



GROUNDWATER RESOURCES ASSOCIATION
OF CALIFORNIA

“Groundwater Monitoring: Design, Analysis, Communication & Integration with Decision Making” Conference

February 25-26, 2009

Program Agenda

(as of 2/18/09)

DAY 1 – WEDNESDAY, FEBRUARY 25, 2009

- 7:00 am Registration/Continental Breakfast
- 8:15 am–8:25 am Conference Welcome
- 8:25 am–8:30 am Opening Session Introduction

Opening Session: Monitoring at Multiple Scales: From Site Specific to National

Moderator: Brian Wagner and Eric Reichard, U.S. Geological Survey

8:30 am–9:00 am	<i>Nationwide, Ambient Groundwater Monitoring Approaches in Europe for Monitoring the Effectiveness of the Nitrates Directive Action Program</i> Dico Fraters, National Institute for Public Health and the Environment, the Netherlands Ruth Grant, National Environmental Research Institute, Denmark
9:00 am–9:30 am	<i>Progress Toward a National Groundwater Monitoring Network</i> William L. Cunningham, U.S. Geological Survey; Robert P. Schreiber, Camp, Dresser & McKee, Inc.; Christine Reimer, National Ground Water Association
9:30 am–10:00 am	<i>Regional-Scale Monitoring of Ground-Water Quality: Perspectives from GAMA’s Priority Basin Project</i> Kenneth Belitz, U.S. Geological Survey

10:00 am–10:30 am

BREAK – Exhibit Hall

Opening Session – Monitoring at Multiple Scales: From Site Specific to National (Cont.)

Moderator: Brian Wagner and Eric Reichard, U.S. Geological Survey

10:30 am–11:00 am	<i>Compliance Groundwater Monitoring of Nonpoint Sources – Emerging Approaches</i> Thomas Harter, University of California, Davis
11:00 am–11:30 am	<i>Sampling Transects for Better and More Cost-Effective Remedial Investigations</i> Murray D. Einarson, AMEC Geomatrix
11:30 am–12:00 pm	<i>Vadose Zone Monitoring Strategies for Contaminant Detection and Recharge</i> Daniel B. Stephens, Daniel B. Stephens & Associates, Inc.

12:00 pm–1:30 pm

LUNCHEON PRESENTATION – “*Serious Water Resource Issues in a Rebuilding Economy*”
Dr. Michael Barcelona, Western Michigan University

Concurrent Session 1A: Methods for Data Collection and Interpretation

Concurrent Session 1B: California’s Ground-water Ambient Monitoring and Assessment (GAMA) Program

Moderator: Brian Lewis, Department of Toxic Substances Control

Moderator: Thomas Harter, University of California, Davis

1:30 pm-1:55 pm	<i>Low-Flow Groundwater Sampling: An Update on Proper Application and Use</i> David Kaminski, QED Environmental Systems, Inc.	1:30 pm-1:55 pm	<i>How Do I Find Groundwater Quality Information in California</i> John Borkovich, California State Water Resources Control Board
1:55 pm-2:20 pm	<i>Application of the Membrane Interface Probe (MIP) as a Tool for Rapidly Characterizing Sites with Low Permeability Zones: Case Study and Comparisons with Detailed Core Analyses</i> Adam Gilmore, Steven Chapman, Beth Parker, University of Guelph	1:55 pm-2:20 pm	<i>Using GeoTracker GAMA to Investigate Nitrate Concentrations in California Groundwater, 1980-2008</i> Erik J. Ekdahl, Mariela de la Paz Carpio-Obeso, and John Borkovich, California State Water Resources Control Board

2:20 pm-2:45 pm	<i>Use of Snap Sampler and CSIA in Investigations of TCE Natural Attenuation in Fractured Sandstone</i> Laura Zimmerman, Beth Parker, Amanda Pierce, Ramon Aravena, John Cherry, University of Guelph; Sandy Britt, ProHydro Inc.	2:20 pm-2:45 pm	<i>Use of Groundwater Age and VOCs to Assess Groundwater Susceptibility to Nitrate Contamination in California Urban and Agricultural Basins</i> Bradley K. Esser, Michael J. Singleton, Roald Leif, Darren Hillegonds, Lawrence Livermore National Laboratory; Erik Ekdahl, John Borkovich, California State Water Resources Control Board; Jean E. Moran, California State University, East Bay
2:45 pm-3:10 pm	<i>Cost-Benefit of Automated Groundwater Data Collection & Management</i> Renger Smidt, Eric Coulombe, Timothy K Parker, Schlumberger Water Services	2:45 pm-3:05 pm	<i>Ground-Water Quality Data in the San Fernando, Raymond, and San Gabriel Basins from the California GAMA Program</i> Michael Land, Kenneth Belitz, U.S. Geological Survey

