

TOTAL P.02

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

PRIVATE FUEL STORAGE, L.L.C.

(Independent Spent Fuel  
Storage Installation)

Docket No. 72-22-ISFSI

AFFIDAVIT OF JOHN STAMATAKOS

COUNTY OF BEXAR )

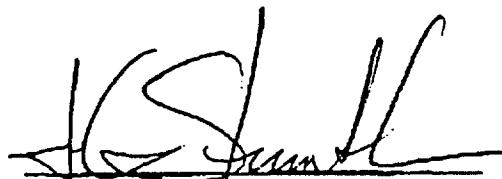
STATE OF TEXAS )

SS:

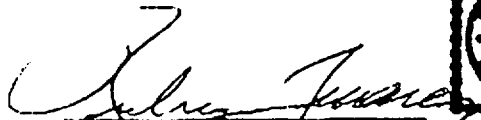
John Stamatakos, having first been duly sworn, does hereby state as follows:

1. I am employed as a Senior Research Scientist at the Center for Nuclear Waste Regulatory Analysis (CNWRA), which is division of the Southwest Research Institute (SwRI), in San Antonio, Texas. I am providing this affidavit under a technical assistance contract between the NRC Staff and SwRI. A statement of my professional qualifications is attached hereto.

2. I have reviewed the foregoing answers to Requests for Admission Nos. 4, 26 and 27, in the "NRC Staff's Supplemental Responses to the 'State of Utah's Twelfth Set of Discovery Requests Directed to the NRC Staff,'" and verify that they are true and correct to the best of my knowledge, information and belief.

  
John Stamatakos

Sworn to before me this  
4th day of December, 2001

  
Notary Public



My commission expires: 11-29-2005

# **JOHN STAMATAKOS**

Senior Research Scientist  
Center for Nuclear Waste Regulatory Analyses  
Southwest Research Institute  
6220 Culebra Rd. (Bldg. 189)  
San Antonio, Texas 78238

## **EDUCATION:**

**B.A., Geology, Franklin and Marshall College, Lancaster, Pennsylvania, 1981**  
**M.S., Geology, Lehigh University, Bethlehem, Pennsylvania, 1988**  
**Ph.D., Geology, Lehigh University, Bethlehem, Pennsylvania, 1990**

## **GENERAL QUALIFICATIONS:**

Dr. Stamatakos is a structural geologist and geophysicist with international research experience in regional and global tectonics. Dr. Stamatakos has conducted research on a range of topics including paleomagnetism, neotectonics, kinematics of fault block rotations in strike-slip, normal, and thrust fault systems, effects of internal strain on the magnetic properties of deformed rocks, evolution of curvature in arcuate mountain belts, and age and sequence of deformation in folded and faulted mountain belts. This research has focused on the northern and central Appalachians in the eastern United States and Canada, the Hercynian mountains in Germany and northern Spain, the Rocky Mountains and Basin and Range in the western United States, and the northern Cordilleran Mountains in Alaska. Other strengths include numerical modeling of deformation, magnetostratigraphy, rock magnetism, and exploration geophysics.

As a Research Scientist in the Center for Nuclear Waste Regulatory Analyses, Dr. Stamatakos is a Principal Investigator for structural deformation and seismicity, including tectonics and neotectonics research. Tectonics research at CNWRA currently includes compiling a tectonics Geographic Information System (GIS) database, field analyses of the structural and tectonic elements of the Basin and Range province in southwestern United States, evaluation of seismic and faulting hazards at nuclear facilities, and the development of tectonic models for the region surrounding the proposed high-level nuclear waste repository at Yucca Mountain, Nevada. These investigations, sponsored by the U.S. Nuclear Regulatory Commission, currently support development of the tectonic framework for evaluation of risk of earthquakes and volcanic activity, and the effects of structures and tectonic processes on groundwater flow in the region surrounding Yucca Mountain.

Prior to coming to CNWRA, Dr. Stamatakos held positions as a visiting faculty at the University of Michigan and as a postdoctoral fellow at the Eidgenössische Technische Hochschule (ETH) in Zurich, Switzerland. At the University of Michigan, Dr. Stamatakos taught courses in field mapping, structural geology, geophysics, and tectonics.

