated Land Treatment Technologies, 220-234
EPA-600/A-92-224, NTIS PB 93-119857

**DISTRIBUTION, SPECIATION, AND
TRANSFORMATION OF CHROMIUM IN
CONTAMINATED SOILS**

Robert W. Puls, D.A. Clark, and C.J. Paul
203rd American Chemical Society National Meeting,
San Francisco, CA April 5-10, 1992, 32(1): 455-457
EPA-600/A-92-084, NTIS PB 92-179092

EPA's MASTER RESEARCH PLAN

M.D. Jawson, R. Swank, A.R. Carlson, A. Ribic , and
M. Hewitt
*Agronomy Abstracts, Nov. 1-6, 1992, Minneapolis,
MN, p. 328*

**EPA's SUPERFUND TECHNICAL SUPPORT
PROJECT**

M.R. Scalf
*Journal of Hazardous Materials, 32(2+3): 313-319.
Elsevier Science Publishers B.V. Amsterdam*
* Not available NTIS

**ESTIMATING AQUIFER PROPERTIES BY
NONLINEAR LEAST-SQUARES ANALYSIS OF
PUMP TEST RESPONSE**

R.A. Johns. L. Semprini, and P.V. Roberts
Ground Water 30(1): 68-77, January-February, 1992

**IMPROVED METALS SAMPLING
TECHNIQUES FOR GROUNDWATER**

R.W. Puls
Tech Trends, 7: 2, December 1991
EPA-540/M-91-005

**INHIBITION OF ALKYL BENZENE
BIODEGRADATION UNDER DENITRIFYING
CONDITIONS BY USING THE ACETYLENE
BLOCK TECHNIQUE**

S.R. Hutchins
*Applied and Environmental Microbiology, 58(10):
3395-3398, Oct. 1992*
EPA-600/J-92-393, NTIS PB 93-121242

**IN-SITU TRANSFORMATION OF CARBON
TETRACHLORIDE AND OTHER
HALOGENATED COMPOUNDS RESULTING
FROM BIOSTIMULATION UNDER ANOXIC
CONDITIONS**

L. Semprini, G.D. Hopkins, P.L. McCarty, and P.V.
Roberts
Env. Sci. and Tech. 26: 2454-2461, 1992

**LANDFILL LEACHATE EFFECTS ON
SORPTION OF ORGANIC
MICROPOLLUTANTS ONTO AQUIFER
MATERIALS**

T. Larsen, T.H. Christensen, F.M. Pfeffer ,and C.G.
Enfield
*Jnl. Contaminant Hydrology, 9(4): 307-324, April
1992*
EPA-600/J-92-235, NTIS PB 92-198597

**LANDFILL LEACHATE EFFECTS ON
TRANSPORT OF ORGANICS IN AQUIFER
MATERIALS**

F.M. Pfeffer and C.G. Enfield
*Transport and Remediation of Subsurface
Contaminants, ACS Symposium Series 491, June
1991, 194-204*
EPA-600/A-92-142, NTIS PB 92-198225

**LARGE-SCALE NATURAL GRADIENT
TRACER TEST IN SAND AND GRAVEL, CAPE
CODE, MASSACHUSETTS. 3. HYDRAULIC
CONDUCTIVITY VARIABILITY AND
CALCULATED MACRODISPERSIVITIES**

K.M. Hess, S.H. Wolf, and M.A. Celia
*Water Resources Research, 28(8): 2011-2027,
August 1992*
EPA-600/J-92-359, NTIS PB 93-107050

**LIMITING FACTORS IN GROUND-WATER
REMEDATION**

C.W. Hall and J.A. Johnson
*Journal of Hazardous Materials, 32 (1992) 215-225,
Elsevier Science Publishers B.V., Amsterdam*
* Not available NTIS

**METALS IN GROUND WATER: SAMPLING
ARTIFACTS AND REPRODUCIBILITY**

R.W. Puls, D. Clark, B. Bledsoe , R.M. Powell, and
C.J. Paul
*Hazardous Waste & Hazardous Materials, 9(2): 149-
162*
EPA-600/J-92-307, NTIS PB 92-227479

**MICROBIAL DEGRADATION OF TOLUENE
UNDER SULFATE-REDUCING CONDITIONS
AND THE INFLUENCE OF IRON ON THE
PROCESS**

H.R. Beller, D. Grbic-Galic, and M. Reinhard
Applied and Environmental Microbiology, 58(2): 786-
793, March, 1992
EPA-600/J-92-139, NTIS PB 92-166735

**MOBILIZATION OF NATURALLY PRESENT
ARSENIC FROM ALTERATION OF AQUIFER
GEOCHEMISTRY DUE TO WASTE DISPOSAL**

R.W. Puls, D.A. Clark, B. Bledsoe, and C.J. Paul
Poster Presentation at ASA-CSSA-SSSA 1992
Annual Meeting, November 1-6, 1992, Minneapolis,
MN
Agronomy Abstracts: pp 54, Nov. 1992

**MODELING CONTAMINANT TRANSPORT
THROUGH SUBSURFACE SYSTEMS**

R.J. Charbeneau and J.W. Weaver
Proceeding: 4th Annual Symposium Ground Water:
The Problem and Some Solutions, Lamar University,
Beaumont, Texas, April 2-3, 1992, pp. 179-198
EPA-600/A-92-086, NTIS PB 92-179118
Jnl. of Haz. Materials, 32,(1992.): 293-311
EPA-600/J-93-027, NTIS PB 93-156313

**MODELING VADOSE ZONE CHEMICAL
TRANSPORT IN MULTIPHASE FLOW
SYSTEMS**

J.W. Weaver and B.K. Lien
Agronomy Abstracts, November 1-6, 1992, 230-231

**NEW TWO-PHASE FLOW AND TRANSPORT
MODEL WITH INTERPHASE MASS
EXCHANGE**

J.F. Guarnaccia and G.F. Pinder
Computational Mechanics Publications; CO-
PUBLISHED WITH: Elsevier Applied Science, 2:
Mathematical Modeling in Water Resources, 281-288,
June 1992
EPA-600/A-92-156, NTIS PB 92-206564

OVERVIEW OF DNAPL RESTORATION

R. R. Ross and S.D. Acree
In: Pre-Conference Seminar Proceedings, "Detection
and Restoration of DNAPLs in Groundwater at
Hazardous Waste Sites," New Orleans, LA, Sept. 19-
20, 1992, pp. 67-73. Water Environment Federation,
Alexandria, VA.

