

# Dawn R. Culley, PhD, P.E.

President, Rhyolite Engineering, Inc.

*Excellence is never an accident; it is the result of high intention, sincere effort, intelligent direction, skillful execution, and the vision to see obstacles as opportunities.*



## RÉSUMÉ

### EXPERIENCE SUMMARY

I have 18 years of experience as an engineer, technical writer, and assistant project manager supporting interdisciplinary teams with participants of all levels of experience and education. I work collaboratively with technical and non-technical project team members to translate ideas into comprehensive and compelling documents and presentations in compliance with engineering specifications. My expertise is in listening to the issues, gathering and analyzing relevant data and regulatory requirements, and presenting efficient solutions through well-written documentation and polished presentations.

- **Technical and Engineering Writing:** proposals, work plans, and other deliverables; strategizing and storyboarding the approach; ensuring compliance with specifications; team interviews/collaboration
- **Environmental Permitting and Compliance:** Air Quality (concrete plants, portable generator engines, fugitive dust, and various sized oil and gas facilities), SWPPP, NPDES, water use permits, and P.E. certified Spill Prevention, Control, and Countermeasures (SPCC) plans
- **Project Engineering Support Services:** technical specifications reviews, submittal preparation and tracking, small business subcontracting plans, record & distribute minutes of meetings
- **Estimating and Marketing Services:** strategy development and deployment, bid document preparation and delivery, vendor and subcontractor outreach, highlight sheets & corporate brochures

### EDUCATION/CERTIFICATIONS

- **Licensed Professional Engineer** – State of Colorado # 0043767
- **PhD – Chemical Engineering (Eng. Physics minor)**, CO School of Mines, Golden, CO, May 2009
- **B.S. (high honors) – Chem. & Petroleum-Refining Eng.**, CO School of Mines, Golden, CO, June 2000
- **B.S. (high honors) – Chemistry (Environmental Science minor)**, CO School of Mines, Golden, CO, May 2000
- **Construction Quality Management (CQM)**, US Army Corps of Engineers, Omaha District, 2015
- **WBENC/WOSB certified woman-owned small business** (Rhyolite Engineering, Inc.)
- **Leading Edge for Transportation and Construction**, 2018
- **Independent Stewardship for Trails**, Outdoor Stewardship Institute, 2018

### CAREER HIGHLIGHTS

RHYOLITE ENGINEERING, INC.

SEPTEMBER 2013 – PRESENT

*President* - Perform all tasks associated with startup and operations of consulting firm including business licensing, incorporation, insurance, and DBE certification paperwork; accounting (payables, receivables, payroll, and taxes); marketing and website design; manage client relationships; direct corporation towards long-term strategic business goals; mentor junior engineering staff. Perform all permitting, technical writing, research, marketing, and small business contracting plan implementation projects received from clients.

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*Summary of Services Provided to Clients – Project Engineering, Environmental Permitting & Compliance, Document Preparation & Control, Marketing* - Collaborate with project management/engineering staff on the preparation of project submittals (with focus on those requiring significant level of writing and/or environmental components, such as contractor quality control plan, environmental protection plan, storm water management plan, data management plan, Roller Compacted Concrete work plans and materials submittals) and official letters/memoranda. Key participant in project transition process from bidding to active work including coordination with client and subcontractor legal staff to finalize subcontracts. Assist project management teams with quote comparisons and contract negotiation, value engineering proposals, contract modification documentation, and subcontractor management. Prepare proposals and qualifications packages in response to USACE and other government project RFP/SOQ. MBE/WBE vendor solicitation and correspondence tracking. Marketing presentations/brochures.

