Brianna Crenshaw

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INTERESTS

Geologist with 5 years of professional experience in the mining and oil and gas industries. Comfortable interpreting wide varieties of geologic, geochemical, and geophysical data in the context of economic geology, with experience in 3D modeling and very strong GIS skills.

EXPERIENCE

● **Exploration and Project Geologist – American Rare Earths Ltd.** 12/2021- 12/2023
Supervisor: Dwight Kinnes (dkinnes@americanree.com)
North American Project Acquisitions
Combining geologic interpretations with investigative skills and networking strategies to identify and procure new rare earth projects.
La Paz Scandium Project in Western Arizona
Serving as the lead Geologist for an on-going project in the Sonoran desert referred to as *La Paz*, which has required conducting several sampling, mapping, and drilling campaigns.

● **Consulting Geoscientist – Corridor Oil and Gas** 6/2021- 8/2021
Supervisor: Jeff Lund (jeff.lund@corridoroilandgas.com)
Assessing the potential and economic viability for new Eagle Ford wells in South Texas
Assessed the strategic efficiency and quality of past horizontal wells and then provided recommendations for potential new wells using drilling, permitting, lease, and production data.

● **Exploration Geologist – Zavanna LLC** 9/2020- 1/2021
Supervisor: Mitch Meyer (mmeyer@zavanna.com)
Interpreting geophysical data and exploring for natural gas reservoirs in the Wind River Basin, Wyoming
Interpreted a large cache of well log and geophysical data for the Wind River Basin in order to characterize the field geologically and then subsequently make suggestions for potential new natural gas wells.

● **Geoscience Intern - SM Energy** 5/2020- 8/2020
Supervisor: Kate Hartig (khartig@sm-energy.com)
Building an AI model to optimize horizontal drilling in the Midland Basin
Collaborated with the machine learning team to build an AI model which utilizes seismic data to predict drilling speeds, which helped avoid encountering drilling problems in areas with no data and aided in the optimization of the well placements.
Asset-wide database integration
Integrated together all the data across the asset into a single database in order to create a multidimensional tool capable of identifying statistical trends which could help optimize operations by cross referencing the drilling, completions, production, geomodel, seismic, and well log data.

● **Metamorphic Petrology Research - Univ. of Montana** 8/2018- 5/2021
Advisor: Dr. Julia Baldwin (jbaldwin@mso.umt.edu)
Petrogenesis and tectonics of cordierite-gedrite-anthophyllite gneisses from the NW Wyoming Province
Master's project studying a poorly understood type of gneiss with enigmatic chemistry that was ultimately hypothesized to represent 3-billion-year-old deep sea smokers which recorded the tectonics that lead to the assimilation of the geologic core of North America. Utilized bulk and trace element geochemical analyses (XRF, ICP-MS), SEM-EDS analyses, thermodynamic modelling, and detailed petrography on samples gathered from different mountain ranges across SW Montana.

● **Researcher and Lab Tech - Sedimentology & Coastal Studies Institute (LSU)** 4/2015- 5/2018

Advisor: Dr. Samuel Bentley (sjb@lsu.edu)

Barataria Basin Project

Undergraduate thesis funded by USGS studying the Barataria Basin area of southern Louisiana. I used radioisotope geochronology, grain size analysis, push-coring, and Loss-on-ignition to characterize the accretion and subsidence rates across the basin, with a more specified interest in the role that hurricanes play in replenishing sediment supply to coastal wetlands and how this relates to global sea level rise.

Investigating the impacts of Deep Water Horizon, Gulf of Mexico

Worked on a short-term project funded by the Naval Research Laboratory and the Bureau of Ocean Energy Management to analyze the extent of hydrocarbon contamination caused by the Deep Water Horizon oil spill in 2010. The more specific goal was to quantify any impacts it had on the sediment dynamics located around sunken WWII ships, which are known to host a variety of deep marine life. I calculated the sedimentation rates on provided core samples by using radioisotope geochronology.

Drowned Ancient Bald Cypress Forest Project

Assisted on a multifaceted research project investigating an ancient (>50 ka), underwater bald cypress forest that was exposed in 2015 off the coast of Orange Beach, Alabama. Utilized a variety of marine geophysical equipment to create bathymetric surveys of the forest, then vibra-cored to collect sediment samples around the tree stumps in order to use the stratigraphy to gain a better understanding of how the forest was preserved.

MISC. EXPERIENCE

- *AAPG Imperial Barrell Awards (2020)*
  Cross referenced 3-D and 2-D seismic surveys with well log data to explore for hydrocarbon potential in the Ayoluengo field of northern Spain.
- *Co-taught Mineralogy (2018, 2019) and Introductory Geology (2019, 2020)*
- *Seismic Reflection Course (2019)*
  Interpreted 3-D seismic data and the influence of salt tectonics on an offshore asset in the Gulf of Mexico known as the Magnolia asset.
- *ExxonMobil Deepwater Reservoir Characterization Short Course (2018)*
  Constructed a basic geomodel examing the hydrocarbon potential and simulating reservoir production in the Capistrano Formation of southern California.
- *Volcanic Reconstruction of Taos Plateau, NM (2016)*
  Utilized electronmicroprobe (EMPA) geochemical analysis and petrography to interpret the geologic history of cyclic magmatism and uplifting at Taos Plateau, New Mexico.
- *Analysis of Gneisses from Quad Creek Plateau in the Beartooth Mountains (2016)*
  Derived the thermal and barometric conditions of deformation in the Beartooth Mountains using radiometric dating, bulk geochemical analyses (EMPA), cathodoluminescence imaging, and petrography.
- *Baker Hughes Borehole Seismic short course (2016)*
  Participated in a short course focused on the geophysics behind borehole seismic surveys and how they link time-based surface seismic measurements with depth-based well logs.

EDUCATION

M.S. Geoscience, University of Montana (2018 -2021)
  Overall GPA: **3.65**

B. S. Geolo,gy and Geophysics, LLouisiana State University (2014-2018)
  Major GPA: **3.8**
  Overall GPA: **3.5**

Computer Experience:
- Python, Matlab, R
- Petrel
- Spotfire
- Arc GIS (ArcGIS Pro)
- Geochemical Data Toolkit
- Leapfrog
- Adobe Illustrator, Photoshop, Acrobat
- Microsoft Suite

Organizations:
- AAPG *(UM Chapter President, Vice President)*
- Houston Geological Society
- New Orleans Geologic Society
- Geological Society of America
- Women in Mining (WIM)