



**Katherine J. Beinkafner, Ph.D., CPG**

Senior Hydrogeologist  
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**EDUCATION**

Bachelor of Arts (Geology), Master of Arts (Geology) 1961-1965  
S.U.N.Y. at New Paltz, New Paltz, New York

Geophysics, 1965-1966  
Rensselaer Polytechnic Institute, Troy, New York

Master of Science (Physics), 1968-1969  
University of Pennsylvania, Philadelphia, Pennsylvania

Ph.D. (Geology), 1977-1980  
Syracuse University, Syracuse, New York

**CERTIFICATIONS AND TRAINING**

- Petroleum Geologist Number 2683 by American Association of Petroleum Geologists
- Professional Geological Scientist Number 6611 by American Institute of Professional Geologists
  
- Environmental Regulatory Compliance, HazMat
- QA, Senior Review, Expert Testimony
- Surface and Borehole Geophysics
- Groundwater, Hydrology, and Wetland Studies
- Computer Modeling of Groundwater Systems
- Risk Assessment of Subsurface Contaminants

**PROFESSIONAL EXPERIENCE**

<u>Sr. Hydrogeologist</u> , Ecosystems Strategies, Inc., Poughkeepsie, New York	1994-present
<u>Sr. Hydrogeologist</u> , EA Engineering, Newburgh, New York	1991-1993
<u>Sr. Hydrogeologist</u> , Dames & Moore, Pearl River, New York	1989-1991
<u>Adjunct Professor</u> , Rutgers, The State University of New Jersey, Newark, New Jersey	Fall 1987
<u>Senior Consulting Hydrogeologist</u> , Milton Chazen Engineering Assoc., Poughkeepsie, NY	1986-1987
<u>Senior Reservoir Geologist</u> , Lawrence-Allison West, Casper, Wyoming	1984-1986
<u>Dipmeter Consultant</u> , Terrasciences, Inc., Lakewood, Colorado	1985
<u>Senior Development Geologist</u> , Sohio Petroleum Company, San Francisco, California	1980-1984
<u>Summer Geologist</u> , ARCO Oil and Gas Company, Midland, Texas	1979
<u>Consulting Petroleum Geologist</u> , Kirby Exploration Co., Houston, Texas	1979
<u>Adjunct Teaching Geologist</u> , College of St. Rose, Albany, New York	1975
<u>Scientist (Oil &amp; Gas Geology)</u> , Geological Survey, New York State Museum & Science Service State Education Dept., Albany, New York	1972-1979
<u>Junior Scientist (Oil &amp; Gas Geology)</u> , Geological Survey, New York State Museum & Science Service State Education Dept., Albany, New York	1969-1972
<u>Physics Teacher</u> , Franklin D. Roosevelt High School	1966-1968

## SELECTED PROJECT EXPERIENCE

### LANDFILLS

- Youmans Flats Landfill, Bear Mountain State Park: Conducted hydrogeological investigation and prepared Closure Investigation Report. Field work involved installation of monitoring wells, aquifer testing, explosive gas survey, gas vent sampling, vector investigation, and sampling of monitoring wells, leachate seeps, and surface waters.
- Prepared maps and cross sections showing groundwater quality contravening New York State Groundwater standards.
- Hydrogeologic Investigations for Town of New Paltz and Lumberland Landfills: Conducted similar investigations for compliance with Part 360 regulations.
- Town of New Windsor Landfill: Based on hydrogeologic data, prepared load calculations for leachate collection system for Part 360 closure of landfill with hazardous waste.

### HAZARDOUS WASTE

- Senior review for Remedial Investigation of a chemical plant (Superfund Site) in Skaneateles Falls, New York. Hydrogeologic setting is carbonate bedrock with contaminants migrating offsite from a chemical waste landfill. Designed and reviewed seismic refraction survey to define buried valleys in bedrock surface. Researched literature for Feasibility Study and alternate remedial actions.
- Several NYS Superfund Sites including IBM, East Fishkill; Fair Rite Products, Walkill; and InterCeram/Ceramix near Middletown: Supervising Field Geologist, drilling and installation of 40 monitoring wells at a manufacturing plant with volatile organics in the overburden and bedrock, C and D levels of protection. Aquifer testing and analysis.
- Preparation of Remedial Investigation Reports.

