

Kyle J. Lilly

Department of Ecosystem Science and Management

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Education

Master of Science: University of Wyoming (UW), Laramie, WY Anticipated: May 2012

Major: **Soil Science/Water Resources**

Thesis title: Assessing isotopic and chemical compositional changes of coalbed natural gas co-produced water when interacting with soils over time

GPA: 4.00/4.00

Bachelor of Arts: Luther College, Decorah, IA 2009

Major: **Chemistry**

GPA: 3.44/4.00

Skills and Qualifications

Environmental: soil and water sampling, soil particle size distribution, soil bulk density, soil moisture, cation exchange capacity, tension infiltration, double ring infiltration, microbial DNA isolation, microbial biomass determination, PLFA analysis, soil and water pH, EC, stable isotope, and elemental analysis

Quality Control: H¹NMR, IR, WAVE DNA System, Karl Fisher Titrator, Cary UV/VIS spectrophotometer, diode array, HPLC, calorimeter, pH, EC

Air Quality: particle size distribution measurements using condensation particle counters, scanning mobility particle sizers, differential mobility analyzers

Computer Skills: Word, Excel, PowerPoint, Great Plains, Statistical Analysis Software (SAS), Berkeley Madonna, ChemDraw, Maple, Basic ArcGIS

Teaching: experienced with bringing hands on science lessons to students in upper elementary to undergraduate levels, topics: chemistry, water quality, soil science, and general environmental science

Employment History and Leadership

Graduate Assistant, Renewable Resources Department, UW 2009-Present

- Teaching: introduction to soil science laboratory sections, soil genesis, classification, and morphology field trips
- Research: field and laboratory investigation of coal bed natural gas co-produced water and its effects on salinity and sodicity in Wyoming soils.

President, Restoration Outreach and Research Club Present

- UW student chapter affiliate of the American Society of Mining and Reclamation
- Over 40 members
- Organize local land restoration projects
- Sponsored a film series based on land restoration projects and issues

Graduate Fellow, National Science Foundation, UW Science Posse 2010-2011

- Taught science lessons that brought my research to 5th -12th grade classrooms around the state to schools that requested the Science Posse
- Organized and taught summer science camps
- Led sessions for teacher professional development workshops
- Attended the Institute for Inquiry's Fundamentals of Inquiry workshop in San Francisco and the NSF's GK-12 meeting in Washington D.C.

Lift Operator, Aspen Skiing Company, Aspen, CO Winter 2009

- Operated bottom station lifts at all six lifts on Aspen Highlands mountain

Research Assistant, Department of Chemistry, Luther College 2008-2009

- Evaluation of template-directed synthesis and metal-organic frameworks in collaboration with Professor Leonard MacGillivray's University of Iowa group

Laboratory Assistant, Department of Chemistry, Luther College 2007-2009

- Organic chemistry, honor's chemistry, chemistry and crime, and analytical chemistry sections

Chair, Luther College Honor Council 2008-2009

- Ensured the integrity of the Luther College Academic Honor System
- Supervised meetings and reviewed each individual case

Research Intern, Chemical Engineering Department, University of Iowa Summer 2008

- Designed, installed, and ran instruments measuring atmospheric ultrafine particles
- Presented findings at 43rd American Chemical Society Regional Meeting

Biotech Production Technician, Transgenomic, Omaha, NE Summer 2007

- Worked with laboratory quality group performing quality control on WAVE[®] Optimized[™] buffers and sizing and mutation standards
- Bioconsumables manufacturing team, inventory on Great Plains database, packaging

Grounds man, Coreslab Structures, La Platte, NE Summer 2006

- Operated and performed maintenance on front-end loaders and trucks at concrete plant

Activities and Awards

- Associate Certified Professional Soil Scientist (pending)
- 2010 American Society of Mining and Reclamation research grant recipient
- Department of Renewable Resources, University of Wyoming, Graduate School Assistantship, 2009-2011
- Member of Renewable Resources Department Graduate Student Club, RenUW
- University of Wyoming Symphony Orchestra
- Luther College Varsity Track and Field, Cross Country, and Concert Band
- Glenwood High School Outstanding Senior Student Award