



PROFILES WOMEN IN GEOTHERMAL

Promoting the education, professional development, and advancement of women in the geothermal community.

Spotlight on Women in Geothermal USA- July 2024

Tina Riley, Geothermal Development for the City of Boise, Idaho

Tina Riley's journey began in Brisbane, Australia, where she earned her degree and embarked on a remarkable twenty-year career with ExxonMobil. Starting in exploration development and transitioning to research, Tina held executive positions across various departments. Her expertise in carbonate stratigraphy positioned her as a leader in numerous research programs and training initiatives.

From Brisbane to Boise: Tina's Remarkable Career Journey

As her career progressed, Tina took on increasingly significant roles. As the exploration manager for Guyana, she managed six rig lines, played a pivotal role in deepwater drilling programs, and oversaw a substantial budget dedicated to discovering new fields. Her influence extended to West Africa, where she negotiated new acreage acquisitions in Southern Angola and evaluated potential ventures across several West African nations.

One of Tina's most notable roles at ExxonMobil was as a Planning Manager, where she was one of three Planning Managers serving 3 presidents overseeing 10,000 people in the upstream sector. She managed portfolios, budgets, and planning cycle support for all upstream leaders, driving forward various strategic initiatives. Her leadership and vision left an impact on every project and team she worked with, showcasing her exceptional ability to navigate and lead in the complex world of oil and gas exploration.



ExxonMobil with Suriname Ministers

The True Essence of Leadership

"I believe leadership is about developing a vision and then inspiring and empowering your team to see how they fit into that vision," says Tina Riley. "It's crucial to show each individual how important their role is in achieving the collective goal. When you have a compelling vision and foster an inclusive environment, you create a space that is fun, rewarding, and exciting. People naturally want to be a part of it."

Tina continues, "Leadership isn't about titles or feeling important. It's about making everyone else feel important and valued in their roles, contributing to something bigger than themselves. That's the essence of effective leadership."



ExxonMobil with Delegations across Egypt, Angola, and USA

Balancing Career and Family

Following the birth of her eldest child, Tina and her family spent her maternity leave in Boise, Idaho to be closer to her husband's family. This was where her love for Boise really began and the desire to raise her family in this idyllic setting grew stronger. Balancing a high-profile career at ExxonMobil and motherhood, Tina began shifting her focus towards climate concerns and the legacy she wanted to leave for her children. The chaotic times of COVID-19 amplified these reflections. At the peak of her career at ExxonMobil, Tina transitioned to the role of Guyana and Suriname Exploration Manager following her Upstream Planning Manager assignment. The fast pace and high stakes of her job eventually led to burnout, and recognizing the need for change, Tina and her family moved from Houston to Boise marking a new chapter in their lives. Resigning from ExxonMobil was significant but allowed them to pursue their dream of raising their children in a beloved place.

Taking a couple of years off, Tina focused on her family and explored new interests. She fulfilled her long-standing dream of becoming a pilot, earning her private pilot license at a local flight school. Now, she enjoys flying her two boys to various destinations across Idaho, creating unforgettable family adventures.



Eventually, Tina felt the urge to re-engage her professional skills, aligning her work with her passion for the energy transition. Despite receiving offers for exploration-related roles, she sought a career path where she could make a meaningful impact, contributing to a sustainable future for her children and the community.

Championing Sustainability: Tina's Role in Boise's Geothermal Future

Living just a ten-minute walk from her new workplace in downtown Boise, Tina found an opportunity that resonated deeply with her values. She began working on the Boise Geothermal System, the largest in the United States, and got involved in various climate initiatives aimed at making Boise carbon neutral by 2050. This role allowed her to positively impact her local community while working on something she truly believed in.

Idaho's geology is exceptionally conducive to geothermal energy, particularly for direct use applications. Boise hosts the world's oldest direct-use geothermal system, dating back to the 1890s. This system, integral to Boise's original economic development, is a significant source of local pride. While Boise's geothermal system is the largest in the state, other towns like Ketchum, Cascade, and Twin Falls also operate smaller systems.

Geothermal expert and President of Mink GeoHydro, Roy Mink is actively discussing the expansion of these direct use systems to additional towns, including Stanley and other small communities across Idaho. With abundant hot water resources readily available, the potential for developing more direct-use geothermal systems for heating purposes is immense. The focus is now on leveraging these resources to create and expand geothermal systems statewide.