**PARALLEL GROUNDWATER
COMPUTATIONS USING PVM**

M.J. Eppstein, J. F. Guarnaccia, and D.E. Dougherty
Computational Mechanics Publications; Co-published
with: Elsevier Applied Science, 1: Numerical
Methods in Water Resources, 713-720, June 1992
EPA-600/A-92-157, NTIS PB 92-206572

**PILOT SCALE FIELD STUDIES ON IN SITU
BIOREMEDIATION OF CHLORINATED
SOLVENTS**

L. Semprini, G.D. Hopkins, P.V. Roberts, and P.L.
McCarty
Jnl. Hazardous Materials 32: 145-162, 1992

**PNEUMATIC PUMP TEST FOR DESIGN OF
SOIL VACUUM EXTRACTION**

J.S. Cho and D.C. DiGiulio
Environ. Progress. II: (3): 228-233, Sept. 92
EPA-600/J-92-391, NTIS PB 93-121234

**RELATIONSHIP BETWEEN SOIL GAS,
WATER QUALITY, AND CORE MATERIAL
AT AN AVIATION GASOLINE SPILL SITE**

D. Kampbell and J. Wilson
Proceeding: Conference on Hazardous Waste
Research, May 29 and 30, 1991, Kansas State
University, Manhattan, Kansas,
pp. 579-587

**SCREENING MODEL FOR SUBSURFACE
HYDROCARBON SPILLS**

R.J. Charbeneau, J. Tauxe, J.W. Weaver, and B.K. Lien
Agronomy Abstracts, Nov. 1-6, 1992, p. 79

**SIMULATING SOLUTE TRANSPORT USING
LABORATORY-BASED SORPTION
PARAMETERS**

T.C. Harmon, L. Semprini, and P.V. Roberts
Journal of Environmental Engineering 118(5): 666-
689, September-October, 1992

**STABILITY AND TRANSPORT OF
INORGANIC COLLOIDS THROUGH
CONTAMINATED AQUIFER MATERIAL**

R.W. Puls, R.M. Powell, and T.F. Rees
Proceeding: U.S. Geological Survey Toxic Substances
Hydrology Program technical meeting, Monterey, CA,
March 11-15, 1991, pp. 507-510.
EPA-600/A-92-068, NTIS PB 920164839

**STIMULATION OF REDUCTIVE
DECHLORINATION OF
TETRACHLOROETHENE (PCE) IN
ANAEROBIC AQUIFER MICROCOSMS BY
ADDITION OF SHORT-CHAIN ORGANIC
ACIDS OR ALCOHOLS**

S.A. Gibson and G.W. Sewell
Applied and Environmental Microbiology, 58(4):
1392-1393, April 1992
EPA-600/J-92-266, NTIS PB 92-206465

**SUBSURFACE CONTAMINATION BY DENSE
NONAQUEOUS PHASE LIQUIDS--AN
OVERVIEW**

J.W. Weaver and S.G. Huling
In: Pre-Conference Seminar Proceedings, "Detection
and Restoration of DNAPLs in Groundwater at
Hazardous Waste Sites," New Orleans, LA, Sept. 19-
20, 1992, pp. 3-22, Water Environment Federation,
Alexandria VA.

**SURFACE-CHARGE REPULSIVE EFFECTS
ON THE MOBILITY OF INORGANIC
COLLOIDS IN SUBSURFACE SYSTEMS**

R.W. Puls and R.M. Powell
American Chemical Society, ACS Symposium Series
491, 40-54
EPA-600/A-92-118, NTIS PB 92-191139

**SURFACTANTS AND SUBSURFACE
REMEDICATION**

C.C. West and J.H. Harwell
Environmental Science Technology, 26(12): 2324-
2330
EPA-600/J-93-005, NTIS PB 93-149854

**SURFACTANT-ENHANCED
SOLUBILIZATION OF
TETRACHLOROETHYLENE AND
DEGRADATION PRODUCTS IN PUMP AND
TREAT REMEDIATION**

C.C. West
American Chemical Society, ACS Symposium Series
491, pp. 149-158
EPA-600/A-92-117, NTIS PB 92-191121

**TRANSFORMATION OF CARBON
TETRACHLORIDE IN THE PRESENCE OF
SULFIDE, BIOTITE, AND VERMICULITE**

M. Kriegman-King
Environ. Sci. Tech., 26(11): 2198-2206
EPA-600/J-92-414, NTIS PB 93-135713

**TRANSPORT OF INORGANIC COLLOIDS
THROUGH NATURAL AQUIFER MATERIAL:
IMPLICATIONS FOR CONTAMINANT
TRANSPORT**

R.W. Puls and R.M. Powell
Environ. Sci. Technol., 26(3): 614-621, 1992
EPA-600/J-92-113, NTIS PB 92-158690

**VIRTUS, A MODEL OF VIRUS TRANSPORT IN
UNSATURATED SOILS**

M.V. Yates and Y. Ouyang
Applied and Environmental Microbiology, 58 (5):
1609-1616, May, 1992
EPA-600/J-93-142, NTIS PB 93-185890

1993

**AEROBIC SOIL MICROCOSMS FOR LONG-
TERM BIODEGRADATION OF
HYDROCARBON VAPORS**

R.J. Richards, D.W. Ostendorf, and M.S. Switzenbaum
Hazardous Wastes & Hazardous Materials, 9(4):
397-410, 1992
EPA-600/J-93-131, NTIS PB 93-181196

**BIOREMEDIATION OF CHLORINATED
SOLVENTS IN THE VADOSE ZONE**

D.H. Kampbell and B.H. Wilson
In: Proceedings: In Situ and On-Site Bioreclamation.
The 2nd International Symposium, San
Diego, CA, April 5-8, 1993
EPA-600/A-93-175, NTIS PB 93-221935

