



REQUEST FOR PROPOSALS

MOWRY SHALE

ISSUED BY THE UW SCHOOL OF ENERGY RESOURCES

Proposals are due August 1, 2022
Selected projects will be notified by
August 15, 2022

The School of Energy Resources (SER) is focused on energy-driven economic development for Wyoming. Wyoming produces more than 80 million barrels of crude oil and nearly 1.4 trillion cubic feet of natural gas. The Mowry Shale is the largest hydrocarbon source for Lower Cretaceous petroleum systems in the Powder River Basin (PRB). In 2009 the USGS estimated that 116–307 million barrels of undiscovered oil and gas reserves lie in the Mowry Petroleum System in the PRB. However, the Mowry Petroleum System has only rarely been a direct focus of unconventional oil and gas exploration and production. The Mowry is geochemically and geomechanically complex which has led to hydraulic fracture failures, low energy drives, and variable oil and water saturations. Increased understanding of the reservoir should optimize production and improve performance. To that end, SER is seeking proposals in two areas of interest (AOI) with the primary goal of reducing uncertainty and increasing productivity of the Mowry Petroleum System.

TOPICS OF INTEREST:

High priority projects will be selected in two areas of interest:

- **AOI 1: Shale fundamental studies:** Fundamental studies including physics-based models and experimentation to advance the geomechanical and geochemical understanding of the Mowry Shale relative to production or performance.
- **AOI 2: Machine learning and artificial intelligence:** Data driven approaches that aim to draw meaningful insights from large data sets which can inform meaningful decision making in real-time to improve Mowry wells.

HOW TO APPLY:

Submit a 3 page (max) proposal that includes:

- Principal Investigator, college/department affiliation, and expertise
- Description of proposed research
- Explanation of how the research will grow or diversify Wyoming's energy sector
- How funds will be spent
- Email the proposal and questions to Scott Quillinan, Sr. Director of Research (scottyq@uwyo.edu), with the subject "Mowry Shale Proposal"

TIMELINE:

- Proposals are due August 1, 2022
- Selected projects will be notified by August 15, 2022
- Project duration September 1, 2022 to June 1, 2023

EXPECTED DELIVERABLES:

- Quarterly progress reports (1 page)
- Presentation and project progress and status and submittal of presentation file (pdf. Or ppt.) by December 15, 2022
- Final report by June 30, 2023 (10 pages or less)

FUNDING OPPORTUNITY:

- \$50,000 to \$150,000 anticipated award size
- Funds can be used for research purposes, including
 - Graduate student support
 - Undergraduate student support
 - Research equipment, consumables, and other needs for the proposed research
 - Faculty summer salary (maximum one month per fiscal year)
 - Travel
- All funds must be expended by June 30, 2023
- It is expected that up to 5 projects will be awarded, subject to the availability of funding.