

ANDREW MICHALSKI, Ph.D., CGWP, PG

MICHALSKI & ASSOCIATES, INC.
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EDUCATION

*Ph.D. Technical Sciences (Geological Engineering),
University of Mining and Metallurgy (AGH), Krakow, Poland - 1974*

*M.S. Hydrogeology and Engineering Geology,
University of Mining and Metallurgy (AGH), Krakow, Poland - 1969*

PROFESSIONAL CERTIFICATIONS

- *Certified Ground Water Professional (CGWP)
by the National Ground Water Association - No. 272*
- *Registered Professional Geologist in Pennsylvania - No. PG003076G*
- *Certified Professional Geologist in Virginia - No. 670 (Inactive)*
- *Registered Professional Geologist in Delaware - No. S4-0000812(inactive)*
- *Certified to conduct Underground Storage Tank
Subsurface Investigations in New Jersey - UST No. 0011543*

SUMMARY OF PROFESSIONAL EXPERIENCE

Michalski & Associates, Inc. South Plainfield, N.J.

In 1995, Dr. Michalski formed a specialty environmental consulting firm which provides hydrogeological and environmental remediation services to industrial clients, law firms, consulting engineering firms, government, and citizen groups. Major clients include Merck & Co.; Shell Oil Co.; Consolidated Edison of NY; Dover Twp. NJ; Georgia Pacific Corp.; Stepan Chemical; Wayne Twp, NJ; Cattaraugus County, NY; TRC-Raviv Associates; Textile Research Institute; USEPA and US Attorney District of NJ.

Dr. Michalski has over 35 years of consulting and academic experience in hydrogeology and applied geosciences, with emphasis on ground-water remediation, regulatory compliance, siting of sensitive waste disposal facilities, evaluation of ground-water resources and expert testimony.

Dr. Michalski is a recognized expert on hydrogeology in fractured bedrock of the Newark Basin. He published seminal papers on this subject and taught professional development course on hydrogeologic characterization of fractured bedrock sites. Dr. Michalski has extensive project experience in remediation of chlorinated solvents (DNAPLs) and

petroleum products in porous and fractured aquifers. As an expert witness, he prepared a number of expert reports, testified in courts and at adjudicatory hearings.

**Rutgers University,
New Brunswick, New Jersey
Visiting Part-Time Lecturer 1986-1995**

For nine years Dr. Michalski had served as a visiting part-time lecturer of hydrogeology at the Geology Department, Faculty of Arts and Sciences, Rutgers University.

**The Whitman Companies, Inc.
East Brunswick, N.J.
Director of Hydrogeology 1989-1995**

As director of hydrogeology, Dr. Michalski provided technical expertise, leadership and supervision in the areas of site assessments, geologic and hydrogeologic characterization, remedial investigations, and ground water remediation projects. Some of his professional accomplishments include:

- *He directed and performed numerous ground water investigations, assessments and cleanups under the ISRA (ECRA), BUST, NJPDES and State Case Management programs in New Jersey.*
- *He developed an innovative testing methodology to characterize fracture flow and contaminant migration in bedrock at complex bedrock sites.*
- *Dr. Michalski designed a successful treatment train for enhanced recovery of residual DNAPL solvents below the water table in northern New Jersey. Record-setting volumes and recovery of DNAPLs were achieved. This project won the national Excellence in Environmental Engineering Award in small project category in 1997.*
- *Dr. Michalski provided expert hydrogeologist's opinions on proposed low-level radioactive waste disposal sites in New York and Connecticut. As an expert witness, he testified before the Low-Level Radioactive Waste Siting Commission in Illinois on a proposed disposal site in Martinsville. For NRC, he prepared an expert opinion on potential impacts of a release from a nuclear power plant on ground water system.*
- *He prepared expert reports on dating contaminant discharges and allocating of cleanup responsibility for several industrial sites and seven gasoline service stations in New Jersey. Dr. Michalski also served as an expert witness before an AAA panel in a case involving cleanup responsibility for a 600,000 gallon fuel oil spill in southern New Jersey.*

- *Other cases for which he prepared expert hydrogeologist's opinions include contaminated municipal wells in Wallington, NJ, a proposed commercial sanitary landfill in Cattaraugus County, NY, and a large salt mine collapse near Rochester, NY.*

