

Dr. Joe L. Ratigan
Principal Consultant & President

Dr. Joe L. Ratigan is Principal Consultant and President of Ratigan Engineering & Consulting LLC. Dr. Ratigan has been providing engineering and consulting services to the solution mining and underground storage industry in the United States, Canada, United Kingdom, and elsewhere for more than 35 years.

Dr. Ratigan has published several hundred consultant reports; published more than 50 journal and symposia papers; and has given invited lectures or short courses to the American Gas Association, the Solution Mining Research Institute, the University of Oklahoma Petroleum Engineering Department, the University of Colorado Civil Engineering Department, the International Society of Rock Mechanics, the Ground Water Protection Council, the Texas Railroad Commission Symposium on Oil & Gas Waste Disposal in Bedded Salt Caverns, the Louisiana Department of Natural Resources Office of Conservation, and the Kansas Department of Health and Environment.

Dr. Ratigan has provided testimony in regulatory and state legislative committee hearings to the Texas Railroad Commission, the (former) Texas Water Commission, the Louisiana Department of Natural Resources, the United States Department of Transportation Research Committee, the Kansas Senate Utilities Committee, and the Kansas House Utilities Committee. Dr. Ratigan was appointed to the Louisiana Department of Natural Resources committee for promulgation of storage cavern rules and served on the committee for nearly 5 years. He has prepared the permit application for every storage well in the Barbers Hill salt dome at Mont Belvieu and every active well in the Spindletop salt dome at Beaumont, in addition to numerous other domal and bedded salt storage wells in Texas, Louisiana, and Kansas. He has testified in trial or by deposition as an expert in civil litigation 12 times.

Dr. Ratigan is the geomechanics consultant for the industry underground storage operators at the largest underground storage facility in the world at Mont Belvieu, Texas, and Louisiana's largest underground storage complex in the Napoleonville salt dome, south of Baton Rouge, Louisiana, USA. He developed the subsidence monitoring programs at numerous cavern storage fields and evaluates annual subsidence monitoring at many salt cavern storage sites including those at Mont Belvieu, Spindletop, Napoleonville, Pierce Junction, Markham, LOOP, Sour Lake, and bedded salt storage fields in Medford, Oklahoma, Conway and Mitchell, Kansas, and New York LPG, Hartford Mills, New York.

Dr. Ratigan was the first Research Coordinator for the Solution Mining Research Institute (SMRI). He currently serves as the SMRI Vice President of Research and will be the President of the SMRI in 2012.

EDUCATION

Ph.D. in Civil Engineering, Geologic Engineering Major and Solid Mechanics and Structural Mechanics Minors, University of California Berkeley, CA (1981)

M.S. in Mechanical Engineering, University of New Mexico, Albuquerque, NM (1972)

B.S. in Mechanical Engineering, South Dakota School of Mines & Technology, Rapid City, SD (1971)

EMPLOYMENT

2011 – Present Ratigan Engineering & Consulting – President and Principal Consultant

2001 – 2011 PB ESS, Inc. – Vice President and Principal Consultant

1998 – 2001 Sofregaz US – Vice President and Principal Consultant

1974 – 1998 RE/SPEC Inc. – Project Engineer, Manager of Engineering, Principal Consultant, Vice President of Engineering

PROFESSIONAL CERTIFICATIONS & MEMBERSHIPS

Registered Professional Engineer

- South Dakota (No. 2728)
- Texas (No. 82498)
- Kansas (No. 17125)

2012 President – Solution Mining Research Institute

American Society of Civil Engineers

AREAS OF SPECIALIZATION

- Geologic Engineering and Site Characterization
- Project Feasibility and Conceptual Design
- Permitting and Regulatory Agency Interaction
- Gas Cavern Thermodynamics and Heat Transfer
- Subsidence Monitoring
- Due Diligence
- Rock Properties Assessment
- Litigation Support and Expert Witness Testimony
- Mechanical Integrity Test Design & Analysis

PUBLICATIONS (separate document)

- More than 400 engineering consultant reports
- 26 SMRI papers and reports
- 49 journal and symposia papers