➤ **Please refer to Project Experience Highlight Sheets for summaries of the following noteworthy projects:**

- USACE Bluestone Dam Safety Assurance Phase IV, Hinton, WV
- USACE Pine Creek Modification of Dam and Outlet Works, Valliant, OK
- Starr County/NRCS Olmitos & Garcias Creeks FRS Site 7 Rehab, Rio Grande City, TX
- USACE Center Hill Reservoir: Auxiliary Dam Reinforcing Berm & Left Rim Stabilization, Lancaster, TN
- USACE Chickamauga Lock Excavation, Chattanooga, TN
- WV DNR Cacapon State Park Rehabilitation of Upper & Lower Dams, Berkeley Springs, WV
- CO Division of Parks & Wildlife, Willow Creek Dam Rehabilitation 2017, Clark, CO
- Pueblo Conservancy District, Arkansas River Levee Improvements Phase IV, Pueblo, CO
- CO Division of Parks & Wildlife, Sylvan Lake Spillway Project, Eagle, CO
- Oklahoma City Water Utilities Trust, Atoka Dam and Spillway Rehabilitation, Atoka, OK
- Palmdale Water District, Littlerock Reservoir Grade Control Construction, Palmdale, CA
- Private Owner/Ames Construction, Silver Basin Reservoir, Morenci, AZ

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COMPLIANCE PARTNERS, INC.

MAY 2001 – JULY 2003 & APRIL 2009 – SEPT. 2016

*Senior Project Engineer (2009-2016); Project Engineer (2001-2003)* – Environmental permitting and compliance for the oil and natural gas industry. Peer review; prepare and certify SPCC plans; Greenhouse Gas applicability analysis and monitoring plan prep; regulatory analyses, air quality construction permit applications, emissions inventories, ambient air impact analysis, forms and technical support documents preparation, initial performance engine testing coordination and oversight, and as-built configuration confirmation. Title V operating permit renewal applications for trunkline compressor stations, including personally conducting component counts for updated fugitive emissions estimates. Designed or audited, implemented, and trained facility personnel on leak detection and repair programs for three facilities. Designed, developed, and provided technical support for a permitting and compliance tracking database. Land use permit application preparation.

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CO SCHOOL OF MINES CHEMICAL ENGINEERING DEPT.

AUGUST 2003 – MAY 2009

*Research Assistant/Teaching Assistant/Substitute Lecturer/Department Representative* – Perform dissertation research and assist with various other thermodynamic property determination projects and/or grant proposals on an as-needed basis. Instructor for CSM101 Freshman Success Seminar. Substitute Lecturer for Mass Transfer, Intro to Thermodynamics, Chemistry I. Teaching assistant/Grader for Catalysis, Kinetics, and Reactor Engineering. Present departmental information to prospective undergraduate students and their parents, prospective graduate students, faculty candidates.

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### ➤ Conference Presentations

- **D. Culley;** J. Ely. (6-2009) Equilibrium and Transport Simulations with a Density-Dependent m-6-8 United Atom Force Field. Seventeenth Symposium on Thermophysical Properties: Boulder, CO.
- **D. Culley;** J. Ely. (8-2-2006) Development of a Universal m-6-8 United Atom Force Field for Accurate Molecular Simulations. Thermo International 2006: Boulder, CO.
- **D. Culley;** J. Ely. (7-28-2006) Development of a Universal m-6-8 United Atom Force Field for Equilibrium and Transport Simulations. FOMMS 2006: Blaine, WA. (Poster)
- **D. Culley;** J. Ely. (4-26-2006) Viscosity and Phase Equilibria Prediction via a Virial-Optimized Site-Site m-6-8 Potential. AIChE: Orlando, FL.
- **D. Culley.** (6-28-2006; **Invited Speaker**) Gifted & Talented Citizens: An Untapped Natural Resource. 2006 Korea-USA Forum for Attracting Gifted/Talented Students into Science & Engineering: Seoul, Korea.