**TRC Environmental Consultants,
Somerset, N.J.**

Principal Hydrogeologist ***1987-1989***

Responsible for the technical supervision and management of diverse ground water projects for industrial clients, developers and government. Other responsibilities pertained to hydrogeologic training of technical staff and development of internal standards for conducting hydrogeologic investigations at hazardous waste sites. Dr. Michalski's major projects included:

- *Contaminant assessments and development of cleanup plans for an industrial bedrock site in North Jersey contaminated with chlorinated hydrocarbons and for a large chemical plant site in Central Jersey contaminated with a myriad of compounds.*
- *Remedial ground-water investigations and remediation of two contaminated UST sites.*
- *Expert hydrogeologist's services for proposed solid waste landfill sites in Somerset County, NJ, and two counties in New York State.*

**The Earth Technology Corporation,
Somerset, N.J.**

Senior Hydrogeologist ***1983-1987***

Responsibilities included planning, management and technical supervision of hydrogeologic investigations at hazardous waste facilities, landfills, superfund sites, industrial (ECRA) sites, and a nuclear power plant. Selected projects include:

- *For the USEPA, Dr. Michalski performed technical reviews of ground water monitoring systems and landfill designs of RCRA Part B Permit Applications. Designed and implemented ground water investigations at two CERCLA sites.*
- *As part of an Environmental Assessment for a candidate high level nuclear waste site at Richton Salt Dome, Dr. Michalski authored technical memoranda on fluids in salt deposits, anomalous zones, and in-situ stresses in salt domes. He also investigated worldwide occurrences and mechanisms of gas outbursts in salt and potash mines.*

- *Dr. Michalski was responsible for technical management of extensive ground water and subsidence studies for RCRA regulated facilities located in the karst terrain of Puerto Rico. The studies involved numerous borings and deep monitoring wells, use of several geophysical methods, geomorphologic and geotechnical analyses, and dye tracing. He developed an innovative analysis of water level response to storm water discharge through on site sinkholes.*

University of Port Harcourt, Nigeria

Senior Lecturer and Director of

Studies in Geology

1977-1982

- *Taught hydrogeology, engineering geology, soil mechanics, and geology courses.*
- *As director of studies at a newly established university, he developed applied geology curriculum, organized teaching and research facilities, and initiated regional studies of sea water intrusion into coastal aquifers of the Niger Delta.*

University of Mining & Metallurgy,

Krakow, Poland

Assistant Professor

1969-1977

- *Taught engineering geology, hydrogeology, and mining geology courses.*
- *Dr. Michalski performed an extensive physical modeling of coupled fluid and heat flow in the process of underground smelting of sulfur deposits for variable hydrogeological conditions and well layouts. He used finite element modeling to investigate stress and elastic energy distributions in the vicinity of mining face approaching faults.*
- *Dr. Michalski served as geotechnical and hydrogeologic consultant to sulfur, coal, and salt mining industries in Poland.*

PROFESSIONAL ORGANIZATIONS

Association of Ground Water Scientists and Engineers - Member since 1984

Association of Engineering Geologists - Member since 1984; Vice President of NY-Philadelphia Section

Geological Association of New Jersey - Past Counselor-at-large

PUBLICATIONS

The most recent of his over 40 technical publications include:

Michalski, A. *Hydrogeologic Characterization of Contaminated Bedrock Sites in the Newark Basin: Selecting Conceptual Flow Model and Characterization Tools*: In: *NJ Geological Survey Bulletin 77: Hydrogeology of the Newark Basin, Chapter D.*, 2009 - in print

Michalski, A. *Conceptual Flow Models and Ground-Water Characterization Strategy for Sedimentary Bedrock Sites*. In: 2004 U.S.EPA/NGWA Fractured Bedrock Conference, Sep. 13-15, 2004. Portland, Maine.

Michalski, A. "A Practical Approach to Bedrock Aquifer Characterization in the Newark Basin." In: Geology in Service to Public Health Proceedings and Field Guide of Eighteen Annual Meeting of the Geol. Assoc. of New Jersey, Oct. 26-27, 2001; P. Lacombe & G. Herman, Eds.

