



Colorado School of Mines  
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Web site: <http://www.mines.edu/Research/>

## ***Reservoir Characterization Project (RCP)***

The Reservoir Characterization Project (RCP) researches and develops new multicomponent time-lapse (4-D) seismic technology to reservoir characterization. Dynamically characterizing reservoirs by seismically monitoring the rock/fluid interaction over time is key to improved recovery.

### ***Background:***

- Created 1985
- Operates in multi-year research phases
- Phase VIII of the industry-sponsored research project began in July 1999
- Currently attracts \$1,000,000 annually in research
- Includes 25 national and international sponsors

### ***Areas of Expertise:***

- Multicomponent 4-D seismology
- Integrated flow modeling

### ***Sponsorship Benefits:***

- Cost effective, collaborative research
- Industry/university interaction and liaison

### ***Method of Technology Transfer:***

- Two sponsored meetings per year held at CSM
- Detailed research reports to sponsors
- Student theses
- Visits to sponsors by RCP personnel and vice versa
- Presentations and professional meetings
- Visiting scholar interchange
- Web site: <http://www.mines.edu/academic/geophysics/rcp>

### ***Spin-offs / Contributions:***

- Interdisciplinary research and education at a practical level
- State-of-the-art research fosters industry/university interaction
- Patents and royalty-free licenses to sponsors
- Forum to present additional issues of industry focus
- Promotes discussions and interactions among students, faculty and industry

### ***Accomplishments:***

- The Reservoir Characterization Project has completed over \$10 million of sponsored research in the past 15 years. During this time, RCP has led the industry in 3-D and 4-D, multicomponent seismic technologies and interdisciplinary reservoir characterization. RCP collected the first 3-D, 3-C seismic survey (Silo field), the first 3-D, 3-C seismic survey in Canada (Joffre field), the first land 4-D, 3-C seismic survey (Vacuum field), and currently is conducting the first 4-D, 3-C seismic survey in Canada (Weyburn field).
- Approximately 60 graduate students from Geophysics, Geology and Petroleum Engineering have completed theses based on the research of RCP. A list of theses and summary of field studies is available on our web site:  
<http://www.mines.edu/academic/geophysics/rcp>

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