3:10 pm–3:45 pm

BREAK – Exhibit Hall

Concurrent Session 1A: Methods for Data Collection and Interpretation (Cont.)

Concurrent Session 1B: California’s Ground-water Ambient Monitoring and Assessment (GAMA) Program (Cont.)

Moderator: Brian Lewis, Department of Toxic Substances Control

Moderator: David Jordan, INTERA Incorporated

3:45 pm-4:10 pm	<i>The Use of Advanced Borehole Geophysical Logging to Optimize Deep Multi-Level Monitoring Well Design for Groundwater Management</i> Ned Clayton, Schlumberger Water Services	3:45 pm-4:10 pm	<i>Ground-Water Quality in the Southeast San Joaquin Valley from the California GAMA Program</i> Carmen A. Burton, Kenneth Belitz, U.S. Geological Survey
4:10 pm-4:35 pm	<i>Hydrogeologic Characterization for a Plume Investigation in Fractured Sedimentary Rock: Using Detailed Head Profiles and an Outside-In Approach</i> Jessica Meyer, Beth Parker, and John Cherry, University of Guelph	4:10 pm-4:35 pm	<i>Vanadium in Ground Water of California: Sources, Geochemistry, and Occurrence</i> Michael T. Wright, Kenneth Belitz, U.S. Geological Survey

4:35 pm-5:00 pm	<p><i>Application of an Advanced Version of Contaminant Rock Core Analyses to Delineate and Understand TCE Plumes in Sandstone, Southern California</i> Beth Parker, University of Guelph, Tadeusz Gorecki, University of Waterloo</p>
5:00 pm-5:25 pm	<p><i>Hydraulic Conductivity and Flow Comparisons Based on Borehole Measurements Using Flexible Liners in a Water Supply Dolostone Aquifer</i> Jonathan Kennel, Beth Parker, and John Cherry, University of Guelph; Peeter Pehme, University of Waterloo; Frank Brunton, Ontario Geological Survey; John Piersol, Golder Associates Ltd.</p>

5:30 pm-7:00 pm RECEPTION, EXHIBITS, AND POSTER PRESENTATIONS – Exhibit Hall

DAY 2 – THURSDAY, FEBRUARY 26, 2009

7:00 am Registration/Continental Breakfast

Session 2 – Use of Modeling and Statistics for Monitoring Design and Assessment

Moderator: John McHugh, Santa Clara Valley Water District

8:00 am–8:30 am	<i>Modeling and Uncertainty Analysis as Tools for Guiding Monitoring Design</i> Brian J. Wagner, U.S. Geological Survey
8:30 am–9:00 am	<i>Discovery and Negotiation: Many-Objective Groundwater Monitoring Design Under Uncertainty</i> Patrick M. Reed, Joshua B. Kollat, Pennsylvania State University
9:00 am–9:30 am	<i>Partitioning/Transport Modeling of Depth-Discrete LNAPL and Groundwater Monitoring Data for Source Delineation of MTBE and Benzene at an LNAPL-Impacted Petroleum Sales Terminal</i> Ben McAlexander, Trihydro Corporation
9:30 am–10:00 am	<i>Tools for Evaluating and Optimizing Groundwater Monitoring Networks</i> Kathy Yager, U.S. Environmental Protection Agency

10:00 am–10:30 am BREAK – Exhibit Hall

Session 2 – Use of Modeling and Statistics for Monitoring Design and Assessment (Cont.)

