

Sarah Rittenhouse

Project Manager

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TDI-Brooks International, Inc.

14391 S. Dowling Rd, College Station, TX 77845

Ph: (979) 693-3446 Fax: (979) 693-6389

www.tdi-bi.com

PROFESSIONAL EXPERIENCE

- Project Manager/Geologist, TDI-Brooks International, Inc., January 2023 – Present
- Party Chief/Field Project Manager/Seismic Processor, Alpine Ocean, February 2021 – June 2022
- MBES Processor, Ocean Infinity, November 2021 –December 2021
- Seismic Processor/Geologist/Navigator/Geotechnical Party Chief, Benthic Geosciences, June 2021 –October 2021
- Seismic Processor, EGS, November 2020 – January 2021
- Seismic Processor, MMT, August 2020 – September 2020
- Senior Staff Geologist, Devon Energy, November 2014 – December 2017
- Geologist, Hilcorp Alaska, January 2012 – October 2014
- Program Manager/Senior Geologist, Apache Corporation, July 2011 – January 2012
- Geologist, Chevron, 2006 – July 2011
- Geologist/Research Assistant, Illinois State Geological Survey, 2002-2006

PROFESSIONAL SUMMARY

- 20+ Cruises over the past 15 years as a Seismic Processor, Field Program Manager, Sr Geologist and Party Chief conducting Geotechnical and Geophysical operations.
- 15+ years of experience in geophysical processing/interpretation, development geology, exploration and resource appraisal, and reservoir characterization.
- Diverse background with an emphasis on spatial mapping, seismic and program management.
- 6 years of survey experience in the wind farm, military, cartographic, oil & gas, and telecommunication industries.
- Expert in geophysical and survey processing/interpretation, geotechnical program design and execution, exploration and resource appraisal (oil and gas), and reservoir characterization.

KEY ACHIEVEMENTS - TDI BROOKS INTERNATIONAL, INC.

Geotechnical Client Representative (Jun 2022 – Present)

- Tools – Vibracore (pneumatic), CPT, Benthic Campaign (grab sampler, box core, video transects)

KEY ACHIEVEMENTS – ALPINE OCEAN

Party Chief / Field Project Manager / Seismic Processor (Feb 2021 – Jun 2022)

- Tools – Vibracore (electric/pneumatic), Thermal Resistivity, VibroHeat, MBES, SSS, SBP, SCS, Mag , S-UHRS, Grab samples
- Software – Hypack, Corelog, Felix Heat Flow Probe ,Caris, Pospac, Sonarwiz, RadExPro, QGIS, Geosuite

KEY ACHIEVEMENTS – OCEAN INFINITY

MBES Processor (Nov 2021 –Dec 2021)

- Tools – MBES, SVP, SSS, SBP, S-UHRS, Grab samples
- Software – FMGT, Caris, Hypack, Corelog, Felix HeatFlowProbe

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KEY ACHIVEMENTS BENTHIC GEOSCIENCES

Seismic processor, Geologist/Navigator/Geotechnical Party Chief (Jun 2021 –Oct 2021)

- Geotechnical station selection, Geophysical Sidescan Interpretation final interpretation and reporting
- Tools – SSS, SBP, piston core, CPT
- Software – Sonarwiz, RadExPro, Kingdom, Qinsy, Strater, Global Mapper

KEY ACHIVEMENTS EGS

Seismic Processor (Nov 2020 – Jan 2021)

- Tools – SSS, SBP, piston core, CPT
- Software – Sonarwiz, RadExPro, Kingdom, Qinsy, Strater, Global Mapper

KEY ACHIVEMENTS MMT

Seismic Processor (Aug 2020 – Sept 2020)

- Tools – SBP, SSS
- Software – RadExPro, Sonarwiz, QGIS, Kingdom

KEY ACHIVEMENTS DEVON ENERGY

Senior Staff Geologist – Delaware Basin (Nov 2014 –Dec 2017)

- Technical team lead for an integrated reservoir characterization unit for the Leonard Formation
- Maintained and updated appraisal plans for company core areas utilizing GIS automation
- Spearheaded a discrete fracture network project, geosteering pilot and regional stratigraphic study