**BIOTRANSFORMATION AND
MINERALIZATION OF ALKYBENZENES
UNDER DENITRIFYING CONDITIONS**

S.R. Hutchins

Environmental Toxicology and Chemistry, 12(8):
1413-1423, August 1992

**BIOTREATABILITY OF A VADOSE ZONE
SOIL CONTAMINATED WITH DIOCTYL
PHTHALATE**

D. Kampbell, D. Fine, and J. Anderson

In: Symposium on Bioremediation of Hazardous
Wastes: Research, Development, and Field
Evaluations, Dallas, TX, May 4-6, 1993
EPA-600/R-93-054
EPA-A-93-177, NTIS PB 93-221950

**COMBINING TREATABILITY STUDIES AND
SITE CHARACTERIZATION FOR RATIONAL
DESIGN OF IN SITU BIOREMEDIATION
USING NITRATE AS ELECTRON ACCEPTOR**

S.R. Hutchins, D.H. Kampbell, M.L. Cook, F.M.
Pfeffer, R.L. Cosby, and J.T. Wilson

In: Symposium on Bioremediation of Hazardous
Wastes: Research, Development, and Field
Evaluations, Dallas, TX, May 4-6, 1993, pp. 90-99
EPA-600/R-93-054, EPA-600/A-93-172, NTIS PB
93-221901

**COMPARISON OF BIOVENTING AND AIR
SPARGING FOR IN-SITU BIOREMEDIATION
OF FUELS**

D. Kampbell, C.J. Griffin, and F.A. Blaha

In: Symposium on Bioremediation of Hazardous
Wastes: Research, Development, and Field Evaluation,
Abstract, Dallas, TX, May 4-6, 1993, pp. 61-67
EPA-600/R-93-054

**DETERMINATION OF CARBOXYLIC ACIDS
BY ION-EXCLUSION CHROMATOGRAPHY
WITH NON-SUPPRESSED CONDUCTIVITY
AND OPTICAL DETECTORS**

M.Y. Ye, K.D. Hill, and R.C. Walkup

Chromatographia, 35(3/4): 139-141

EPA-600/J-93-133, NTIS PB 93-181212

**DEVELOPMENT AND APPLICATION OF
BOREHOLE FLOWMETERS FOR
ENVIRONMENTAL ASSESSMENT**

F.J. Molz and S.C. Young

The Log Analyst, January-February, 1993, 13-23
EPA-600/J-93-134, NTIS PB 93-185817

**DEVELOPMENT OF SPLIT-OPERATOR,
PETROV-GALERKIN METHODS TO
SIMULATE TRANSPORT AND DIFFUSION
PROBLEMS**

C.T. Miller and A.J. Rabideau

Water Resources Research, 29(7): 2227-2240, July
1993
EPA-600/J-93-421, NTIS PB 94-101722

**EVALUATING PARAMETER ESTIMATION
TECHNIQUES APPLIED IN VADOSE ZONE
MODELING**

J.W. Weaver, J. Johnson, V. Ravi, and B.K. Lien

In: Proceedings, "1993 Ground Water Modeling
Conference," June 9-12, 1993, Golden, Co, pp. 1-115
through 1-126. International Ground International
Ground Water Modeling Center, Colorado School of
Mines, Golden Co.
EPA-600/A-93-148, NTIS PB 93-212371

**EXPERIMENTAL EVALUATION OF THE
MATHEMATICAL MODEL FOR IN SITU
AQUIFER RESTORATION PROCESSES**

T.E. Short and G.T. Yeh

Advances in Hydro-Science and Engineering, 1(B):
1807-1812
EPA-600/A-93-147, NTIS PB93-212363

**GEOCHEMICAL INDICATORS OF
ANAEROBIC BIODEGRADATION OF BTEX**

D.H. Kampbell, J.T. Wilson, S.R. Hutchins, L.G.
Kennedy, and B.H. Wilson

Proceedings of the Conference on Hazardous Waste
Research, June 1 & 2, 1992, 63-575

**HIERARCHICAL APPROACH TO MODELING
SURFACE-GROUNDWATER INTERACTIONS:
THE WALNUT CREEK (IOWA) WATERSHED
IN REGIONAL PERSPECTIVE**

H.M. Haitjema and S. Mitchell-Bruker
Extended abstract to appear in the proceedings of the
conference "Agricultural Research to Protect Water
Quality," Soil and Water Conservation Society,
Minneapolis, MN, February 21-24, 1993

**HOT WATER ENHANCED REMEDIATION OF
HYDROCARBON SPILLS**

E.L. Davis
In: Proceedings of ACS-I&EC Symposium, September
27, 1993, Atlanta, GA

**HYDROCARBON VAPOR DIFFUSION IN
INTACT CORE SLEEVES**

D.W. Ostendorf, Z.E. Moyer, Y. Xie, and R.V. Rajan
Ground Water Monitoring and Remediation, 13(1):
139-150, Winter
EPA-600/J-93-132, NTIS PB 93-181204

**LABORATORY STUDIES ON THE STABILITY
AND TRANSPORT OF INORGANIC
COLLOIDS THROUGH NATURAL AQUIFER
MATERIAL**

R.W. Puls and R.M. Powell
Manipulation of Groundwater Colloids for
Environmental Restoration, Chapter 49, pp. 305-307,
1993
EPA-600/A-93-072, NTIS PB 93-175537

LNAPL RETENTION IN SANDY SOIL

D.W. Ostendorf, R.J. Richards, and F.P. Beck
Ground Water, 31(2): 285-292, March-April 1993
* Not available from NTIS

**LOSS OF ORGANIC CHEMICALS IN SOIL:
PURE COMPOUND TREATABILITY STUDIES**

R.C. Loehr and J.E. Matthews
*Journal of Soil Contamination, 1(4): 339-360, Oct-
Nov-Dec, 1992*

**MECHANICAL INTEGRITY TESTING AND
TRAINING FACILITY**

J.T. Thornhill
Jnl. Applied Ground-Water Remediation, 1(1):37-43

**MICROCOSM AND IN SITU FIELD STUDIES
OF ENHANCED BIOTRANSFORMATION OF
TRICHLOROETHYLENE BY PHENOL-
UTILIZING MICROORGANISMS**

G.D. Hopkins, P.L. McCarty, and L. Semprini
Applied & Environmental Microbiology, 59(7):
2277--2285

