



v. Public Summary

Development of the Mowry Total Petroleum System

The Mowry Shale Formation, which underlies much of Wyoming, represents one of the state's most significant yet underdeveloped oil and gas resources. Although it has long served as a key source rock for several productive fields, the Mowry's potential as an unconventional reservoir remains largely unrealized due to its geological complexity and drilling challenges. Understanding this resource is critical to Wyoming's energy security, economic resilience, and workforce opportunities.

This proposal seeks Wyoming Energy Authority – Energy Matching Funds to support the project “Advanced Characterization and Development of the Mowry Total Petroleum System,” a collaboration between the University of Wyoming School of Energy Resources and Continental Resources, Inc. The project is designed to reduce subsurface uncertainty and directly support Continental Resources' long-term development strategy in the Powder River Basin by generating the data and analytical tools needed to inform drilling, completion, and spacing decisions in the Mowry Shale. By integrating new field data, advanced laboratory testing, and digital modeling, the project will advance technical understanding of the Mowry and de-risk future development.

The project includes full core recovery and well stimulation testing from a new production well, paired with a comprehensive suite of wireline logs. These data will be analyzed at the University of Wyoming's new Multidisciplinary Advanced Stimulation Laboratory, where researchers will conduct detailed geomechanical testing, reservoir characterization, pore-scale facies analyses, and fluid compatibility studies. These efforts will directly inform drilling, completion, and well-spacing strategies.

In addition, the project will develop rapid-response analytical workflows and artificial intelligence/machine learning-enabled digital twin models to support evaluation of Mowry reservoir behavior during drilling and early development. These tools will reduce subsurface uncertainty, support Continental Resources' development plans in the Powder River Basin, and provide an actionable foundation for expanded Mowry development. This foundation will help attract investment and unlock resources estimated to include hundreds of millions of barrels of oil and tens of trillions of cubic feet of gas, while supporting future severance tax revenue, local economies, and a secure domestic energy supply.

This effort draws on Wyoming's long tradition of responsible resource development and the generations of people who have approached the land with resilience, ingenuity, and a strong sense of stewardship. That same spirit guides Wyoming's energy innovation today, advancing a key state resource through academic–industry collaboration grounded in applied science. The project will also invest directly in Wyoming communities through education, training, and workforce development, and by providing students with hands-on experience in field operations, laboratory methods, and digital technologies. Together, these outcomes expand economic opportunity and reinforce Wyoming's leadership in responsible resource development.

