

UNCONVENTIONAL RESERVOIR ENGINEERING PROJECT Colorado School of Mines



UREP Spring 2017 Advisory Board Meeting

CSM DOE PROPOSAL FOR LARGE SCALE EXPERIMENTAL FACILITY

Erdal Ozkan



UNCONVENTIONAL RESERVOIR ENGINEERING PROJECT

Advisory Board Meeting, Nov. 3, 2017, Golden, Colorado

CSM DOE Proposal

U. S. Department of Energy

Office of Fossil Energy

National Energy Technology Laboratory

"Advanced Technology Solutions for Unconventional Oil & Gas

Development"

Funding Opportunity Number: DE-FOA-0001722

Announcement Type: Initial

CFDA Number: 81.089 Fossil Energy Research and Development

Issue Date: 06/21/2017

Application Due Date: 08/15/2017 at 8:00:00 PM Eastern Time



CSM DOE Proposal

Primary Topic Areas

- 1. Technology Validation Using Field Laboratories
- 2. Advancement in Subsurface Diagnostics
- 3. Offshore Spill and Leak Prevention



3

CSM DOE Proposal

RESEARCH PROPOSAL DE-FOA-0001722

Topic Area 1: Technology Validation using Field Laboratories

Title:

Surface/Subsurface Field Laboratory for Unconventional Oil and Gas Reservoir Technologies

> Applicant: Colorado School of Mines 1500 Illinois Street Golden, CO 80401



CSM DOE Proposal

Technical Point of Contact:

Jennifer L. Miskimins, Petroleum Eng. Department, CSM

Co-Investigators:

CSM

Petroleum Eng.: Luis Zerpa, Alfred Eustes, Erdal Ozkan, Hossein Kazemi, Xiaolong Yin, Yu-Shu Wu, Jorge Sampaio, Manika Prasad, Azra Tutuncu, and Elio Dean,

Mining Eng.: Jürgen Brune

Geophysics: Ali Tura and Whitney Trainor-Guitton Geology and Geological Eng.: Gabriel Walton

Los Alamos National Laboratory: Rajesh Pawar and Bill Carey,



5

CSM DOE Proposal

Technical Point of Contact:

Jennifer L. Miskimins, Petroleum Eng. Department, CSM

Co-Investigators:

CSM

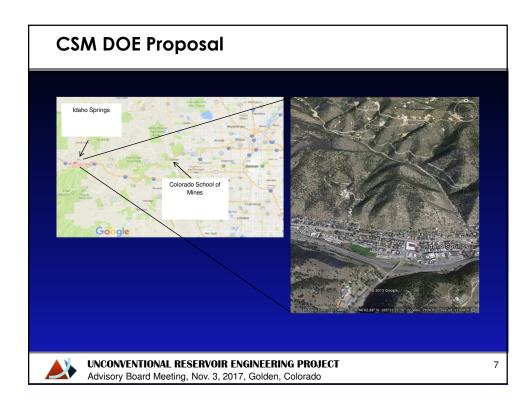
Petroleum Eng.: Luis Zerpa, Alfred Eustes, Erdal Ozkan, Hossein Kazemi, Xiaolong Yin, Yu-Shu Wu, Jorge Sampaio, Manika Prasad, Azra Tutuncu, and Elio Dean,

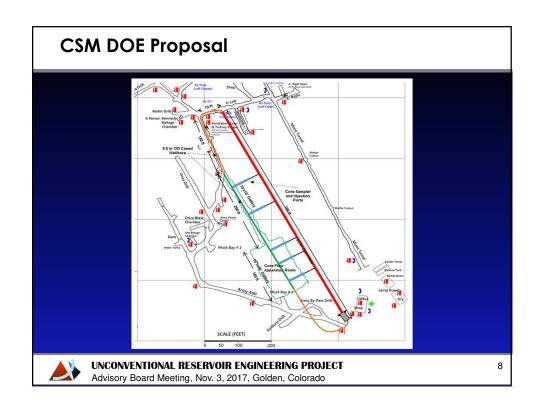
Mining Eng.: Jürgen Brune

Geophysics: Ali Tura and Whitney Trainor-Guitton Geology and Geological Eng.: Gabriel Walton

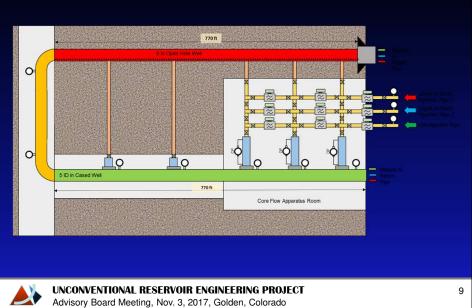
Los Alamos National Laboratory: Rajesh Pawar and Bill Carey,







CSM DOE Proposal



CSM DOE Proposal

- Fiber-optic measurement and benchmarking
- Horizontal well production and liquid loading behaviors
- Proppant transport and flowback
- Fluid/rock interactions
- Well flowback and clean-up behavior
- · Artificial lift and choke behavior
- Effectiveness of EOR/IOR methods
- Flow assurance
- Modeling efforts