**MODELING TWO-DIMENSIONAL
SUBSURFACE FLOW, FATE AND
TRANSPORT OF MICROBES AND
CHEMICALS**

J.C. Cheng, G. Yeh, and T.E. Short
Presented at 1993 National Conference on Hydraulic
Engineering and International Symposium on
Engineering Hydrology, July 25-30, 1993, San
Francisco, CA

*Not available from NTIS

**MOLECULAR SIZE EXCLUSION BY SOIL
ORGANIC MATERIALS ESTIMATED FROM
THEIR SWELLING IN ORGANIC SOLVENTS**

W.G. Lyon and D.E. Rhodes
*Environmental Toxicology and Chemistry, 1405-
1412, July 1993*

**PASSIVE SAMPLING OF GROUND WATER
MONITORING WELLS WITHOUT PURGING:
MULTILEVEL WELL CHEMISTRY AND
TRACER DISAPPEARANCE**

R.M. Powell and R.W. Puls
Journal Contaminant Hydrology, 12: 51-77, Feb.-93
EPA-600/J-93-129, NTIS PB 93-181170

**PERFORMANCE AND COST EVALUATION
OF BIOREMEDIATION TECHNIQUES FOR
FUEL SPILLS**

C.H. Ward, J.T. Wilson, D.H. Kampbell, and S.R.
Hutchins
*In-Situ Bioremediation Symposium, 92 Sept. 20-24,
1992, 15-21*
EPA-600/A-93-073, NTIS PB 93-175545

**PERFORMANCE OF PILOT SCALE
BIOVENTING AT AN AVIATION GASOLINE
SPILL SITE**

D.H. Kampbell

Book Chapter to be published in the Proceedings of the Environmental Restoration Technology Transfer Symposium held on January 26-27, 1993 at Elgin AFB, San Antonio, Texas sponsored by the U.S. Air Force Center for Environmental Excellence
EPA-600/A-93-176, NTIS PB 93-221943

**PRACTICAL SIMULATION OF COMPOSTING
IN THE LABORATORY**

A.M.T. Magalhaes, P.J. Shea, M.D. Jawson, E.A. Wicklund, and D.W. Nelson

Waste Management & Research 11: 143-154, 1993
EPA-600/J-93-271, NTIS PB 93-222099

**PROTOZOA IN SUBSURFACE SEDIMENTS
FROM SITES CONTAMINATED WITH
AVIATION GASOLINE OR JET FUEL**

J.L. Sinclair, D.H. Kampbell, M.L. Cook, and J.T. Wilson

Applied & Environmental Microbiology, 59(2): 467-472, Feb. 1993
EPA-600/J-93-279, NTIS PB 93-221919

**RAPID PHASE IDENTIFICATION OF MIXED
CRYSTALLINE SOLIDS**

J.T. Stanley II, C.D. Palmer, D.A. Dunham, et al
Book Chapter, Proceeding of Symposium, The Minerals, Metals & Materials Society, TMS Mtgs. 2-93, pp. 433-445

EPA-600/A-93-146, NTIS PB 93-212355

**RETROSPECTIVE PERFORMANCE
EVALUATION ON IN SITU
BIOREMEDIATION SITE
CHARACTERIZATION**

J.T. Wilson and D.H. Kampbell

Symposium on Bioremediation of Hazardous Wastes: Research, Development, and Field Evaluation, Dallas, TX, May 1993, pp. 3-9
EPA-600/A-93-173, NTIS PB 93-221919

**SOIL SORPTION OF VOLATILE AND
SEMIVOLATILE ORGANIC COMPOUNDS IN
A MIXTURE**

B.T. Walton, M.S. Hendricks, C.W. Francis, W.H. Griest, R. Merriweather, J.J. Beauchamp, and T.A. Anderson

Journal. of Environmental Quality, 21(4): 552-558
EPA-600/J-93-130, NTIS PB 93-181188

**SURFACE CHEMICAL EFFECTS ON
COLLOID STABILITY AND TRANSPORT
THROUGH NATURAL POROUS MEDIA**

R.W. Puls, D.A. Clark, and C.J. Paul
Colloids and Surfaces A: Physicochemical and engineering Aspect, 73(1993): pp. 287-300, Elsevier Science Publishers B.V., Amsterdam

**SURFACTANT ENHANCED SOLUBILIZATION
OF RESIDUAL DODECANE IN SOIL
COLUMNS 1. EXPERIMENTAL
INVESTIGATION**

K.D. Pennell, L.M. Abriola, and W.J. Weber, Jr.
Env. Sci. & Tech., 27(12): 2322-2340

**SURFACTANT ENHANCED SOLUBILIZATION
OF RESIDUAL DODECANE IN SOIL
COLUMNS 2. MATHEMATICAL MODELING**

L.M. Abriola, T.J. Dekker, and K.D. Pennell.
Env. Sci. & Tech., 27(12): 2341-2351

TESTING BIOREMEDIATION IN THE FIELD

J.T. Wilson

(Book Chapter) In Situ Bioremediation: When Does It work?, October 1993, pp 160-184
EPA-600/A-93-260, NTIS PB 94-114709

**A THREE-DIMENSIONAL AIR FLOW MODEL
FOR SOIL VENTING: SUPERPOSITION OF
ANALYTICAL FUNCTIONS**

J.S. Cho

Jnl. Hazardous Materials 35: 31-51, 1993
EPA-600/J-93-461, NTIS PB 94-112851

1994

APPLICATION OF REDUCTIVE ANAEROBIC BIOLOGICAL IN SITU TREATMENT (RABIT) TO SUBSURFACE CONTAMINATION

H.H. Russell and G.W. Sewell
Oral presentation at the WEF Site Management Specialty Conference, Miami, Florida, March 8, 1994. Proceedings will be published

BIOSPARGING AN AVIATION GASOLINE SPILL

C.J. Griffin, D. Kampbell , and F.A. Blaha
IN:Proceedings on Petroleum Contaminated Soils, University of Massachusetts on September 21-24, 1992. Book chapter 21: 351-361, 3-93 Hydrocarbon Contaminated Soils, Vol III, Lewis Publishers