Dr. Stamatakos has written or collaborated on nearly 50 papers and reports on structural geology, tectonics, and geophysics. He has made presentations at international conferences in the U.S., Canada, and Europe and has won an outstanding paper award from the American Geophysical Union.

Dr. Stamatakos is associate editor of the Geological Society of America Bulletin, former GP Editor for EOS of the American Geophysical Union, and is a regular reviewer of papers for the Journal of Geophysical Research, Earth and Planetary Science Letters, Journal of Geophysics, Journal of Structural Geology, Physics of the Earth and Planetary Sciences, Tectonophysics, Journal of Geology, Geophysical Journal International, Geological Society of America Bulletin, and Geophysical Research Letters as well as grant proposals for the National Science Foundation.

Acquired NSF and similar institutional grant support for research. Taught geology and geophysics at both undergraduate and graduate levels, including two summer field camp sessions. Co-developed and taught advanced field course for petroleum-industry geologists. Supervised undergraduate, master, and Ph.D. research, including service as external committee member on several masters theses and a Ph.D. dissertation.

**Memberships:** Geological Society of America, American Geophysical Union, Sigma Xi.

## **PROFESSIONAL EXPERIENCE**

**1996-2001:** Senior Research Scientist, Center for Nuclear Waste Regulatory Analyses, Southwest Research Institute, San Antonio, Texas.

**1995-1996:** Research Scientist, Center for Nuclear Waste Regulatory Analyses, Southwest Research Institute, San Antonio, Texas.

**1995-2001:** Adjunct Research Scientist, Department of Geological Sciences, University of Michigan, Ann Arbor, Michigan

**1999-2001:** Adjunct Professor, Incarnate Word University, Palo Alto College, University of Texas at San Antonio, all in San Antonio, Texas.

**1992-1994:** Visiting Assistant Professor, Department of Geological Sciences, University of Michigan, Ann Arbor, Michigan.

**1990-1992:** Research Associate: Eidgenössische Technische Hochschule (ETH), Institut für Geophysik, Zürich, Switzerland.

**1984-1990:** Research and Teaching Assistant, Lehigh University, 1984–1990.

**1981-1983:** Petroleum Geologist, Analex Geosciences, 1981–1983.

## **RESEARCH INTERESTS:**

Global and regional tectonics through the study of earthquake seismology, paleomagnetism, structural geology, neotectonics, magnetostratigraphy, potential-field geophysics (gravity and magnetics), fission-track thermochronology, and numerical modeling.

## PUBLICATIONS

- Stamatakis, J.A., J. M. Trop, and K. D. Ridgway, 2001, Late Cretaceous paleogeography of Wrangellia: Paleomagnetism of the MacColl Ridge Formation, southern Alaska, Revisited: *Geology*, v.29, p.947–950.
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- D. Sims, D.A. Ferrill, and J.A. Stamatakis, 1999, Role of ductile décollement zone horizons in the development of pull-apart basins: Experimental results and natural examples: *Journal of Structural Geology*, v. 21, p. 533–554.
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- Ferrill, D.A., Morris, A.P., S.M. Jones, and J.A. Stamatakis, 1998, Extensional layer-parallel shear and normal faulting, *Journal of Structural Geology*, v. 20, p. 355–362.
- Gray, M. B., and J. A. Stamatakis, 1997, A new model for evolution of fold and thrust belt curvature based on integrated structural and paleomagnetic results around the Pennsylvania salient, *Geology*, v. 25, p.1067–1070.
- Clyde, W. C., J. P. Zonneveld, J. A. Stamatakis, G. G. Gunnell, and W. S. Bartels, 1997, Magnetostratigraphy across the Wasatchian-Bridgerian boundary (Early to Middle Eocene) in the western Green River basin, *Journal of Geology*, v. 105, p. 657–669.
- Ofoegbu, G. I., D. A. Ferrill, K. J. Smart, and J. A. Stamatakis, 1997, Uncertainties in earthquake magnitudes from surface displacements based on finite element modeling, *International Journal of Rock Mechanics and Mining Science*, v. 34, no 3-4, paper number 233.
- Van der Voo, R., J. A. Stamatakis, and J. M. Parés, 1997, Kinematic constraints on thrust-belt curvature from syndeformational magnetizations in the Lagos del Valle Syncline in the Cantabrian Arc, Spain, *Journal of Geophysical Research*, v. 102, p.10,105–10,119.
- Connor, C. B., S. Lane-Magsino, J. A. Stamatakis, R. H. Martin, P. C. LaFemina, B. H. Hill, and S. Lieber, 1997, Magnetic surveys help reassess volcanic hazards at Yucca Mountain, Nevada, *EOS, Transactions of the American Geophysical Union*, v. 78: p. 73, 77–78.

