

## Clifford A. Cuffey

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### OBJECTIVE

Teach petroleum geology as part of the Sul Ross State University & Midland College geology program.

### EXPERIENCE

#### ADJUNCT INSTRUCTOR

*Midland College*, Midland, TX, Aug. 2004 – present

- Aug. 2009-present: teach evening lecture and lab section of Physical Geology (GEOL1403) during fall semesters, and Historical Geology (GEOL1404) during spring semesters.
- Aug. 2005-May 2009: teach evening lecture and lab section of Solar System (PHYS1412) during the fall semesters, and Stars & Galaxies (PHYS1411) during the spring semesters.
- Aug. 2004-May 2005: teach evening lecture and lab section of Environmental Science.

#### PETROLEUM GEOLOGIST

*Chevron*, Midland, TX, Aug. 2002 – present

- Current assignment: Staff Geologist, Permian South Area, McElroy Technical Team. 1) Lead geologist for major development program in the central part of McElroy Field, 2005-present; utilizing seismic attribute analysis, well log correlation, formation evaluation, core study, geologic cross sections and maps, production/water injection data, and production/injection history; resulted in approximately 95 new drill wells. 2) Lead geologist for major development program in the western part of McElroy Field, 2006-2008; utilizing seismic attribute analysis, well log correlation, formation evaluation, core study, geologic cross sections and maps, production/water injection data, and production/injection history; resulted in approximately 20 new drill wells. 3) Lead geologist for major development program in the eastern part of McElroy Field, 2010-present; utilizing seismic attribute analysis, well log correlation, formation evaluation, core study, geologic cross sections and maps, production/water injection data, and production/injection history; resulted in approximately 12 new drill wells.
- Assignment: development geologist, Texas Gas Area, Fort Stockton Technical Team. 1) Lead geologist for Emperor & Halley Fields project; evaluated potential in several zones within this field area; resulted in 1 new drill well. 2) Lead geologist for Worsham-Waha AMI with Tom Brown Inc.; primarily evaluated the potential of the Devonian Thirty-One Formation; utilized combination of structure mapping, log analysis, and seismic attribute analysis; resulted in 2 new drill horizontal wells; evaluated other potential zones especially Atoka and Ellenberger. 3) Lead geologist for geologic mapping and prospecting in Puckett and surrounding fields; developed a series of stacked maps for all major horizons in Puckett Field; based on log correlation, true-scale structural cross sections, fault planes, unconformity recognition, and geologic history model.

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*ChevronTexaco*, New Orleans, LA, Nov. 2001 – Jul. 2002

- Assignment: development geologist, South Timbalier Field Management Team.
- Lead geologist for South Timbalier 130 / Grand Isle 86 Field.
- Developed four prospects on flank of salt dome; two in untested fault blocks; currently being evaluated as part of business unit portfolio.

*Chevron USA Production Company*, New Orleans, LA, Jan. 2000 – Nov. 2001

- Assignment: exploration geologist, Shelf Exploration Team.
- Helped develop and follow drilling of an exploratory test of new fault block in South Timbalier 52 Field.
- Helped develop two prospects in South Timbalier 35 Field; one successful.
- South Pass 78 Field area: developed model for geologic history of salt dome field area using seismic stratigraphy, subsalt mapping with partially completed post-stack depth migration, well logs, and paleontologic information; developed one large prospect up against salt on flank of dome.
- South Pass 49 Field area: briefly examined exploration potential of deep stratigraphy beneath primary field pay.
- South Pass 73 area: examined a prospect brought to our attention by partners.
- Main Pass 146 area: examined a prospect brought to our attention by the Main Pass 299 Asset Team.
- South Timbalier 29 and 52 areas: developed three prospects in deep sands.

*Chevron USA Production Company*, New Orleans, LA, Dec. 1997 – Jan. 2000

- Assignment: development geologist, Main Pass 41 Asset Team, including geologists, production engineers, reservoir engineers, facilities engineers, drilling engineers, and business planners.
- Helped develop, propose, or drill six prospects in Main Pass 41 Field; of 16 targeted sands, 13 contained economical hydrocarbon reserves.
- Helped develop and complete one workover in Main Pass 41 Field; successful.
- Produced seismic interpretations, log correlations, structure and isopach maps, and structural and stratigraphic cross sections for all of the prospects; actually followed the drilling for two.