CAPILLARY PRESSURE AND FLOW PROPERTIES OF A HYDROCARBON OIL

E.L. Davis
Poster presentation at American Society of Agronomy Meeting, November 8, 1993, Cincinnati, Ohio, Abstract will be published

CAPTURE ZONE MODELING USING THE WELLHEAD ANALYTIC ELEMENT MODEL (WhAEM)

S.R. Kraemer, H.M. Haitjema, and O.D.L. Strack
Analytic Element Modeling of Groundwater Flow Intl. Conference, April 1994 , 55-59
EPA-600/A-94-109, NTIS PB 94-182292

CHARACTERIZATION OF CHROMIUM-CONTAMINATED SOILS USING FIELD-PORTABLE X-RAY

R.W. Puls, D.A. Clark, C. Carlson, and J. Vardy
Ground Water and Remediation, Summer 1994 111-115
EPA-600/J-94-350, NTIS PB 94-210457

CHROMATE REDUCTION AND REMEDIATION UTILIZING THE THERMODYNAMIC INSTABILITY OF ZERO-VALENCE STATE IRON

R. M. Powell, R.W. Puls, and C.J. Paul
Proceedings Water Environmental Federation, Innovative Solutions for Contaminated Site Mgmt., Miami, FL March 3-6, 1994
EPA-600/A-94-070, NTIS PB 94-163516

DISTRIBUTION OF AREAL RECHARGE TO A DISCRETE FRACTURE NETWORK(FRACNET) MODEL USING THE ANALYTIC ELEMENT METHOD

S.R. Kraemer
Oral presentation at Analytic Element Modeling of Groundwater Flow International Conference, Indianapolis, Indiana, April 19-21, 1994, proceedings will be published
EPA-600/A-94-108, NTIS PB 94-182284

EFFECT OF TEMPERATURE AND PORE SIZE ON THE HYDRAULIC PROPERTIES AND FLOW OF A HYDROCARBON OIL IN THE SUBSURFACE

E.L. Davis
Intl. Contaminant Hydrogology 16: 55-86
EPA-600/J-94-304, NTIS PB 94-189701

EFFECTS OF THREE CONCENTRATIONS OF MIXED FATTY ACID ON DECHLORINATION OF TETRACHLOROETHENE IN AQUIFER MICROCOSMS

G.W. Sewell, H.H. Russell, S.A. Gibson, and S.D. Roberson
Environmental Toxicology and Chemistry, 13(3): 453-460
EPA-600/J-94-171, NTIS PB 94-162765

EXPERIMENTAL STUDY OF COMPLETE DISSOLUTION OF A NONAQUEOUS PHASE LIQUID IN SATURATED POROUS MEDIA

P.T. Imhoff, P.R. Jaffe, and G.F. Pinder
Water Resources Research 30(2): 307-320, February 1994

FIELD TRAPPING OF SUBSURFACE VAPOR PHASE PETROLEUM HYDROCARBONS

E.E. Moyer, D.W. Ostendorf, D.K. Kampbell , and Y. Xie
Ground Water Monitoring Review (GWMR), Winter 1994, 110-119
EPA-600/J-94-121, NTIS PB 94-158789

**FRACTAL-BASED STOCHASTIC
INTERPOLATION SCHEME IN SUBSURFACE
HYDROLOGY**

F.J. Molz and G.K. Boman

Water Resources Research, 29(11): 3769-3774
EPA-600/J-94-170, NTIS PB 94-162807**FULL SCALE FIELD DEMONSTRATION OF
THE USE OF HYDROGEN PEROXIDE FOR IN-
SITU BIOREMEDIATION OF AN AVIATION
GASOLINE-CONTAMINATED AQUIFER**J.T. Wilson, J.M. Armstrong, H. Rafai, and W.M.
KorreckBook Chapter (16), published in Bioremediation:
Field Experience. CRC Press, Inc. Lewis Publishers,
1994. 333-359

EPA-600/A-94-019, NTIS PB 94-146396

**GAEP: A GEOGRAPHIC PREPROCESSOR
FOR GROUND WATER FLOW MODELING**

V.A. Nelson, H.M. Haitjema, and S.R. Kraemer

Hydrological Science and Technology, 8(1-4): AIH 74-
83

EPA-600/J-94-363, NTIS PB 94-209699

**GEOCHEMISTRY AND MICROBIAL
ECOLOGY OF REDUCTIVE****DECHLORINATION OF PCE AND TCE IN
SUBSURFACE MATERIAL**G. W. Sewell, C.C. West, H.H. Russell, S. A. Gibson,
and W.G. LyonIn: Symposium on Bioremediation of Hazardous
Wastes: Research, Development, and Field
Evaluations.**GROUND WATER SAMPLING FOR METAL**

R.W. Puls

Environmental Sampling for Trace Analysis, VCh
Publishers, Inc. New York, NY: Book Chapter 1994,
287-304

EPA-600/A-94-172, NTIS PB 94-209780

**MICROBIAL INDICATORS OF SOIL
QUALITY**

R.F. Turco, A.C. Kennedy and M.D. Hawson

IN: Defining Soil Quality for a Sustainable
Environment, SSSA Special Publication Number 35,
1994, 73-90

EPA-600/A-94-155, NTIS PB 94-198041

**MOBILIZATION OF DISSOLVED AND
COLLOID-ASSOCIATED ARSENIC IN
SUBSURFACE SYSTEMS**

R.W. Puls, B.E. Bledsoe, and C.J. Paul

Oral presentation before the Division of
Environmental Chemistry, American Chemical
Society, March 13-18, 1994 San Diego, CA**MODELING TWO-DIMENSIONAL
SUBSURFACE FLOW, FATE AND
TRANSPORT AND CHEMICAL**

J.C. Cheng, G. Yeh, and T. E. Short

Oral presentation at 1993 National Conference on
Hydraulic Engineering and International Symposium on
Engineering Hydrology, July 25-30, 1993, San
Francisco, CA

Proceedings will be published

* Not available NTIS

**MODELING THREE-DIMENSIONAL
SUBSURFACE FLOW, FATE AND
TRANSPORT AND CHEMICALS 3DFATMIC**

J.C. Cheng, G. Yeh, and T.E. Short

Oral Presentation at 10th Annual Inter. Conf. on
Computational Models in Water Resources,
Heidleburg, Germany, July 19-22, 1994. *Published :*
Computational Methods in Water Resources X, Vol.
I, pp 217-224 Kluwer Academic Pub. Dordrecht, The
Netherlands