- Ferrill, D.A., J.A. Stamatakos, and H.L. McKague, Quaternary slip history of the Bare Mountain fault (Nevada) from the morphology and distribution of alluvial fan deposits: REPLY, *Geology*, v. 25, p. 190.
- Conway, F.M., D.A. Ferrill, C.M. Hall, A.P. Morris, J.A. Stamatakos, C.B. Connor, A. Halliday, and C. Condit, 1997, Timing of volcanism along the Mesa Butte Fault in the San Francisco Volcanic Field, Arizona from  $^{40}\text{Ar}/^{39}\text{Ar}$  Ages: Implications for the longevity of cinder cone alignments, *Journal of Geophysical Research*, v. 102, p. 815–824.
- Stamatakos, J.A., C.B. Connor, and R.H. Martin, 1997, Quaternary volcanism and basin evolution of Crater Flat, Nevada from detailed ground magnetic surveys of the Little Cones, *Journal of Geology*, v. 105, p. 319–330.
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- Clyde, William C., J. Stamatakos, and P. D. Gingerich, 1994, Chronology of the Wasatchian Land-Mammal Age (Early Eocene): Magnetostratigraphic results from the McCullough Peaks Section, northern Bighorn Basin Wyoming, *Journal of Geology*, v. 102, p. 367–377.
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- van Der Pluijm, B. A., R. Van der Voo, S. S. Potts, and J. Stamatakos, 1993, Early Silurian paleolatitudes for central Newfoundland from paleomagnetism of the Wigwam Formation: Discussion, *Canadian Journal of Earth Sciences*, v. 30, p.644–645.
- Stamatakos, J. and A. M. Hirt, 1993, Paleomagnetic considerations of the development of the Pennsylvania salient in the central Appalachians, *Tectonophysics*, v. 231, p. 237–255.

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- Ferrill, D.A., J.A. Stamatakis, and D. Sims, 1997, Faults, traps, compartments and conduits: What hydrocarbons find that you may miss, Advance Field Course for Petroleum Geologists. Southwest Research Institute, San Antonio, Texas.
- Stamatakis, J.A., P.S. Justus, D.A. Ferrill, R. Chen, and G.I. Ofoegbu, 1997, Structural Deformation and Seismicity, in *NRC High-Level Radioactive Waste Program Annual Progress Report: Fiscal Year 1996. NUREG/CR-6513, CNWRA96-OIA*, Budhi Sagar, ed., San Antonio, Texas.
- Stamatakis, J.A., D.A. Ferrill, D.P. Cederquist, and R. Van der Voo, 1996, Structural framework of Alleghanian sequential deformation in the southwestern limb of the Pennsylvania salient from paleomagnetic and rock magnetic studies, in R. P. Nickelsen ed., *61<sup>st</sup> Annual Field Conference of Pennsylvania Geologists Guidebook*, p. 14-26.
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- Ferrill, D.A., G.L. Stirewalt, D.B. Henderson, J.A. Stamatakis, A.P. Morris, B.P. Wernicke, and K.H. Spivey, 1996, *Faulting in the Yucca Mountain region: Critical review and analyses of tectonic data from the Central Basin and Range*, NUREG/CR-6401, CNWRA 95-017, Center for Nuclear Waste Regulatory Analyses, San Antonio, Texas.
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