

**DAVE O. COX, M.S., P.E.**

**QUALIFICATIONS SUMMARY**

Twenty-five plus years of diverse experience in well testing, enhanced oil recovery, unconventional and low permeability reservoirs, and property evaluations.

- Coalbed methane
- Oil and gas property evaluation
- Well testing
- Reservoir engineering
- Reservoir simulation
- Adjunct professor, Colorado School of Mines
- Short course instructor
- Author of more than 35 technical papers

**PROFESSIONAL EXPERIENCE**

Numerous assignments in a broad range of settings, covering 31 states of the US and 20 other countries. Organized and taught industry short courses on Coalbed Methane, Tight Gas Sands, Type Curve Methods, and Thermal Recovery. Experience in conventional and unconventional oil recovery includes primary recovery, waterflooding, gas flooding, carbon dioxide flooding, steam soak and drive methods, *in-situ* combustion, tar sands and oil shale. Gas reservoir experience includes dry gas reservoirs, overpressured gas reservoirs, gas condensate fields, low permeability and unconventional coal and shale reservoirs. Has testified on numerous occasions as a Coalbed Methane expert at Oil and Gas Commission hearings.

**1997-Present: Questa Engineering Corporation, Golden, Colorado; Vice President of Reservoir Engineering**

Projects included:

- Project manager on the 3M Coalbed Methane Project, involving simulating all CBM wells on the Colorado portion of the San Juan Basin
- CBM evaluation projects in San Juan, Powder River, Raton, and Sand Wash Basins
- Short courses:
  - Produced water in the oil and gas industry
  - Coalbed methane reservoir engineering
  - Maximizing coalbed methane asset value
  - Tight gas production in the Green River Basin.

**1991-Present: Colorado School of Mines, Golden, Colorado; Adjunct Professor of Petroleum Engineering**

- Classes Taught:
  - Coalbed Methane
  - Waterflooding
  - Graduate and Undergraduate Well Testing
  - Reservoir Studies
  - Unsteady Flow Problems In Porous Media
  - Advanced Decline Curve Analysis.

BEFORE THE  
OIL CONSERVATION DIVISION  
Case No. 12734 Exhibit No. C/  
Submitted By:  
*Richardson Operating Company*  
Hearing Date: November 11, 2001

**1992-1997: Advanced Resources International, Inc., Lakewood, Colorado, Vice President of Reservoir Engineering and other positions**

Projects included:

- Prepared reservoir performance models to analyze production of 10,000 natural gas fields in the US
- Analyzed more than 200 CBM well tests
- Simulated coalbed methane reservoir performance for more than 50 projects in San Juan, Warrior, and Appalachian Basins
- Analysis of gas seepage from coal beds
- Short courses on petroleum reservoir engineering, well testing, tight gas sands, coalbed methane, and gas shales.

**1990-1991: Cox Engineering Corporation, Golden, Colorado, President and Owner**

- A short course on type curve analysis of fractured wells
- Evaluation of CBM properties in San Juan Basin
- Directional planning for a thirty-well urban drilling program in California
- Reserves analysis of a 25 MMcfd gas field in the Arkoma basin, Oklahoma
- Testified at lawsuits and hearings in California, Texas and Nebraska.

**1984-1989: ANGUS Petroleum Corporation, Golden, Colorado, Vice President, Engineering and other positions**

- VP of the independent oil production affiliate of Pacific Gas & Electric Company (the largest public utility in the US)
- Responsible for acquisitions, engineering, development and reservoir management
- Evaluated CBM properties containing more than 4 Tcf of gas in place
- Evaluated 300 properties in Texas, the Rockies and California, leading to offers for over \$100 million of producing properties
- ANGUS operated 400 wells in 8 fields in California, Colorado and Texas.

**1981-1994: E&P Petroleum Consultants, Inc., Denver, Colorado, Vice President**

- Prepared and presented a short course on thermal recovery
- Provided all engineering services for a 46,000-acre Raton Basin coalbed methane leasehold
- Analyzed coalbed methane projects in the Raton, Piceance and Warrior Basins
- Determined the impact of oil shale mining on the Natural Buttes gas field.