KEY ACHIVEMENTS HILCORP ALASKA

Geologist – Cook Inlet (January 2012 – October 2014)

- Developed and drilled a six well package in Kenai Gas Field, resulting in a 30 MMSCFD increase in production
- Drilled a deep pool test well to explore for tight gas in Kenai Gas Field
- Performed in-depth stratigraphic mapping of Kenai Gas Field, Cannery Loop Field and Sterling Field
- Executed a successful workover program in 2012, adding 10 MMSCFD to field rates

KEY ACHIVEMENTS APACHE CORPORATION

Program Manager - Senior Geologist – Central Basin Platform (July 2011 – January 2012)

- Coordinated and managed vertical and horizontal drilling for ~15 fields (up to five rigs at a time)
- Performed waterflood optimization and CO₂ infill via Petrel and Eclipse for new fields
- Prospected new Wolfcamp and Wichita Albany trends for development and property acquisition
- Taught in house Petrel modeling

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KEY ACHIVEMENTS CHEVRON CORPORATION

Geologist (2006 – July 2011)

- Performed Midland Basin Assessment for Wolfcamp and Spraberry, resulting in 1 billion barrels of booked reserves
- Assessed numerous land positions for purchase, farm-out or sales
- Delivered appraisal assessments for Clearfork, Strawn, Cline, Atoka and Avalon to BU for resource additions
- Integrated unconventional reservoir studies to expedite drilling programs throughout Permian Basin
- Taught Petrel earth modeling class for Nigerian Business Unit
- Participated in the company wide Next Generation Software rollout and deployment

KEY ACHIVEMENTS ILLINOIS STATE GEOLOGICAL SURVEY

Geologist (2005-2006); Research Assistant (2002-2005)

- Assist in reservoir characterization and simulation for carbon sequestration project, resulting in federal grant and placement of facility in Decatur IL
- Conduct detailed geostatistical analysis of geologic data and of 3-D geologic models using stochastic and deterministic methods.
- Calculated coal cleat permeability models using a variety of numerical and geostatistical approaches.

FORMAL EDUCATION

- Master of Science (MS), Geohydrology, Illinois State University, Illinois/US (2005)
- Topographic Surveyor Certification & Training, US Army, Ft Belvoir VA/US (1999)
- Bachelor of Science (BS), Natural Resources and Environmental Sciences, University of Illinois, Illinois/US (1999)

MILITARY EXPERIENCE

Battalion S2 Intelligence Officer (2002-2005); Company NCO & Topographic Surveyor (1999-2002)

- Schedule and coordinate classes, professional seminars, and Army schooling for 110 soldiers in 70th Engineer Company.
- Track all taskings, deployments and production for company commander.
- Company hazardous materials officer in charge of transportation of all munitions and hazardous chemicals and substances.
- Surveyed and established geodetic control for topographic map of Wheeler Army Airfield.
- Produced flight obstruction data for FAA circular updates.
- Produced detailed topographic maps for higher command using GIS and remote sensing application

PROFESSIONAL TRAINING/CERTIFICATIONS

- BOSIET, CA-EBS & EBS (2024)
- OGUK (2023)
- Licensed Professional Geologist #12581 (yearly renewal Oct, 30th)
- Panamanian Seaman's Book #PA0099135
- Full Offshore GWO (to be acquired Q4, 2022)