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### KOCH PERFORMANCE ASPHALT COMPANY

JULY 2000 – MAY 2001

*Asphalt Binder/Emulsion Engineer* - QA/QC testing for asphalt binder and asphalt emulsions according to established testing procedures. Ensure safe storage of chemicals, manage laboratory waste to maintain conditionally-exempt generator status, and prepare for AMRL accreditation inspection – including additional documentation to expand accreditation level. Train other facility technicians QA/QC procedures, provide formulations capable of meeting custom product specifications, troubleshoot product failures, design “recycle” schemes to minimize waste associated with such failures. Reformulating Gypseal wax emulsion for change in supplier and investigate product stability issues.

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### CONOCO, INC. – DENVER REFINERY

SUMMER 1999

*Process Engineering Student Intern* -- Asphalt Unit test run & HYSIS model validation, Sour Water Stripper effluent to Tail Gas Unit design, revalidate SWS Unit process technology package for Process Hazards Analysis.

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### NATIONAL RENEWABLE ENERGY LABORATORY

SUMMER 1998

*Student Intern* – Evaluate & classify components of coal-fired power plant effluent streams according to ecological and human health concerns.

- P. Spath; M. Mann; **D. Kerr.** (1999) *Life Cycle Assessment of Coal-fired Power Production.* National Renewable Energy Laboratory: Golden, CO. TP-570-25119. (Published under maiden name)

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### EARTHMOVING MACHINERY, INC.

SUMMERS 1994, 1995, 1997

*Assistant Project Manager/Field Supervisor* - Coordinated field activities and supervised staff for two multi-family housing developments (ten pieces of heavy excavation equipment on each project). Checked grade and provided surveying quality control for various projects including, but not limited to, the Sanctuary Golf Course, Sheridan Blvd widening/lane additions, Ralston Rd widening, and Carpenter Park.

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### DOMINION RESOURCES, INC.

SUMMER 1996

*Assistant Project Manager/Student Intern* - Assist environmental remediation firm with obtaining quotes from subcontractors, preparing project submittals, and tracking project costs.

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### RELEVANT/RECENT VOLUNTEER COMMUNITY SUPPORT

- Wilmore Davis Elementary STEM Days: Mentor intern project engineer in preparation of slide presentations and project instructions for 2 STEM (Science, Technology, Engineering, and Mathematics) days at a Wheat Ridge, Colorado elementary school. Fund and procure all materials for the projects. Provide support on day of projects execution and take photos for school newsletter.
- *Secretary 2018-19* – Wilmore Davis Elementary PTA: Record monthly meeting minutes. Coordinate participation in Farmers 5000; students won 3<sup>rd</sup> place book donation prize for number of participants from an elementary school. Arrange and market five Skate City fundraising events.
- Ecological Restoration at James Peak Wilderness, Rollinsville, Colorado, 7/2018. Pull troublesome Oxeye Daisy weeds to allow native plants to grow and thrive.
- Trail Construction at Mt. Evans Outdoor Education Laboratory School, Evergreen, Colorado, 9/2018. Reroute a trail section that was in desperate need of a new, sustainable design. Create new trail in mountain terrain, close old trail, install rock steps, install check dams.
- *Crew Leader* – Evergreen Garden Trail Construction at Brighton Park, Brighton, Colorado, 9/2018. Construct approximately 600 LF of 42" width crusher fines trail and pull weeds from Evergreen Demonstration Garden.



### HONORS AND AWARDS

- National Science Foundation Graduate Scholarship/2004-05
  - *One of 20 graduate student awards for Colorado School of Mines' women in computer science, engineering, or mathematics*
- Colorado Graduate Fellowship/2003
- CSM Chem. Eng. Dept. Unit Operations Laboratory Outstanding Student Award/2000
- American Institute of Chemists Award/2000
  - *Presented each year to the one graduating senior who, on the basis of a demonstrated record of leadership ability, character, and scholastic achievement, has shown the potential for advancement of the chemical and chemical engineering profession*
- CSM Presidential Scholarship/1995-2000
- Valedictorian, Fountain-Fort Carson High School/1995