### PETROLEUM SPILLS

- Expert witness, preparation of testimony for lawsuits involving oil spills and groundwater contamination, remediation of Superfund sites, and environmental reviews for construction projects.
- Senior review of remedial design of a combination air sparging and vacuum extraction system for removal of hydrocarbon contaminants at a large petroleum terminal in Brooklyn. Site is a demonstration project for EPA.
- For one gas station in a cluster of stations in proximity to MTBE contamination of public water supply wells in Liberty, NY; conducted hydrogeologic investigation and prepared testimony for public hearings and potential legal proceedings.

#### RADIOACTIVE WASTE

- West Valley Demonstration Project, DOE & NYS Radioactive Waste Storage Facilities: Sr. Project Geologist, development of groundwater monitoring plan for ten solid waste management units and three water-bearing stratigraphic units for RCRA and DOE compliance. Also preparation of bid specification documents for monitoring well installation.
- For Martinsville, Illinois Proposed Site: Task Manager, preparation of site characterization chapters of license application for Low Level Radioactive Waste Disposal Facility encompassing topics of geomorphology, stratigraphy, structural geology, seismicity, groundwater, hydrology, and geotechnical evaluation.

#### COMPUTER MAPPING & GROUNDWATER FLOW MODELS

- Groundwater modeler, development of computer model of three dimensional groundwater flow system at Sharkey Landfill, New Jersey, a Superfund Site, for remedial design.
- Task Manager, groundwater modeling of radionuclide transport in support of pathway analysis and dose calculations for a Low Level Radioactive Waste Disposal Facility, proposed Martinsville, Illinois site.
- IBM, East Fishkill: Project Manager, aquifer characterization and contaminant flow at a Research and Facility involving collection and compilation of stratigraphic, structural geology, water level, and water quality data (from borings, monitoring wells, supply wells, outcrops, and water samples) using dBASE 3. Software to allow input of database into AutoCAD for mapping, cross sections, and flow model development. Interpretation of flow systems in imbricate thrust sheets with fracture zones and incorporation into a 3-D model of contaminant flow.
- Naval Petroleum Reserve #3 (Teapot Dome) Wyoming: Development of 3-D numerical computer models for petroleum production in sandstone and fractured reservoirs.
- Integrated geophysical well log analysis and mapping packages with custom software to generate data arrays for porosity, permeability, net pay, geologic structures, fluids, and phases. Taught in-house courses in use of computer programs for interpretation and analysis of geophysical borehole logs and three-dimensional mapping of petroleum-trapping geologic structures.
- New York State Geological Survey, Staff Geologist: Responsible for petroleum exploration well data. Conducted subsurface stratigraphic studies using well logs and computer mapping.

#### TEACHING

- Adjunct Professor, taught groundwater hydrology course at Rutgers University at Newark, for undergraduate and graduate students.
- Naval Petroleum Reserve #3: Taught in-house courses in use of computer programs for interpretation and analysis of geophysical borehole logs and three dimensional mapping of petroleum-trapping geologic structures.
- Development of geologic software for computer processing and graphic interpretation of dipmeter well logs for exploratory wells. Training course development and presentation to groups of petroleum engineers and geologists (one and two week classes). Dipmeter allows the interpretation of three-dimensional structures by extrapolating changes in bedding orientation detected in microresistivity logging of boreholes.

- At EA Engineering, senior hydrogeologist in Waste Management Division. Taught in-house courses in slug testing, use of simple computer flow models, sampling at hazardous waste sites.
- Conducted seminars on landfill siting and closure requirements for local governments.

#### WATER RESOURCE DEVELOPMENT

- Town of Walkill: Senior review for geophysical investigation of potential municipal water supply along the Walkill River in Orange County, NY. Supervised field installation, pump testing, and sampling of 12 inch diameter wells. Provided senior review for final report recommending usage of a one million gallon per day well with backup well.
- Field supervision, testing, reporting, quality assurance review for numerous water supply projects in Ulster, Dutchess, and Orange County. Familiar with several computer programs and analog techniques for aquifer analysis of pumping tests in confined and unconfined aquifers.