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FIELD EXPERIENCE

- Geotechnical Client Representative, TDI-Brooks, Geotechnical Survey, Geo SubSea/ Vineyard Northeast/ Vineyard MidAtlantic, Aug 2022 -Sept 2022
- Geotechnical Client Representative, TDI-Brooks, Geotechnical Survey, Geo SubSea/ Vineyard Northeast, Jun 2022 -Jul 2022
- Party Chief/Field Project Manager, Alpine Ocean, Orsted/Ocean Wind 2 Export Cable Route, March 2022 – Jun 2022
- MBES Processor, Alpine Ocean, Vineyard Wind / Martha's Vineyard, Dec 2021 – Jan 2022
- MBES Processor, Ocean Infinity, Island Champion, MMT / Kittyhawk, Nov 2021 – Dec 2021
- Seismic processor, sidescan interpretation (geophysical), geologist/navigator/party chief (geotechnical), geotechnical station selection, final interpretation and reporting, Benthic Geoscience – Norseman II (geophysical), Woldstad (geotechnical) Jun 2021 – Oct 2021
- Seismic processor, Alpine Ocean – Minerva Uno, Dominion Energy/Coastal Virginia Offshore Wind Export Cable Route Feb 2020 – Apr 2020, remote work Apr 2020 – May 2020
- Seismic Processor, EGS, Ventus, Vineyard Wind/Windfarm Blocks 2-4, Nov 2020 – Jan 2021
- Seismic Processor, Alpine Ocean – Minerva Uno, Dominion Energy/Coastal Virginia Offshore Wind Export Cable Route, Sept 2020 – Oct 2020

PUBLICATIONS / PRESENTATIONS

- Smith, M., Ice, G., Anderson, G., **Rittenhouse, S.**, Eby, D. 2018. Rock Volatiles Stratigraphy of Meramec, Upper Osage, and Lower Osage carbonates in Fairway Resource's NW STACK wells: logging horizontal STACK wells from PDC cuttings' volatile chemistry. OU Stack Symposium, Norman, OK., September 5-6.
- **Rittenhouse, S.**, Li, Y., Hughston-Kennedy, K., Fritz, J., Pritchard, J., Cassel, L., Baum, V., Liem, S., and Mooney, T. 2017. Delaware Basin Leonard Reservoir Characterization, New Mexico and Texas. Paper presented at Unconventional Resources Technology Conference (URTeC), Austin, TX., July 24-26.
- **Rittenhouse, S.**, Fritz, J., Riley, S., and Roberts, J. 2017. Modified Methods of Petrophysical Pore Pressure Prediction and Static Geomodel Integration in the Delaware Basin: Modeling Overpressure Generated by Fluid Expansion. Paper presented at the AAPG Annual Convention and Exhibition, Houston, TX., April 2-5.
- **Rittenhouse, S.**, and Fritz, J. 2017. Generation of a 3-D Pore Pressure Model for the Wolfcamp Formation in the Delaware Basin, New Mexico and Texas. Paper presented at the Delaware Basin Playmaker's Forum, Midland, TX., February 22.
- **Rittenhouse, S.**, Currie, J., and Blumstein, R. 2016. Using Pad ISIP, DFIT, and ESP Data to Generate a Regional Pore Pressure Model for the Delaware Basin, New Mexico and Texas. Paper presented at Unconventional Resources Technology Conference (URTeC), San Antonio, TX., July 20-22.
- **Sarah Rittenhouse.** 2007. Integrating Workflows For Base Business. Presented at the Subsurface Characterization Forum, Chevron, The Woodlands, TX.
- Keefer, D and **Rittenhouse, S.** 2005. Indicator Geostatistical Evaluation of the Glasford Formation, Kane County. Presented at the 50th Annual Midwest Ground Water Conference, Champaign, IL.
- Keefer, D and **Rittenhouse, S.** 2005. Estimating the Uncertainty of 3-D Geologic Maps. Presented at the Geological Society of America, Salt Lake City, UT, October 16-19.
- Knepp, R., Garner, D., Frailey, S., Seyler, B., Grube, J., Keefer, D., and **Sarah Rittenhouse.** 2005. Sequestration of Carbon Emissions in Geologic Formations: Enhanced Oil Recovery. Presented at the 4th Annual Conference on Carbon Capture and Sequestration, Alexandria, VA, May 2-5.
- Leetaru, H., **Rittenhouse, S.**, Frailey, S., Keefer, D., Morse, D., Finley, R., and J. McBride. 2005. Sequestration of Carbon Emissions in Geologic Formations: Saline Aquifers. Presented at the 4th Annual Conference on Carbon Capture and Sequestration, Alexandria, VA, May 2-5.



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- **Rittenhouse, S.**, Keefer, D., and D. Budikova. 2004. 3-D Mapping of Discontinuous Shale Beds in Manlove Field. Presented at the Meeting of the Society of Petroleum Engineers, Bloomington, IL, March 3-5.