*Chevron USA Production Company & ChevronTexaco*, General accomplishments

- Responsible for generating prospects by mapping reservoir rocks and faults, and log analysis, and to tap these reserves through new drills or workovers.
- Utilize a combination of geologic, seismic, petrophysical, production, and pressure data.
- Involved with planning wells, following daily progress of drilling wells, and evaluating logs for completion recommendations.
- Mentoring new hires; teaching them how to prospect, map, interpret logs, and present results to managerial staff.
- Taught short course about basic geology for non-geologists within Chevron.
- Taught short unit about interpreting old electric logs within Chevron's Basic Formation Evaluation School.

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- Professional development includes: Basic Formation Evaluation school; GIS-VISA (now VIA VISTA) geographical information system software; Delta Reservoirs Workshop, a reservoir geology field seminar; SPWLA short course – Reservoir Characterization Using Well Logs; Geoquest/IESX seismic interpretation system; Applied Subsurface Geologic Mapping Techniques (Subsurface Consultants & Associates, LLC); Introduction to Drilling; Seismic Techniques I; Gulf of Mexico Geology Fundamentals; Seismic Facies Analysis; Gulf of Mexico Structural Geology Principles; Sequence Stratigraphy in Exploration and Production Geology; Interpreting 3-D carbonate stratigraphy using 1-D data.

### **WELL-SITE GEOLOGIST**

*Geosearch Logging, Inc.*, Edmond, OK, Jun. 1996 – Dec. 1997

- Geologic and hydrocarbon evaluation of oil and gas wells ("mudlogging") in Oklahoma.
- Utilized cuttings analysis, catalytic filament total gas detection (CFD), and hydrogen flame ionization chromatography (FID).
- Experience with wire line log analysis, oil and gas shows, flares, well kicks, picking casing points, picking formation tops, correlation, both carbonate and sandstone reservoirs.
- Train new hires both in the field and in the shop.
- Wrote training and reference manual on identification and description of samples; titled "Practical field identification and description of sedimentary rock cuttings for mudloggers."
- Professional development included: Well site geology and gas detection; Tulsa Geological Society University of Tulsa Short Course.

### **TEACHER: HIGH SCHOOL**

*Casady School*, Oklahoma City, OK, Aug. 1995 – May 1996

- Taught geology course for juniors and seniors.
- Taught lab science course for freshmen.
- Sponsored student environmental club.
- Sponsored extracurricular bowling activity.

*The Wellington School*, Columbus, OH, Jul. 1995 – Aug. 1995

- Taught 19-day field course on dinosaur paleontology of western North America.

### **GRADUATE ASSISTANT**

*Ohio State University (Dept. of Geological Sciences)*, Columbus, OH, Sept. 1992 – Jun. 1995

- Taught lab sections of physical and historical geology, history of the biosphere, and invertebrate paleobiology.

*University of Oklahoma (School of Geology & Geophysics)*, Norman, OK, Aug. 1990 – Aug. 1992

- Taught lab sections of historical geology and paleontology.
- Assistant Curator of Invertebrate Paleontology at the Oklahoma Museum of Natural History.

### **EXPLORATION GEOLOGIST**

*Texaco*, New Orleans, LA, May 1990 – Aug. 1990

- Summer internship utilizing seismic lines to locate shallow gas reservoirs in the offshore regions of Louisiana.

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## **CONTRACT GEOLOGIST**

Todd Giddings & Associates, State College, PA, Feb. 1989

- Subcontracted by Paul Zell to assist mapping the geology of landfill expansion site in central Pennsylvania and identify important geologic formations and members based on index fossils.

## **PROFESSIONAL LICENSE**

State of Texas Professional Geoscientist, Geology License No. 394.

