

Book Reviews

PROCEEDINGS OF THE THIRD NATIONAL SYMPOSIUM ON GROUND-WATER INSTRUMENTATION. National Water Well Association, 6375 Riverside Drive, Dublin, Ohio 43017 \$20.00 when sent by surface-mail and \$30.00 when sent by air-mail, 1986.

Since the beginning of this decade throughout much of the world, the emphasis on groundwater hydrology has shifted from water supply problems dealing with quantity to water quality problems dealing with contamination. Confusion over contamination problems and difficulty in tracking contaminant plumes has led to the development of a wide variety of mechanical and electrical instruments which aid the groundwater scientists in their investigations in ways never dreamed possible less than five years ago. The National Water Well Association has sought numerous ways to bring up-to-date information on the latest instrumentation to scientists everywhere. The new journal entitled, **GROUNDWATER MONITORING REVIEW**, was begun five years ago to deal entirely with groundwater quality issues, offering instrument manufacturers a medium through which they could describe their equipment.

Equipment expositions have been held in different locations throughout the United States and an annual conference has been held to offer a state-of-the-art view of the latest equipment, updated each year. This document is today's bible on available instrumentation. It contains 18 papers listed below on 176 type-set pages. Outstanding drawings illustrating the equipment and its use, as well as numerous photographs, are included in the document.

Multiple Completion Monitor Wells

An Effective and Inexpensive Gas-Drive Groundwater Sampler

Factors which Affect Soil-Pore Liquid: A Comparison of Currently available Samplers with Two New Designs

Sampling for Toxic Contaminants in Groundwater

Low-Cost Apparatus for On-Site Monitoring of Methane in Groundwater

A new Valved and Air-vented Surge Plunger for Developing Small-Diameter Monitor Wells

Use of a Geoflowmeter for the Determination of Groundwater Flow Direction

A Low-Cost System to Remotely Measure Piezometric Head

Determining Head and Pressure Distribution in Low Transmissivity Formations and Soils

The Transiometer: An Alternative Method of Soil Moisture Measurement in Slowly Permeable Soils

Development of an Inexpensive Data Acquisition System

Electronic Sensing Devices Used for *In Situ* Groundwater Monitoring

FM Radiotelemetry coupled with Sonic Transducers for Remote Monitoring of Water Levels in Deep Aquifers

A Waste Treatment/Disposal Site Evaluation Process for Areas underlain by Carbonate Aquifers

Analysis of a Contaminated Bedrock Aquifer by means of a Packer and attempts at Remediation using a Packer

Use of Computers in the Field

A Field Terminal for Collection and Analysis of Geological and Hydrogeological Data

Micro Computers applied to Groundwater Monitoring and Testing.

It is truly amazing how few technical advances in sophisticated instrumentation applicable to groundwater hydrology were made in the decades of the 60's and the 70's. In comparison, the 80's has seen an explosion which has advanced groundwater science to the theoretical level of other physical sciences such as astrophysics, nuclear physics, and electrical engineering. This volume of proceedings is a state-of-the-art document useful for groundwater professionals of all categories working within the academic or field sectors. We unhesitatingly recommend it.

J. H. LEHR

JOURNAL OF CONTAMINANT HYDROLOGY. Editors: R. W. Gilham, G. Mathess, P. L. McCarty and P. S. C. Rao, Vol. 1, pp. 1-261, 1986, Elsevier Science Publishers, Amsterdam, Annual Subscription US \$ 94.

Time has come when groundwater needed an exclusive Journal for dealing with its contamination. This is truly a measure of the satisfying growth of the subject matter of groundwater during the last few decades. It is more heartening that not merely hydrogeologists but chemists, mathematicians, engineers and even physicists are taking enormous interest in the area of groundwater contamination. No doubt the public concern with water quality, waste disposal, environmental regulations gave the necessary impact; nevertheless the beneficiary has been 'groundwater' which is now being studied more and more to understand the physics and chemistry rather than mere occurrence and distribution. 'As the complexity of the subject (groundwater contamination) has gradually unfolded, it has become increasingly clear that broad interdisciplinary approaches are required in order to understand and resolve many of the existing problems'. A consistent and dedicated forum of communication is needed for such overlapping fields.

So, close on the heels of 'Groundwater Monitoring', comes 'The Journal of Contaminant Hydrology' by Elsevier, edited by R. W. Gilham of Waterloo (Ontario), G. Mathess of Kiel (P. R. G.), P. L. McCarty of Stanford (Calif) and P. S. C. Rao of Gainesville (Fla.). The editors are assisted by a board of 30 well-known scientists and engineers, nearly half of them coming from the U. S. A.

'The primary purpose of this international journal is to publish scientific articles pertaining to the contamination of groundwater'. The emphasis is placed on the 'process' aspects that influence the behaviour of the organic and inorganic contaminants. Incidentally it tries to cover the yawning gap of our knowledge between surface water and groundwater hydrologies viz. the vadose zone. The