

Education

M.S. Geology and Geophysics, University of Wyoming **2014-2017 (Expected)**
Advisor: Dr. John Kaszuba

B.A Earth and Environmental Science, University of Kentucky **2009-2014**

- **Major:** Geological Sciences, **Minor:** Chemistry
- Major GPA 4.0, Cumulative GPA 3.25

Research

M.S. Research, University of Wyoming, Advisor: Dr. John Kaszuba **June 2014 to Present**

Investigating water-rock interactions with a focus on the impact of ionic strength on hydraulic fracturing fluid use in unconventional reservoirs. Currently analyzing the use of a saline base fluid for hydraulic fracturing in the Frontier Formation taken from the Powder River Basin, Wyoming. Experimental interests include dissolution kinetics, generation of/effect of ionic strength on swelling clays, and formation damage/permeability changes. Recent experiments use a flexible gold reaction cell and pressure vessel to simulate in-situ conditions for hydraulic fracturing fluid reactions to take place. Geochemical modeling is being done alongside lab experiments using Geochemist's Workbench to develop a better understanding of the reactions taking place and the rates at which they occur. First experiment started August 26, 2014.

Undergraduate Research, University of Kentucky, Advisor: Dr. Michael McGlue **Feb. to May, 2014**

Assisted in using trace element data from lakebed samples to construct graphical paleo-environments with hopes to better understand weathering and material transport in the area of study. Prepared samples collected from study area for XRF and XRD analysis using high temperature lab equipment and heavy machinery. Used X-ray diffraction equipment to determine chemical composition of various sands and compile data for better interpretation.

Relevant Work Experience

Lab Technician, SGS Minerals **Summer and Winter, 2010-2014**

Worked in an on-site chemistry lab for Armstrong Coal Company to provide coal quality data daily to mine foremen and supervisors. Received Experienced Surficial Miner's License and hazard training. Daily job responsibilities included collecting and preparing samples for analysis, operating and servicing various lab equipment (calorimeters, sulfur analyzers, ash/moisture ovens), preparing short-proxy reports for mine foremen and supervisors, and driving and maintaining company vehicles on mine property.

Student Assistant, Kentucky Geologic Survey **Spring and Fall, 2013**

Used Microsoft Access to compile, sort, and manage coal quality data for the entire state of Kentucky with the goal of making a complete mining record and coal quality database for public use. Used gamma ray and resistivity logs from various statewide sources to identify stratigraphic correlations and improve the geologic understanding of coal beds in Kentucky.

Skills

Experience in automotive restoration/repair/fabrication