EPA-600/A-94-231, NTIS PB 95-138210

**NATURAL BIORECLAMATION OF
ALKYL BENZENES (BTEX) FROM A
GASOLINE SPILL IN METHANOGENIC
GROUND WATER**

J.T. Wilson, D.H. Kampbell, and J. Armstrong

Hydrocarbon Bioremediation, Lewis Publishers, CRC
Press 1994, 201-218

EPA-600/A-94-066, NTIS PB 94-162757

**NEW APPROACH TO PURGING
MONITORING WELLS**

R.W. Puls

Ground Water Age, 28(5): 18-19

EPA-600/J-94-087, NTIS PB 94-146263

**NITRATE -BASED BIOREMEDIATION OF
PETROLEUM-CONTAMINATED AQUIFER AT
PARK CITY, KANSAS: SITE
CHARACTERIZATION AND TREATABILITY
STUDY**

S.R. Hutchins and J.T. Wilson

Presented at the In Situ and On-Site Bioreclamation:
The Second International Symposium, April 5-8, 1993,
San Diego, CA

Published in *Hydrocarbon Bioremediation*, Lewis
Publishers, CRC Press 1994

**NITRATE-MEDIATED BIODEGRADATION OF
BTEX IN JP-4-CONTAMINATED SOIL AND
GROUNDWATER: A FIELD PILOT-SCALE
DEMONSTRATION PROJECT**

W.C. Downs, S.R. Hutchins, J.T. Wilson, R.H.

Douglass, and D.J. Hendrix

Book Chapter (17), published in *Bioremediation: Field
Experience*, Lewis Publishers 1994, 361-379

*Not Available NTIS

**PNEUMATIC PUMPING TESTS AND TRACER
GAS STUDIES FOR SOIL VENTING DESIGN**

J.S. Cho and D. DiGiulio

Presentation Superfund Hazmacon 93 Conference, San
Jose, CA., April 1993.

**REMEDICATION OF CONTAMINATED SOILS
BY SOLVENT FLUSHING**

D.C.M. Augustijn, R.E. Jessup, P.S.C. Rao, and A.L.
Wood

Journal of Environmental Engineering, 120(1): 42-
57, Jan./Feb., 1994

EPA-600/J-94-169, NTIS PB 94-162740

**SCREENING MODEL FOR NONAQUEOUS
PHASE LIQUID TRANSPORT IN THE VADOSE
ZONE USING GREEN-AMPT AND
KINEMATIC WAVE THEORY**

J.W. Weaver, R.J. Charbeneau, and B.K. Lien

Water Resources Research, 30(1): 93-105

EPA-600/J-94-086, NTIS PB 94-146255

**SEPARATION OF T-MAZ ETHOXYLATED
SORBITAN FATTY ACID ESTERS BY
SUPERCRITICAL FLUID
CHROMATOGRAPHY**

M.Y. Ye, K.D. Hill, and R.G. Walkup

Journal of Chromatography A 622: , 323-327

EPA-600/J-94-271, NTIS PB 94-182359

**SEPARATION OF T-MAZ ETHOXYLATED
SORBITAN FATTY ACID ESTERS BY
REVERSE PHASE CHROMATOGRAPHY (11)**

M.Y. Ye, K.D. Hill, and R.G. Walkup

Journal of Chromatographia 38(5/6): 337-341

**SOIL FUMIGATION WITHIN
MONOCULTURE AND ROTATIONS:
RESPONSE OF CORN AND MYCORRHIZAE**

M.D. Jawson, A.J. Franzluebbers, D.K. Galusha, and
R.M. Aiken

Agron. J. 85: 1174-1180 (1993)

EPA-600/J-94-219, NTIS PB 94-169943

**SURFACTANT ENHANCED REMEDIATION
OF SOIL COLUMNS CONTAMINATED BY
RESIDUAL TETRACHLOROETHYLENE**

K.D. Pennell, L.M. Abriola, M. Jin, and G.A. Pope

Jnl. of Contaminant Hydrology 16: 35-53

EPA-600/J-94-487, NTIS PB 95-136909

**TRANSFORMATION OF CARBON
TETRACHLORIDE BY PYRITE IN AQUEOUS
SOLUTION**

M.R. Kriegman-King and M. Reinhard

Environmental Science and Technology, 28(4): 692-
700

EPA-600/J-94-349, NTIS PB 94-210465

**TRANSPORT AND TRANSFORMATION OF
HEXAVALENT CHROMIUM THROUGH
SOILS AND INTO GROUND WATER**

R.W. Puls, C.J. Paul, D.A. Clark, and J. Vardy

Journal of Soil Contamination 3(2): 203-224

EPA-600/J-94-315, NTIS PB 94-197597

**TWO-DIMENSIONAL MODELING OF
AQUIFER REMEDIATION INFLUENCED BY
SORPTION NONEQUILIBRIUM AND
HYDRAULIC CONDUCTIVITY
HETEROGENEITY**

A.J. Rabideau and C.T. Miller

Water Resources Research, 30(5): 1457-1470,
EPA-600/J-94-303, NTIS PB 94-18969

**USE OF CATIONIC SURFACTANTS TO
MODIFY SOIL SURFACE TO PROMOTE
SORPTION AND RETARD MIGRATION OF
HYDROPHOBIC ORGANIC COMPOUNDS**

J. Wagner, H. Chen, B. J. Brownawell, and J. Westall
EPA-600/J-94-120, NTIS PB 94-158797

1995

**ADENYLATE AND GUANYLATE ENERGY
CHARGES IN A SUBSURFACE**

PSEUDOMONAS sp.

