

AMBER N. RIVERA

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EDUCATION

M.S. Geology Aug 2023-Aug 2025

University of Wyoming - Laramie, Wyoming

Thesis: Biomarker analyses of the Mowry Shale: Assessing paleoenvironmental conditions impacting organic matter in the Powder River Basin

- American Association of Petroleum Geologists - Weimer Family Grant recipient

B.S. Geology Aug 2020-Aug 2023

New Mexico State University - Las Cruces, New Mexico

- Crimson Scholar, Dean's List, Hagan Scholarship recipient

WORK EXPERIENCE

Graduate Research Assistant Aug 2023-Aug 2025

University of Wyoming - Department of Geology and Geophysics

- Developed lab methods to break down shale rock for lipid biomarker extraction
- Analyzed, integrated, and interpreted GC-MS biomarker data of the Mowry Shale to understand the thermal maturity, organic matter sources, and depositional redox conditions promoting organic matter content of the formation in the Powder River Basin
- Trained and assisted fellow graduate students with laboratory methods and safety procedures

Undergraduate Research Assistant Aug 2021-Dec 2022

New Mexico State University - Undergraduate Research Program

- Collaborated with team of engineers to source rock formations in New Mexico suitable produce artificial lunar regolith by utilizing thin section cutting and analysis

Student Aid Aug 2020-May 2021

New Mexico State University - Health and Social Services Department

- Organized and converted hard data files to an online format

SCIENCE COMMUNICATION AND LEADERSHIP

Publication - Rivera, A., McFarlin, J., and Jackson, L., 2025, Biomarker Analyses of Wyoming's Mowry Shale: Assessing Dynamic Environmental Conditions During a Restricted Anoxic Event: Geological Society of America Abstracts with Programs, Vol. 57, No. 5, doi: 10.1130/abs/2025RM-410245

- Poster presentation at the Geological Society of America's Rocky Mountain section meeting

Publication - Rivera, A., 2025, Biomarker Analyses of the Mowry Shale: Assessing Paleoenvironmental Conditions Impacting Organic Matter in the Powder River Basin, Master's thesis, University of Wyoming.

Graduate Teaching Assistant Aug 2023-Dec 2023

Field geology (GEOL-2080) Teaching Assistant - University of Wyoming

- Trained students in geologic mapping, rock identification, stratigraphic analysis, and section measurement projects in the field
- Was responsible for student safety and success at field sites around Wyoming

SKILLS

Expertise- Organic geochemistry, stable isotopes, fieldwork including sampling and mapping

Software/Programming- Microsoft Office Suite, R, Adobe Illustrator

Analytical- Wet geochemistry, solvent lipid extraction, GC-MS, lab safety and hygiene protocol

Writing- Ability to deliver concise, organized technical reports in a timely manner

Verbal- Presentation of research works to both technical and non-technical audiences

Data management- Quality assessment, analysis, and organization of samples and resulting data

Trainings- Cased Hole Evaluation-Denver Well Logging Society; NM Tech Mineral and Fluids Camp

Relevant Coursework- Environmental data analysis, R data visualization, Geochemistry of natural waters