**1975-1980: Energy Consulting Associates, Inc., Denver, Colorado, Manager of Reservoir Engineering and other positions**

- Evaluated primary and secondary operations in oil fields in Texas, Wyoming, Oklahoma, Colorado, North Dakota, Montana and California
- Prepared field studies of tight gas wells and Devonian Shale wells for the Department of Energy
- Prepared geology and reservoir engineering sections of a basic petroleum technology course presented to over 20,000 people
- Performed hydrologic modeling, well testing and permit applications for mine dewatering and water disposal for oil shale projects.

## EDUCATION

1977: MS Petroleum Engineering, Colorado School of Mines

1974: BS Petroleum Engineering, Colorado School of Mines

## PROFESSIONAL SOCIETIES

Society of Petroleum Engineers of AIME

Society of Petroleum Evaluation Engineers

Colorado Registered Professional Engineer No. 17831

Society of Professional Well Log Analysts

## CBM-RELATED PUBLICATIONS

Cox, D., Onsager, P., Thomson, J., Reinke, R., Gianinny, G., Vliss, C., Hughes, J., and Janowiak, M., "San Juan Basin Ground Water Modeling Study: Ground Water – Surface Water Interactions Between Fruitland Coalbed Methane Development and Rivers", Prepared for the Groundwater Protection Research Foundation, Oct., 2001.

"Maximizing CBM Asset Value", a One-Day Seminar presented by Questa Engineering Corporation, Golden, Colorado, Oct. 19, 2001.

"Different Viewpoints for CBM Asset Values

"CBM Reservoir Engineering", a Two-Day Seminar presented by Questa Engineering Corporation, Golden, Colorado, June 2001.

"Coalbed Methane in the Rockies: Christmas Past, Present and Future", Presented to the Denver Chapter of the Society of Petroleum Evaluation Engineers, Jan. 10, 2001.

"The 3M CBM Final Report, Volume I: Analysis and Results", Prepared for the Southern Ute Indian Tribe, the Colorado Oil and Gas Conservation Commission, and the U.S. Bureau of Land Management, Dec. 14, 2000.

"3M CBM Model Status and Future Runs", Presented to the 3M Technical Peer Review Team, July 25, 2000.

"3M CBM Model Seepage and Infill Results", Presented to the Colorado Oil and Gas Conservation Commission, June 5, 2000.

"3M CBM Model Supplemental Information", Prepared for the 3M Technical Peer Review Team, June 5, 2000.

"Aquifer Recharge Issues in the Basin: Will the Water Come Back? An Investigation of What Will Happen after Coalbed Methane Production in the Powder River Basin," presented at the CBM Fair II, Sheridan Wyoming, Nov. 19-20, 1999.

"Updated Information Regarding Gas Seepage in the Pine River Area, La Plata County, Colorado," a Presentation prepared for the Colorado Oil and Gas Conservation Commission, October 1998.

"Options to Reduce Gas Seepage in the Pine River Area, La Plata County, Colorado," a Presentation prepared for the Colorado Oil and Gas Conservation Commission, Sep. 3, 1996.

"Gas Seepage in the Pine River Area, La Plata County, Colorado," a Presentation prepared for the Colorado Oil and Gas Conservation Commission, May 21, 1996.

"Gas Seepage in the Pine River Area, Colorado," prepared for the Pine River Fruitland Coal Investigative Team, Nov. 1994.

"Well Testing in Coalbed Methane (CBM) Wells: An Environmental Remediation Case History," SPE Paper No. 30578, SPE Annual Technical Conference, Dallas, Texas, Oct. 22-25, 1993. (Co-author)

"Coal Seam Water Production Disposal, San Juan Basin," in *Quarterly Review of Methane from Coal Seams Technology*: 11(2), Dec. 1993.

"Water Disposal from Coalbed Methane Wells in the San Juan Basin," SPE 26384, 1993 SPE Annual Technical Conference, Houston, Texas, Oct. 3-6, 1993. (Co-author)

*Analysis of Fruitland Water Production, Treatment and Disposal, San Juan Basin*, Topical Report, Prepared for the Gas Research Institute, Report No. 93/0288, June 1993. (Co-author)

"Analysis of Fruitland Water Production, Treatment, and Disposal, San Juan Basin," Coalbed Methane Forum, Denver, Colo., June 1993.

"A Modeler's View of Critical Coalbed Methane Reservoir Parameters," Natural Gas Supply Project Advisor Group Meeting: Coalbed Methane Project Area, Colorado Springs, Colo., Sep. 1992.