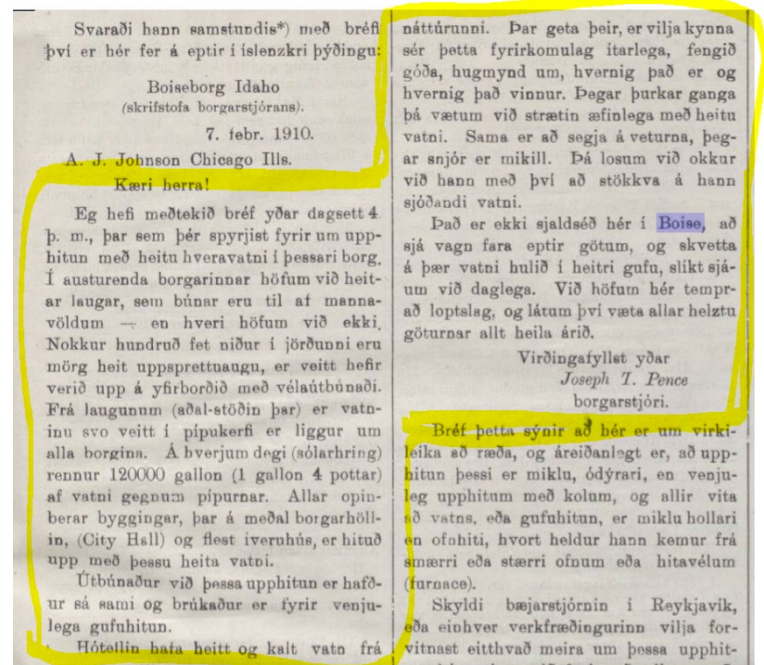
Idaho's geothermal energy system is a marvel of natural engineering. The water, emerging at 177 degrees Fahrenheit, undergoes a heat extraction process where nearly 50 degrees are removed before it is reinjected into the ground at around 120 degrees Fahrenheit. This process benefits from a unique geological setup: a vast batholith spanning about 10,000 miles across Idaho and Montana serves as the heat source. This extensive geological feature is responsible for the widespread hot springs and geothermal activity observed throughout the region.

Tina shares that while there is potential for Enhanced Geothermal Systems (EGS) in Idaho, the city of Boise will focus on direct use because it is more economical. Direct-use geothermal systems offer a cost-effective solution for the city, aligning with Boise's goal of sustainable and economical energy utilization.

Tina envisions continued development and adoption of direct-use geothermal systems by more cities. She believes the potential is there, but the primary challenge is the upfront capital expenditure. Smaller cities often struggle to cover the costs associated with drilling production wells, injection wells, and installing the necessary plumbing infrastructure. Despite the simplicity of the design and system, these initial costs are significant. Once operational, these systems are typically quite economical, but the initial investment remains a hurdle.



Tina Riley with NPR's Kirk Siegler



1910 Letter from Mayor Pence to AJ Johnson in Iceland

Hobbies outside of Geothermal

Outside of her professional life, Tina enjoys outdoor activities like rafting, kayaking, and skiing. Her previously mentioned passion for flying airplanes also adds to her adventurous spirit. Despite her many accomplishments, she continues to learn and grow, both personally and professionally, driven by a commitment to sustainability and community impact.



Addressing this issue, geothermal expert Mink has been collaborating with various cities to secure funding. Efforts are underway to establish funding mechanisms that can de-risk geothermal wells, covering costs if a well is unsuccessful and requiring contributions from successful wells. This approach could mitigate the financial risks associated with the initial capital outlay.

Tina notes that direct-use geothermal energy is an outstanding resource because it meets both economic and environmental goals. It provides reliable baseload energy that can operate around the clock with a minimal footprint, garnering broad community and political support.

In a discussion about the system's longevity, Tina acknowledges the success of Boise's direct-use geothermal system, which has been in operation for over 130 years. She highlights the importance of securing the necessary funding and support to maintain and expand such systems, ensuring their continued success and contribution to sustainable energy goals.

One of the biggest challenges in maintaining and expanding Boise's geothermal system has been replacing the original aging infrastructure. Originally, the system used wooden pipes, which had relatively short lifespans and required frequent replacements. Today, more durable materials are used in replacement efforts, but the need for upfront capital expenditure remains a large hurdle for many cities.

In our discussion with Tina she emphasizes the focus on diversity, equity, and inclusion (DEI) within the geothermal industry. She notes the intentionality around DEI from the start, with numerous panels and discussions highlighting its importance across the industry. The geothermal sector boasts many women leaders and entrepreneurs, setting it apart from the traditionally male-dominated oil and gas industry. Tina sees this as a fundamental and exciting difference, with the industry actively championing DEI to achieve better performance and results.

In her role, Tina has found mentorship and support within the City of Boise, particularly from women in leadership positions. She also respects and engages with leaders in the geothermal sector, such as Stephanie Walsh from Idaho Falls, who leads efforts to influence geothermal policy, and Jacqueline Urbank, involved in regional geothermal initiatives.

Authors of Spotlight on Women in Geothermal USA

Please send your suggestions for future editions of Spotlight on Women in Geothermal directly to the authors.



Elizabeth Cambre

North America BDM New Energies
– Geothermal, Vallourec

WING USA Chapter Committee
Member

Elizabeth.Cambre@vallourec.com



Lauren Lopez

Global BDM – Energy Transition,
NOV

WING USA Chapter Committee
Member

Lauren.Lopez2@nov.com



Analiese Andersen

Geothermal BDM – MicroSeismic
Inc.

WING USA Chapter Committee
Member

AAndersen@microseismic.com