#### BOREHOLE GEOPHYSICS

- For two PCB contaminated sites at Fort Edward and Hudson Falls, NY: Dr. Beinkafner provided borehole geophysics logging services in monitoring wells and production wells.
- Log interpretation indicated the presence of several imbricate thrust sheets and hydraulic conductive fracture zones.

#### PUBLICATIONS AND ABSTRACTS

Beinkafner, K. J. (1984) Decollement Tectonics of the Allegheny Plateau in Southern New York State: Geol. Soc. Amer. Abstr. Programs, v. 16, no. 1, p. 2.

Beinkafner, K. J. (1984) Computer Processing of Dipmeter Log Data: Enhancement of a Subsurface Exploration Tool: Proceedings of the 27th International Geological Congress, Moscow, USSR, August 1984.

Beinkafner, K. J. (1984) Mapping of Seismic Reflectors in Southern New York: Compensation for Velocity Anomalies in Glacial Overburden: Amer. Assn. of Petrol. Geol. Bull., v. 68

Beinkafner, K. J. (1983) Tracing the Sole of a Thrust through Thick and Thin of the Salina Group (Upper Silurian): Decollement Tectonics of the Southern Tier: New York: Amer. Assn. Petrol. Geol. Bull., v. 67, p. 1452.

Beinkafner, K. J. (1983) Deformation of the Silurian and Devonian Rocks of the Southern Tier, New York State: Syracuse University unpublished Ph.D. dissertation, 333 pages, 12 plates.

Beinkafner, K. J. (1983) Terminal Expression of Decollement in Chautauqua County, New York: Northeastern Geology, v. 4, no. 3, p. 1-12.

Beinkafner, K. J. (1983) Southern Tier, New York: Compendium of Subsurface Geology: edition, privately published and distributed, 350 pages, 12 plates, 30 tables, 127 figures.

Beinkafner, K. J. (1982) Structural Revelations from Seismic Interpretations, Southern Tier, New York: Amer. Assn. Petrol. Geol. Bull., v. 66, p. 1164-1165.

Beinkafner, K. J. (1981) Quantitative Analyses of the Herkimer Formation (Upper Silurian) in the Subsurface of Central New York State: New York State Museum and Science Service Bulletin 437, 31

Beinkafner, K. J. (1980) Quantitative Biostratigraphy of the Trenton Group (Middle Ordovician) using Conodont Occurrences in New York, Ontario, and Quebec: Proceedings of the Second Northeastern Women's Geoscientist Conference, St. Lawrence University, Canton, NY, p. 10-31.

Beinkafner, K. J. (1975) Statistical Probability of Finding Gas-Bearing Reefs in the Onondaga Formation Edgecliff Member in New York State: Amer. Assn. Petrol. Geol. Bull., v. 59, no. 5, p. 1734.

Connola, D. P. and Beinkafner, K. J. (1976) Large Outdoor Cage Tests with Eastern White Pine being Tested in Field Plots for White Pine Weevil Resistance: 23rd Northeastern Forest Tree Improvement Conference, Rutgers University, New Brunswick, New Jersey, p. 56-64.

Kreidler, W. L., Van Tyne, A. M., and Jorgensen, K. M. (1972) Deep Wells in New York State: New York State Museum and Science Service Bulletin 418A, 335 p., 3 plates.

Van Tyne, A. M., Beinkafner, K. J. and Knapp, S. M. (1980) Deep Wells of New York State: New York State Museum and Science Service Bulletin 418B, 237 p., 3 plates.

## **PROFESSIONAL AFFILIATIONS**

American Association of Petroleum Geologists  
American Institute of Professional Geologists  
Association for Women Geoscientists  
Computer Oriented Geological Society  
Geological Society of America  
International Association for Mathematical Geology  
National Water Well Association  
Society of Economic Paleontologists and Mineralogists  
Society of Professional Well Log Analysts

## **PROFESSIONAL HONORS**

Fellow of Geological Society of America