## **EDUCATION**

### **CANDIDATE FOR DOCTOR OF PHILOSOPHY IN GEOLOGY**

*Ohio State University*, Columbus, OH (May 1994): specialty of invertebrate paleontology; dissertation research focused on morphologic variability and evolution in the brachiopod *Onniella*, Upper Ordovician, Cincinnati Arch region.

### **MASTER OF SCIENCE IN GEOLOGY**

*University of Oklahoma*, Norman, OK (Dec. 1992): specialty of invertebrate paleontology; thesis titled "Taxonomy and evolution of selected species of *Neochonetes* and *Mesolobus* in the early Middle Pennsylvanian (late Atokan and earliest Desmoinesian) of the Ardmore Basin, south-central Oklahoma."

### **BACHELOR OF SCIENCE IN EARTH SCIENCE**

*Pennsylvania State University*, University Park, PA (May 1990): specialty of geology.

## **AWARDS AND ACTIVITIES**

Paleontological Society, member, 1989-1995, 2001-present.  
Association of Lunar & Planetary Observers, member, 2003-present.  
West Texas Astronomers, member, 2002-present.  
New Orleans Geological Society, member, 1998-2002.  
    Chairperson of Field Trip Committee, 2000-2002.  
    Chairperson of Technical Projects Committee, 2000-2002.  
Pontchartrain Astronomy Society, member, 2001.  
Newsletter Editor, Westbank Camera Club, 1999.  
Greater New Orleans Camera Club, Member, 1999.  
William Grundy Haven Writing Award, 1989.  
Westinghouse Science Talent Search Winner, 1986.

## **RESEARCH PUBLICATIONS**

**Cuffey, C. A., Robb, A. J., Lembcke, J. T., & Cuffey, R. J. 1995.** Epizoic bryozoans and corals as indicators of life and post-mortem orientations of the Devonian brachiopod *Meristella*. *Lethaia*, 28(2): 139-153.

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- Cuffey, C. A., Cuffey, R. J., Robb, A. J., & Lembcke, J. T. 1995.** Reconnaissance survey of the Haragan Formation bryozoan fauna and its paleoecology, Lower Devonian of south-central Oklahoma. *Oklahoma Geology Notes*, 55(4):128-149.
- Cuffey, C. A., & Cuffey, R. J. 1995.** The Chickasaw bryozoan reef in the Middle Ordovician of south central Oklahoma. *Ordovician Odyssey: International Symposium on the Ordovician System*, 7th, Las Vegas, Pacific Section Society of Economic Paleontologists and Mineralogists Publication 77: 435-438.
- Cuffey, C. A. 1994.** Adaptive advantage of, and mechanism for, intraspecific heterochrony in *Mesolobus obsoletus* (Brachiopoda) from dysaerobic and brackish paleoenvironments, Pennsylvanian of Oklahoma. *Geological Society of America, Abstracts with Programs*, 26(7): 56.
- Cuffey, C. A., Robb, A. J., Lembcke, J. T., & Cuffey, R. J. 1994.** Coral base-plates on brachiopod shells; a new method for determining the post-mortem orientation and history of brachiopods. *Geological Society of America, Abstracts with Programs*, 26(7): 56.
- Cuffey, C. A., & Cuffey, R. J. 1994.** Discovery of the Chickasaw bryozoan reef in the Middle Ordovician of south-central Oklahoma. *Geological Society of America, Abstracts with Programs*, 26(5): 11.
- Cuffey, C. A., & Lutz, A. B. 1994.** Autecology of *Derbyia* (Brachiopoda) in shell beds; Wreford Megacyclothem (Lower Permian), south-central Kansas. *Geological Society of America, Abstracts with Programs*, 26(5): 11.
- Cuffey, C. A. 1994.** *Gypidula* (Brachiopoda)-dominated taphofacies; New Creek Limestone (Lower Devonian); central Pennsylvania. *Geological Society of America, Abstracts with Programs*, 26(3): 12.
- Cuffey, C. A. 1994.** Paleoecologic and evolutionary significance of intraspecific morphologic variability in *Mesolobus obsoletus* (Brachiopoda) from the Middle Pennsylvanian of south-central Oklahoma. *Geological Society of America, Abstracts with Programs*, 26(3): 12-13.
- Cuffey, C. A., & Lembcke, J. T. 1993.** Reinterpretation of bioherms as submarine channels, San Andres Formation and Cherry Canyon Tongue (Upper Leonardian and Lower Guadalupian, Permian), Brokeoff and Guadalupe Mountains, southeastern New Mexico. *New Mexico Geology* 15(2): 25-32, 44.
- Cuffey, C. A. 1993.** Convergent constructional morphology among articulate brachiopods. *Geological Society of America, Abstracts with Programs*, 25(6): 54.
- Robb, A. J., & Cuffey, C. A. 1993.** Subaerial exposure features associated with shoaling facies in the Ozawkie Limestone; the "lower" limestone of a Shawnee Group (Upper Pennsylvanian) megacyclothem, northeastern Kansas. *Geological Society of America, Abstracts with Programs*, 25(6): 162.
- Cuffey, C. A. 1993.** Preliminary note on lytoniid and richthofeniid brachiopods from the upper Leonardian and lower Guadalupian (Permian) of southeastern New Mexico. *Geological Society of America, Abstracts with Programs*, 25(3): 15.
- Cuffey, C. A., Robb, A. J., Lembcke, J. T., & Cuffey, R. J. 1993.** Bryozoans as epizoans on *Meristella atoka* (Brachiopoda, Athyridacea) from the Haragan Formation (Lower Devonian), south-central Oklahoma. *Geological Society of America, Abstracts with Programs*, 25(3): 14-15.
- Cuffey, C. A. 1993.** *Athyris angelica* (Brachiopoda) in the Catskill Formation (Upper Devonian) near Altoona, Pennsylvania; implications for the Frasnian-Famennian boundary position. *Geological Society of America, Abstracts with Programs*, 25(2), 10-11.