S.R. Ford, M.S. Hall, V.R. Vaden, J.J. Webster and F.
R. Leach

In: Proceedings Oklahoma Academy Science, 74:
31-36, 1994

NCGWR

**BOREHOLE FLOWMETERS: FIELD
APPLICATION AND DATA ANALYSIS**

F.J. Molz, G.K. Boman, S.C. Young and W.R.
Waldrop

Journal of Hydrology 163: 347-371, 1994
EPA-600/J-95-208

**CHARACTERIZING SOILS FOR HAZARDOUS
WASTE SITE ASSESSMENT**

R.P. Breckenridge, J.F. Keck, and J.R. Williams

Journal of Environmental Monitoring and Assessment
30: 113-138, 1994 Kluwer Academic Publ.

Netherlands

EPA-600/J-95-075

**CHEMICAL DISTRIBUTIONS AND
ANAEROBIC TRANSFORMATION OF
CHLORINATED ALIPHATIC
HYDROCARBONS IN A SAND AQUIFER**

L. Semprini, P.K. Kitanidis, D.H. Kampbell, and J.T.
Wilson

*Presented at the I & EC Symposium, American
Chemical Society, Atlanta, Ga, Sept. 19-21, 1994*

**CONTAMINATION OF PUBLIC
GROUNDWATER SUPPLIES BY SUPERFUND
SITES**

L.W. Canter, and D.A. Sabatini

Inter. Jnl. Environmental Studies, 46, 35-37, 1994

**DEMONSTRATING THE FEASIBILITY OF
ANAEROBIC CO-METABOLIC
BIODEGRADATION OF TRICHLOROETHENE
AND BTEX COMPOUNDS**

J.T. Wilson, D.H. Kampbell, L.A. Benson, R.L.
Schmiermund, T.H. Wiedemeier, W.E. Crawford and
R.N. Miller

*IN: Ninth National Outdoor Action Conference &
Exposition Proceedings, May 2-4, 1995*

**DEMONSTRATION OF THE ANALYTIC
ELEMENT METHOD FOR MODELING
AQUIFERS IN THE NORTHERN ATLANTIC
COASTAL PLAIN (USA): VARIABLE
DENSITY FLOW**

S.R. Kraemer and W.J. De Lange

Poster presented American Geophysical Union:
76(17): S 113

**DETERMINATION OF SURFACTANT
SODIUM LAURYL ETHER SULFATE BY ION
PAIRING CHROMATOGRAPHY WITH
SUPPRESSED CONDUCTIVITY DETECTION**

M.Y. Yeh, R.G. Walkup, and K.D. Hill

Journal of Liquid Chromatography, 17(19): 4087-
4097

EPA-600/J-95-018

**EVALUATION OF SUBSURFACE MODELING
APPLICATION AT CERCLA/RCRA SITES**

S.B. Lee, V. Ravi, J.R. Williams and D.S. Burden

Oral presentation presented at the ASTM Symposium
on Subsurface Fluid-Flow (Ground Water) Modeling,
June 22-23, 1995, Denver, CO

FRACTIONATION AND IDENTIFICATION OF ORGANIC MATTER IN NATURAL AND FOSSIL-FUEL CONTAMINATED AQUIFER SYSTEMS

M.J. Barcelona, D. Tomczak, J. Lu and C. Virkhaus
In: Proceedings API-NGWA Petroleum Hydrocarbons in the Subsurface Conference, Houston, TX, Nov. 10-12, 1993, 163-176

GROUND WATER CONTAMINANTS AND THEIR SOURCES-A REVIEW OF STATE REPORTS

L.W. Canter and K.M. Maness
Inter. Jnl. Environmental Studies, 47, 1-17, 1995

INFLUENCE OF SURFACTANTS ON MICROBIAL DEGRADATION OF ORGANIC COMPOUNDS

J.D. Rouse, D.A. Sabatini, J.M. Suflita and J.H. Harwell
Critical Reviews in Environmental Science and Technology, 24(4): 325-370
EPA-600/J-95-176

INTRINSIC BIOATTENUATION FOR SUBSURFACE RESTORATION

J.T. Wilson, H.S. Rifai, C.H. Ward, and R.C. Borden
Proceedings: In-Situ and On-Site Bioreclamation; The Third International Symposium; April 24-27, 1995, San Diego, CA.

INTRINSIC BIOREMEDIATION OF FUEL CONTAMINATION IN GROUND WATER AT A FIELD SITE

D.H. Kampbell, T.H. Wiedemeier and J.E. Hansen
Poster presentation at the Symposium on Bioremediation of Hazardous Wastes: Research, Development, and Field Evaluations; August 8-10; Rye Brook, NY

INTRINSIC BIOREMEDIATION OF JP-4 JET FUEL

J.T. Wilson, F.M. Pfeffer, J.W. Weaver, D.H. Kampbell, T.H. Wiedemeier, J.E. Hansen and R.N. Miller
Presented at Symposium on Intrinsic Bioremediation of Ground Water, August 30-September 1, 1994 at the Hyatt Regency Denver in Denver, Colorado

INTRINSIC BIOREMEDIATION OF TCE IN GROUNDWATER AT AN NPL SITE IN ST. JOSEPH, MICHIGAN

J.T. Wilson, J.W. Weaver and D.H. Kampbell
Book Chapter, Symposium on Intrinsic Bioremediation of Ground Water, August 30-September 1 1994, Denver, CO

INTRINSIC BIOREMEDIATION OF TRICHLOROETHENE AT THE ST. JOSEPH, MICHIGAN NPL SITE

J.W. Weaver, M.L. Cook, J.T. Wilson, and D.H. Kampbell
EOS, Transactions, AGU Supplement 74(44): 254
Abstract presented 1994 Fall American Geophysical Union Meeting Dec. 509, 1994, San Francisco, CA
Proceedings will be published

INVESTIGATION OF VERTICAL DISTRIBUTION AND MORPHOLOGY OF INDIGENOUS ORGANIC MATTER AT THE SLEEPING BEAR SITE, MICHIGAN

C.C. West, W.G. Lyon, D.R. Ross and L.K. Pennington
Environmental Geology 24: 176-187
EPA-600/J-95-179

KINETIC MODEL FOR CELL DENSITY DEPENDENT BACTERIAL TRANSPORT IN POROUS MEDIA

R. Lindqvist, J.S. Cho, and C.G. Enfield
Water Resources Research, 30(12): 3291-3299, December, 1994
EPA-600/J-95-076

LAND TREATMENT AND TOXICITY RESPONSE OF THE WOOD PRESERVING WASTE CONTAMINATED SOIL

S.G. Huling, J.L. Sims, R.C. Sims, D.L. Sorenson, D.F. Pope and J.E. Matthews
Remediation: The Journal of Environmental Cleanup Costs, Technologies & Techniques 5(2): 41-54
EPA-600/J-95-209