Moderator: John McHugh, Santa Clara Valley Water District

10:30 am–11:00 am	<i>Improved Interpretation of ^3H-^3He Groundwater Age Data Through Modeling of Gas-Liquid Phase Flow and Transport Processes</i> Steven F. Carle, Bradley K. Esser, Lawrence Livermore National Laboratory; Jean E. Moran, California State University, East Bay
11:00 am–11:30 am	<i>Cascade Calibration of Subsurface Hydraulic and Transport Properties from Multiscale Groundwater Monitoring Networks</i> David W. Ostendorf, Don J. DeGroot, Aaron Judge, and Erich S. Hinlein, University of Massachusetts, Amherst

11:30 pm–1:00 pm LUNCHEON PRESENTATION – “Geologic Carbon Sequestration – Characterization and Monitoring Tools and Technologies”
Timothy K. Parker, Schlumberger Water Services

Session 3 – The Role of Monitoring in Protecting and Managing Groundwater Resources – Communication with the Public and Policy Makers

Moderator: Vicki Kretsinger, Luhdorff & Scalmanini, Consulting Engineers

1:00 pm–1:30 pm	<i>Groundwater: Out of Sight, Out of Mind ... Unless There's A Problem. How to Effectively Communicate with the Public and Policymakers About Groundwater Monitoring</i> Lucy Eidam, LucyCo Communications
1:30 pm–2:00 pm	<i>A Bird's Eye View of Groundwater Management in the Northern Sacramento Valley</i> Allan Fulton, Cooperative Extension Farm Advisor, University of California
2:00 pm–2:30 pm	<i>The Evolving Role of Groundwater Monitoring Data in Regulatory Decision Making</i> Keith Roberson, Regional Water Quality Control Board, San Francisco Bay Region

2:30 pm–3:00 pm

BREAK – Exhibit Hall

Session 4 – Panel Discussion: Water Agency Case Studies: Developing, Maintaining, and Utilizing Groundwater Monitoring Networks

Moderator: Tim Parker, Schlumberger Water Services and Bill Cunningham, U.S. Geological Survey

3:00 pm-4:30 pm	<u>Panelists:</u> Dan Detmer, United Water Conservation District Roy Herndon, Orange County Water District Nancy L. Matsumoto, Water Replenishment District of Southern California Marcus Trotta, Sonoma County Water Agency
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POSTER PRESENTATIONS

(Available for viewing during the entire Conference)

Using Statistical Tools to Reduce Ground Water Monitoring Errors

Farid Achour, ENVIRON International Corporation

Flexible Liner Methods for Characterization of Flow and Permeability in Contaminated Bedrock Water Supply Well

Karl Belan, Beth Parker, Peeter Pehme, Jonathan Kennel, University of Guelph

Groundwater Ambient Monitoring and Assessment (GAMA) Program: California's Monitoring Plan to Assess Groundwater Quality

Dori Bellan, California State Water Resources Control Board

Contaminated Site Investigations: Assessment of Mass Distribution in Low Permeability Zones and Implications
Steven Chapman and Beth Parker, University of Guelph

HydroDaVe and Groundwater Data Management in Chino Basin
Wen-Hsing Chiang, Andy Malone, Wildermuth Environmental, Inc.

Importance of Monitoring Components in Aquifer Storage and Recovery Systems
Ali M. Elhassan, Robertson-Bryan, Inc.

Response of a Groundwater Flow Model to Improved Observed Data
Ali M. Elhassan, Robertson-Bryan, Inc.

Automated Environmental Monitoring and Data Visualization for Streamlined Groundwater Management
Mark L. Kram, Groundswell Technologies, Inc.; R. Edward Beighley, San Diego State University; Hugo A. Loaiciga, University of California, Santa Barbara

California Ground-Water Quality Monitoring: Framework for a Comprehensive, Statewide Program – GAMA
Justin T. Kulongoski, Kenneth Belitz, Miranda Fram, Barbara Dawson, Carmen Burton, U.S. Geological Survey

Distribution of Perchlorate in Aquifers Used for Public Water Supply in California
Justin T. Kulongoski, Miranda Fram, U.S. Geological

Regional Groundwater Monitoring Program for the Central and West Coast Groundwater Basins, Los Angeles, County, California
Tony Kirk, Nancy L. Matsumoto, Water Replenishment District of Southern California

Calculating and Communicating Solute Mass Flux Distribution Using GIS
Jamey B. Rosen, John Gallinatti, Geosyntec Consultants

A Practical Method for Reducing Frequency of Groundwater Level Measurements
Elise Willmeth, Kenneth Parrish, URS Corporation