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- Cuffey, C. A. 1992.** Comparative skeletal morphology of the Richthofeniacea (Brachiopoda) and Hippuritacea (Pelecypoda). Geological Society of America, Abstracts with Programs, 24(7), 97-98.
- Cuffey, C. A. 1992.** Morphology and evolution of *Neochonetes* and *Mesolobus* (chonetid brachiopods), lower Middle Pennsylvanian, Ardmore Basin (south-central Oklahoma). Geological Society of America, Abstracts with Programs, 24(1): 8-9.
- Billingsley, P. C., Banergee, S., **Cuffey, C. A.**, Elmore, R. D., & Sutherland, P. K. **1992.** Tidal influence on depositional sequences within the lower Deese Group (Pennsylvanian, Desmoinesian series) in the Ardmore Basin. Geological Society of America, Abstracts with Programs, 24(1): 3.
- Duke, W. L., Prave, A. R., Al-Hajri, S., **Cuffey, C. A.**, et al. **1991.** Storm- and tide-influenced prograding shoreline sequences in the Middle Devonian Mahantango Formation, Pennsylvania. *in*: Smith, D. G., ed., Clastic tidal sedimentology, Canadian Society of Petroleum Geologists Memoir 16: 349-369.
- Sutherland, P. K., & **Cuffey, C. A. 1991.** Probable ancestor to Permian richthofenid brachiopods in Early Pennsylvanian (Morrowan) Joliff Formation of southern Oklahoma. Geological Society of America, Abstracts with Programs, 23(6): 167.
- Robb, A. J., & **Cuffey, C. A. 1989.** Fossil fish locality in the Catskill Formation (Upper Devonian) near Port Matilda, Centre County, Pennsylvania. *Pennsylvania Geology*, 20(6): 2-8.
- Cuffey, C. A. 1989.** Lower Devonian lithofacies, formation, and members in central Pennsylvania and vicinity. Geological Society of America, Abstracts with Programs, 21(2): 10.
- Cuffey, C. A. 1988.** Brachiopod paleoecology of the Lowermost Devonian New Creek Limestone at Altoona in central Pennsylvania. Geological Society of America, Abstracts with Programs, 20(5): 341.