**LOW-FLOW PURGING AND SAMPLING OF
GROUND-WATER MONITORING WELLS
WITH DEDICATED SYSTEMS**

R.W. Puls and C.J. Paul

Ground Water Monitoring and Remediation Journal
Winter 1995, 116-123

EPA-600/J-95-178

**MICROEMULSION FORMATION WITH
CHLORINATED HYDROCARBONS OF
DIFFERING POLARITY**

J.R. Baran, Jr., W.H. Wade, V. Veerasooriya and G.A. Pope

Environmental Science and Technology, 28: 1361-1366

EPA-600/J-95-175

**MICROBIAL ACTIVITY IN SUBSURFACE
SAMPLES BEFORE AND DURING NITRATE-
ENHANCED BIOREMEDIATION**

S.R. Hutchins, J. Michele Thomas, V.R. Gordy, C.L. Bruce, and C.H. Ward

*Presented: In Situ and On-Site Bioreclamation, The Third International Symposium, Sponsored by Battelle, April 24-27, 1995. Book Chapter***MICROEMULSION FORMATION WITH
MIXED CHLORINATED HYDROCARBON
LIQUIDS**

J.R. Baran, Jr., W.H. Wade, V. Weerasooriya and A. Yapa

Journal of Colloid and Interface Science, 1994, 168: 67-72

EPA-600/J-95-206

**NATURAL BIOATTENUATION OF
HAZARDOUS ORGANIC COMPOUNDS IN
THE SUBSURFACE**

J.T. Wilson

*In: Innovative Site Remediation Technology, Bioremediation, 1995 (Book Chapter)***ORGANIC ACID DERIVATIZATION
TECHNIQUES APPLIED TO PETROLEUM
HYDROCARBON TRANSFORMATIONS IN
SUBSURFACE ENVIRONMENT**

M.J. Barcelona, J. Lu and D.M. Tomczak

Groundwater Monitoring and Remediation, 15(2): 114-124**PHASE BEHAVIOR OF
WATER/PERCHLOROETHYLENE/ANIONIC
SURFACTANT SYSTEMS**

J.R. Baran, Jr., W.H. Wade, V. Veerasooriya and G.A. Pope

Environmental Science and Technology, Langmuir, 10: 1146-1150

EPA-600/J-95-207

**REDUCTIVE DEHALOGENATION OF
HEXACHLOROETHANE, CARBON
TETRACHLORIDE AND BROMOFORM BY
ANTHRAHYDROQUINONE DISULFONATE
AND HUMIC ACID**

G.P. Curtis and M. Reinhard

Environmental Science & Technology, 28(13): 2393-2401, 1994

EPA-600/J-95-019

**REVIEW OF INTRINSIC BIOREMEDIATION
OF TCE IN GROUNDWATER AT PICATINNY
ARSENAL, NEW JERSEY AND ST. JOSEPH,
MICHIGAN**

J.T. Wilson, D.H. Kampbell, J.W. Weaver, B.H. Wilson, T. Imbrigiotta, T. Ehlike

**ROLE OF DIRECT GROUNDWATER
DISCHARGE TO THE CHESAPEAKE BAY
(USA) FOR BASIN SCALE NON POINT
SOURCE POLLUTION ASSESSMENT**

S.R. Kraemer

*Published in: International Union of Geodesy & Geophysics: Abstracts Week B. XXI General Assembly: July 1995, pp B217-HB31C-1 (Poster Presentation)***SIMULATION OF SURFACTANT ENHANCED
AQUIFER REMEDIATION**

C.L. Brown, G.A. Pope, L.M. Abriola and K. Sepehrnoori

Water Resources Research, 3.0(11): 2959-2977

**SOLUBILIZATION AND
MICROEMULSIFICATION OF
CHLORINATED SOLVENTS USING DIRECT
FOOD ADDITIVE (EDIBLE) SURFACTANTS**

B.J. Shiau, D.A. Sabatini and J.H. Harwell

Ground Water 32(4): 561-569

EPA-600/J-95-174

**SURFACTANT-ENHANCED REMEDIATION
OF SUBSURFACE CONTAMINATION:
EMERGING TECHNOLOGIES REVIEW AND
PANEL RECOMMENDATIONS**

C.C. West

*ACS Symposium Series 594, Surfactant Enhanced
Subsurface Remediation : Emerging Technologies*

**SWELLING OF PEATS IN LIQUID METHYL,
TETRAMETHYLENE, AND PROPYL
SULFOXIDES AND IN LIQUID PROPYL
SULFONE**

W.G. Lyon

Environmental Toxicology and Chemistry, 14(2):

229-236

EPA-600/J-95-077

**TRANSPORT OF CHROMIUM AND
SELENIUM IN A PRISTINE SAND AND
GRAVEL AQUIFER: ROLE OF ADSORPTION
PROCESSES**

D.B. Kent, J.A. Davis, L.C.D. Anderson and B.A. Rea

Water Resources Research 31 (4): 1041-1050, April
1995

EPA-600/J-95-239

**TRAVERSE CITY:GEOCHEMISTRY AND
INTRINSIC BIOREMEDIATION OF BTX
COMPOUNDS**

B.H. Wilson, J.T. Wilson, D.H. Kampbell, B.E.

Bledsoe, and J.M. Armstrong

*USEPA Symposium on Intrinsic Bioremediation of
Ground Water in Denver, CO, August 30-Sept. 1*

,1994

**USE OF PARTITIONING TRACERS FOR
MEASURING RESIDUAL NAPL
DISTRIBUTION IN A CONTAMINATED
AQUIFER: PRELIMINARY RESULTS FROM A
FIELD-SCALE TEST**

M.D. Annable, P.S.C. Rao, K. Hatfield,

W.D. Graham, and A.L. Wood

*Paper presented at the 2nd Tracer Workshop held at
the University of Texas-Austin, November 14-15,
1994.*