



**Curriculum Vitae for Jerzy Kulis
New Mexico Environment Department
Hazardous Waste Bureau**

Summary of qualifications

- Ten years of work experience as an environmental scientist with the New Mexico Environment Department, with emphasis on groundwater protection.
- M.S. degree in Geochemistry.
- Extensive experience in evaluating hydrogeologic conditions and in review and interpretation of groundwater analytical data.

Relevant Work Experience

2008 to present Environmental Scientist

New Mexico Environment Department, Hazardous Waste Bureau, Santa Fe, NM

- Serves as Bureau's hydrologist and groundwater protection specialist on issues related to groundwater monitoring and groundwater contamination at the Los Alamos National Laboratory
- Reviews drilling work plans, groundwater investigation work plans, groundwater monitoring plans, and other submittals to determine their technical feasibility and compliance with regulations.
- Reviews groundwater monitoring reports, well completion reports, investigation reports, and other submittals for completeness and to identify potential impacts on ground water quality.
- Provides technical support to Bureau's staff regarding groundwater issues.

2006 to 2008 Hydrologist

New Mexico Environment Department, Solid Waste Bureau, Santa Fe, NM

- Reviewed permit applications and closure plans for solid waste facilities to determine their completeness, technical feasibility and compliance with Solid Waste Management Regulations.
- Evaluated groundwater monitoring plans for proper use of sampling, analytical and statistical methods, and to assure their effectiveness in a specific hydrogeologic setting.
- Reviewed groundwater monitoring reports for completeness and to identify potential impacts on ground water quality.
- Reviewed disposal plans for various types of special wastes.
- Performed field inspections of groundwater monitoring systems.
- Testified as an expert witness in hydrogeology and groundwater protection at six public hearings on solid waste permit applications.
- Revised or created technical guidance documents, forms and revisions to regulations.
- Tracked submissions of monitoring reports and maintained groundwater monitoring database.
- Provided technical support to Bureau's staff and permit applicants regarding groundwater issues.



2000 to 2006 Geoscientist

New Mexico Environment Department, Ground Water Quality Bureau, Santa Fe, NM

- Ensured regulatory compliance of over 60 groundwater discharge permits, including analysis and interpretation of environmental data, permit writing, field inspections, and enforcement actions.
- Managed EPA-funded technical and outreach projects with focus on water-quality issues in New Mexico and groundwater/surface water interaction.
- Performed over 1000 spectrophotometric analyses of groundwater samples.
- Prepared project-specific quality assurance documents, work plans and project reports.
- Provided technical support to the management and staff on issues related to groundwater protection.

1997 to 1998 Field Assistant (part time)

New Mexico Bureau of Mines, Socorro, NM

- Helped with installation of shallow groundwater monitoring wells using a hand auger.
- Delivered equipment and supplies to a remote field site in Estancia Basin, NM.

1995 to 1997 Research/Teaching Assistant (part time)

New Mexico Institute of Mining and Technology, Socorro, NM

- Provided laboratory instructions for upper level geology and geochemistry courses.
- Prepared and analyzed mineral and water samples using stable-isotope extraction lines, mass spectrometer, infrared microscope, electron microprobe, and other laboratory equipment; wrote laboratory research reports.

1986 Laboratory Technician (part time)

Zaklad Fizyki Srodowiska (Institute of Environmental Physics), Krakow, Poland

- Extracted trace amounts of uranium and thorium from carbonate samples by solvent extraction, ion exchange, and electrodeposition.
- Measured radioactivity of the prepared samples using a semiconductor detector; documented experimental results.

Education

M.S. in Geochemistry, 1999, NM Inst. of Mining and Technology, Socorro, NM, GPA 4.0/4.0

Relevant coursework: Groundwater Hydrology, Environmental Chemistry, Quantitative Chemical Analysis, Exploration & Trace Element Geochemistry, Stable Isotope Geochemistry, Mineral Equilibria, Soil & Groundwater Remediation, Radioactive Waste Management.

B.S. in Liberal Studies, 1994, Regents College, Albany, NY, GPA 3.3/4.0

Concentration in Physics and Geology.