Michalski, A. Discussion of Paper "Fractured-Aquifer Hydrogeology from Geophysical Logs: Brunswick Group and Lockatong Formation, Pennsylvania" by R.H. Morin, L.A. Senior and E.D. Decker. Ground Water, November-December 2000 Issue, p. 806-7.

Michalski, A and R. Britton. "The Role of Bedding Fractures in the Hydrogeology of Sedimentary Bedrock - Evidence from the Newark Basin, New Jersey." Ground Water, March-April 1997 Issue, p. 318-327.

Michalski, A. "Conceptual Flow Models for Newark Basin Bedrock and Their Implications for Remediation of DNAPL Sites." 39th Annual Meeting of Assoc. of Eng. Geol., E. Brunswick, NJ, Sept. 1996.

Michalski, A. "The Use of Short Duration Pumping Tests for Characterization of Fractured Sedimentary Bedrock." (Abstract) Ground Water, September-October 1995 Issue, p. 851.

Michalski, A. "DNAPL Site Problems: Search for DNAPL and Effective Remedial Technologies." Environmental Law Section Newsletter New Jersey State Bar Assoc., Vol. XII, No.4, June 1995.

Michalski, A., M.N. Metlitz and I.L. Whitman. "A Field Study of Enhanced Recovery of DNAPL Pooled Below the Water Table." Ground Water Monitoring and Remediation. Winter 1995 Issue.

Michalski, A. and I.L. Whitman. "Taking Care of Ground Water Contamination." New Jersey Lawyer, February 8, 1993.

Michalski, A., R. Britton and A.H. Uminski. "Integrated Use of Multiple Techniques for Contaminated Investigations in Fractured Aquifers: A Case from Newark Basin,

- New Jersey." Proceedings of NGWA Focus Eastern Conference, October 13-15, 1992. Boston, MA. Published by NGWA.
- Michalski, A. and T. Gerber. "Fracture Flow Velocities in the Passaic Formation in Light Of Inter-well Tracer Tests." Environmental Geology of the Raritan River Basin. 9th Annual Meeting of the Geology Association of New Jersey, Somerset, New Jersey. October 30-31, 1992.
- Michalski, A., R. Britton and A.H. Uminski. "Bedrock Hydrogeology of the Manville-Bridgewater Section of the Raritan River Valley." Environmental Geology of the Raritan River Basin. 9th Annual Meeting of the Geology Association of New Jersey, Somerset, New Jersey. October 30-31, 1992.
- Michalski, A. "Hydrogeology of the Brunswick (Passaic) Formation and Its Implication For Ground Water Monitoring Practice." Ground Water Monitoring Review, Fall 1990 Issue, pp. 134-143.
- Michalski, A. "Hydrogeologic Characterization as a Key Factor for Aquifer Remediation in Fractured Brunswick Formation." In: Aquifer Reclamation and Source Control Conference, Woodbridge, NJ, November 1990. Conference sponsored by USEPA and NJIT.
- Michalski, A. and G.M. Klepp. "Characterization of Transmissive Fractures by Simple Tracing of In-Well Flow." Ground Water, Vol. 28, No. 2 (1990), pp. 191-198.
- Michalski, A. "Application of Temperature and Electrical Conductivity Logging in Ground-Water Monitoring." Ground Water Monitoring Review, Summer 1989 Issue, pp. 112-118.
- Michalski A. "Conductive Slug Tracing as a Single Well Test Technique for Heterogeneous and Fractured Formations." Proceedings of Conference on New Field Techniques for Quantifying the Physical and Chemical Properties of Heterogeneous Aquifers, Dallas, March 20-23, Published by National Water Well Association, 1989.
- Michalski, A. and J.Torlucci, Jr. "Testing of a Limestone Aquifer Using Water Table Response to Storm Water Discharged into Sinkholes." Ground Water, Vol. 26, No. 6, (1988), pp. 751-760.
- Eriksson, L.G. and A. Michalski, 1986. Hydrostatic Stress Conditions in Salt Domes - Possible Reality or a Modeling Simplification. Proc. Int. Symp. on Rock Stress Measurements, Stockholm, Sweden, Sep.1-3, 1986. Centek Publishers.