

# DANIEL ORSON BARNHURST

## EDUCATION

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2003, M.S Geology, GPA 3.5 Brigham Young University, Provo, UT  
Thesis: A Chemical, Stable and Radio-Isotopic Investigation of an Alluvial-Fill Groundwater System in a Semi-Arid Environment, Southern Utah Valley, Utah. Advisor- Dr. Alan Mayo.

*Accomplishments:* Full Ride Graduate Scholarships

2000, B.S. Environmental Geology, GPA 3.21 Brigham Young University, Provo, UT

1997, A.S Natural Sciences, GPA 3.75 Ricks College, Rexburg, ID

*Accomplishments:* Academic Honor Role

## PROFESSIONAL EXPERIENCE

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**U.S. Nuclear Regulatory Commission, Rockville, MD** May 2008 to Present  
Hydrologist (GG 1315, Grade 14)

Responsibilities include:

Application and enforcement of applicable federal codes, regulations and guidance, safety and environmental technical reviews, participation in technical site audits with new reactor applicant, participation in legal licensing hearings as SME.

Technical review areas include characterization, modeling and analysis of surface and ground area including; flow, contaminant fate and transport, water use and quality impacts and compliance.

Preparation of safety evaluation reports and Environmental Impact Statements for 7 proposed sites.

Contract responsibilities include; preparation of contract documents and technical oversight of contractors, coordination of review and confirmatory analyses with contractors.

Developing and maintaining professional relationships with other Federal agencies and industry.

Developing and presenting regulatory and technical training to federal agencies and national lab staff.

Review and development of guidance documents for NRC staff and industry.

*Accomplishments:*

Completed "Acquisition Certification and Training Program" (Internal NRC)

Federal Acquisition Certification (expires 8/2012)

Completed Reactor Technical Reviewer Qualification Program (Internal NRC)

US NRC Performance Award 2010

**Washington Savannah River Co., Aiken, SC**

October 2003 to May 2008

Geologist/Senior Geologist

Planning and oversight of soil, ground and surface water contaminant characterization projects at DOE RCRA/CERCLA waste sites. Activities included: sample collection and analysis, drilling, coring, geophysical logging, well installation and development, and flow measurement.

Detailed analysis of characterization data, creation of water budgets, hydrographs and potentiometric maps, isopachs, cross-sections and site conceptual models.

Modeling of groundwater flow and contaminant fate and transport to guide characterization, well network optimization and remedy selection. Activities included: data management, model creation and calibration, sensitivity analysis, remedial alternatives modeling and post-processing.

Oral and written reporting to management and state and federal regulatory agencies.

*Accomplishments:*

Nominated for Top Talent Corporate Rotational Program in 2005.

Promoted to Senior Scientist in 2008.

**Energy Solutions (Envirocare of Utah, LLC.), SLC, UT**

Summer-Fall 2002

Intern Geo-scientist, Environmental Compliance and Permitting

Responsible for collection, review, modeling and reporting of analytical data from Mixed and Hazardous Waste Storage/Disposal Facilities to Utah Division of Environmental Quality (DEQ), Radiation Control Board and Nuclear Regulatory Commission (NRC).

**Washington Savannah River Co., Aiken, SC**

Summer 2001

Intern Geo-scientist, Environmental Compliance and Permitting

Responsible for data collection, analysis, and report preparation and monitoring well installation.

**Various Geotechnical Engineering Companies, SC and UT**

Summer 1998-Summer 1999

Intern Geo-scientist, Environmental Compliance and Permitting

Responsible for data collection, analysis, and report preparation and monitoring well installation.

#### LICENSES, CERTIFICATES AND AWARDS

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Professional Geologist- State of Tennessee (Lic. #00005533)

Federal Acquisition Certification for Contracting Officer Technical Representatives (8/20/10-8/19/12)- Federal Acquisition Institute

Eagle Scout, Boy Scouts of America

#### RECENT PUBLICATIONS/PRESENTATIONS/JOB RELATED REPORTS

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2011, October, Draft Environmental Impact Statement for Combined License (COL) for Enrico

Fermi Unit 3, U.S. Nuclear Regulatory Commission and U.S. Army Corps of Engineers, NUREG-2105, (hydrology sections) .

2011, May, Final Environmental Impact Statement for Combined Operating Licenses (COLs) for Comanche Peak Nuclear Power Plant Units 3 and 4, U.S. Nuclear Regulatory Commission and U.S. Army Corps of Engineers, NUREG-1943, (hydrology sections).

2011, April, Final Environmental Impact Statement for Combined Licenses for Virgil C. Summer Nuclear Station Units 2 and 3, U.S. Nuclear Regulatory Commission and U.S. Army Corps of Engineers, NUREG-1939, (hydrology sections).

2010, Giacinto, J.F., McBride, M., Barnhurst, D.O., and ND Tiruneh, Hydrology 4 Pre- and Post-Construction Conceptual Model Development for Large Power Plant Construction Projects, Joint Federal Interagency Conferences on Sedimentation and Hydrology, 2ndJFIC2010, Las Vegas, NV.

2009, Tiruneh, N.D., Nicholson, T.J., Raione, R., Ahn, H., Giacinto, J., Barnhurst, D., and M. McBride, Significance of Site-Specific Hydrogeologic Parameters in the Analysis of Radionuclide Transport at New Nuclear Reactor Sites, Eos Trans. AGU, 90(52), Fall Meeting Suppl., Abstract H43F-1081.

2009, Nicholson, T.J., Raione, R., Ahn, H., Barnhurst, D., Giacinto, J., McBride, M., and N.D. Tiruneh, Optimizing Characterization of Site Hydrology in Support of New Reactor Licensing at the U.S. Nuclear Regulatory Commission (Invited), Eos Trans. AGU, 90(52), Fall Meeting Suppl., Abstract H53N-01.

#### RELEVANT COURSEWORK AND RECENT TRAINING

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Coursework: Advanced Hydrogeology, Advanced Hydrogeochemistry, Seepage and Groundwater Modeling, Contaminant Transport, Borehole and Applied Geophysics, Advanced Stratigraphy, Advanced Structure

#### Training:

5/09 RESRAD Onsite and Offsite Training- Argonne National Laboratory, Rockville, MD

6/09 The Law of NEPA, Duke University Nicholas School of the Environment and Earth Sciences.

6/09 Determining Cumulative Impacts through NEPA, Duke University Nicholas School of the Environment and Earth Sciences.

9/08 Isotopic and Hydrogeological Characterization of Fractured Rock Settings- NGWA, Denver, CO

7/08 PORFLOW Training- using PORFLOW to model any subsurface flow system for analysis of coupled flow, heat and mass transfer, radioactive decay, chemical reaction and phase change.

## COMPUTER PROFICIENCY

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Proficiency is listed as good, fair or poor

Groundwater Modeling System 6.5 (GUI for MODFLOW, MODPATH, MT3D) (good),  
ArcMAP (good), SURFER (good), LANDMARK (fair), RESRAD 6.4 (fair).