Advanced Occupational Skills in Data Processing, 1993, Truman College, Chicago, IL
Intermediate-level programming in Qbasic, C, Pascal, Cobol, dBase.

Undergraduate-level course work in Nuclear Engineering and Mining Engineering (double major), 1980 to 1989, Akademia Gorniczo-Hutnicza (Academy of Mining and Metallurgy), Krakow, Poland

Relevant coursework: Nuclear Physics, Nuclear Engineering, Dosimetry, Methods of Data Analysis, Methods of Radioisotopic Measurements, Radiochemistry, Well Drilling, Mineralogy and Petrography, Surveying and Topography, Hydrogeology & Engineering Geology, Geomorphology, Photogeology, Dynamic Geology, Structural Geology & Geologic Cartography.

Relevant Training

- Environmental Aqueous Geochemistry, 2009
- Introduction to Risk Assessment, 2009
- Natural and Enhanced Attenuation for Chlorinated Solvents, 2008
- Radiological Worker II, 2008
- Applied Groundwater Statistics, 2008
- Introduction to HELP Modeling, 2008
- Sanitary Landfill Design, 2007
- Environmental Forensics: Focus on Perchlorate, 2005
- Building and Using a Ground Water Data Warehouse, 2004
- Endocrine Disrupting Chemicals and Pharmaceuticals in the Environment, 2003
- Environmental Forensics: Advanced Techniques, 2002
- Hazardous Waste Operations & Emergency Response (HAZWOPER), 2000 (most recent refresher in 2009)
- In-situ Permeable Reactive Barriers, 2000
- Wildlife and Forestry Conservaton, 1992

Relevant Skills

- Computer proficiency, including MS Office, GIS and statistical software.
- Statistical analysis of large data sets, including correlation matrices, cluster analysis, and principal component analysis.
- Statistical evaluation of environmental data, including testing for normality and outliers, background determination, tolerance and prediction limits, and other methodologies recommended by EPA for RCRA facilities.
- Hands-on experience with infrared and visible-light microscopes, Finnigan Delta-F mass spectrometer, stable isotope extraction lines, fluid-inclusion heating/freezing stages, field spectrophotometers, radiation detectors, ion exchange, solvent extraction and other chemical separation methods.

Professional Affiliations

New Mexico Geological Society – member

Publications

- Dulinski, M. and Kulis, J., 1989, Najnowsze Wyniki Datowan Metoda 230Th/234U oraz Analiz Koncentracji Izotopow Stabilnych w Naciekach Kalcytowych z Jaskin Poludniowo-Centralnej Polski. (The Latest Results of Dating by 230Th/234U Method and Analyses of Stable Isotope Concentrations in Calcite Deposits from Caves of South-Central Poland). Zesz. Nauk. Pol. Sl., Mat.- Fiz., z.61, Geochronometria No.6, p.265-276
- Kulis, J., 1999, Trace Element Control on Near-Infrared Transparency of Pyrite. M.S. thesis, NM Inst. of Mining and Technology, Socorro, NM
- Lindaas, S.E., Kulis, J., and Campbell, A.R., 2002, Near-Infrared Observation and Microthermometry of Pyrite-Hosted Fluid Inclusions. *Economic Geology*, Vol. 97, p. 603-618.
- McQuillan, D., Longmire, P., Johnson, P., Kulis, J., Martinez, F., Counce, D., and Keating, E., 2005, Natural Uranium in Ground Water in the Espanola Basin [Abstract]. *Geologic and Hydrogeologic Framework of the Espanola Basin – Proceedings of the 4th Annual Espanola Basin Workshop*, Santa Fe, NM, March 1-2, 2005. USGS Open-File Report 2005-1130.
- Brown, K.D., Kulis, J., Thomson, B., Chapman, T.H., and Mawhinney, D.B., 2006, Occurrence of Antibiotics in Hospital, Residential, and Dairy Effluent, Municipal Wastewater, and the Rio Grande in New Mexico. *Science of the Total Environment*, 366(2-3):772-83. Epub 2005 Nov 28